



PROPOSED PARTITIONING OF KOTDA HEAD OFFICE ON PARCEL No.74 AT KONZA TECHNOPOLIS

TENDER NO: KOTDA/NC034/2021-2022

**TENDER DOCUMENT
FOR
ELECTRICAL INSTALLATION AND ASSOCIATED WORKS.**

PROJECT MANAGER/INTERIOR DESIGNER

CHEGE DESIGNERS LTD
Interior Designer and Landscaping
P.O BOX 30743 – 00100
NAIROBI

QUANTITY SURVEYOR

MASTERBILLS INTERGRATED PROJECTS
Construction Cost Planning & Management,
P.O.BOX 22905-00400
NAIROBI

SERVICES ENGINEER

SYNCHROCONSULT ASSOCIATES LTD
Consulting Electrical & Mechanical Engineers
P.O BOX 79626- 00200
NAIROBI

FEBRUARY 2022

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DEFINITIONS

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

The Employer: Konza Technopolis Development Authority,
P.O. Box 1-90150.
KONZA TECHNOPOLIS, KENYA.

The Project Manager: Chege Designers Ltd
P.O. Box 30743-00100,
NAIROBI.

Services Engineer: Synchroconsult Associates Ltd
P.O. Box 79626 – 00200,
NAIROBI.

Quantity Surveyor: Master Bills Integrated Projects.
P.O. Box 22905-00400,
NAIROBI.

The Procuring Entity: Konza Technopolis Development Authority,
P.O. Box 1-90150.
KONZA TECHNOPOLIS, KENYA.

Main Contractor The firm appointed to carry out **Builders Works**

Sub-Contractor The firm appointed to carry out **Electrical Works**

Site The site for the proposed works is at **Konza Technopolis Development Authority Headquarters.**



INVITATION TO TENDER

Konza Technopolis Development Authority (KoTDA) invites specialist Fit out Contractors and sub-contractors for the following Fit Out Works tenders for **THE PROPOSED PARTITIONING OF KOTDA HEAD OFFICE ON PARCEL NO. 74 AT KONZA TECHNOPOLIS**. The project broadly comprise fit out works of 6th floor, 5th floor ground and basement floors, associated external works as well as mechanical and electrical installations. Structural works have already been executed under a different package.

NO.	DESCRIPTION	TENDER NO.	NCA REG.	CATEGORY
Main Contractor				
1.	The Proposed Partitioning of KoTDA Head Office – Main Works	KoTDA/MC033/2021-2022	NCA 4	Special Group (AGPO Certified)
Nominated Sub Contractors				
1.	The Proposed Partitioning of KoTDA Head Office - Electrical Installations and Associated Services	KoTDA/NC034/2021-2022	NCA 4	Special Group (AGPO Certified)
2.	The Proposed Partitioning of KoTDA Head Office - Air Conditioning and Mechanical Ventilation Installations	KoTDA/NC035/2021-2022	NCA 6	Special Group (AGPO Certified)

Interested eligible services contractors who appear in the current Register with the National Construction Authority as tabulated above may obtain a set of tender documents (including Bills of Quantities) from the KoTDA website www.konza.go.ke from **Tuesday 15th February 2022** to **Wednesday 9th March 2022**. Bidders who download the tender document from the website will be required to email their detailed contact information to procurement@konza.go.ke for recording, further clarifications, addenda, and security clearance to facilitate site access. Due to COVID 19 pandemic, bidders who will need to conduct site survey/visit are required to submit in advance the name, ID number, intended day of site visit and contact of the person(s) nominated for security clearance by the relevant security administration. In addition, all addenda will also be posted on the website as they become available.

The bidders must submit the mandatory requirements, supported by relevant documents so as to be considered for further evaluation:

Mandatory Requirements

1. Be Registered with National Construction Authority Category 4 for Main Works and Electrical Works and Category 6 for HVAC and Mechanical ventilation works.
2. Have Completed minimum three projects of similar magnitude and complexity in the last six years.
3. Provide evidence of financial, personnel and equipment capability necessary for carrying out the works
4. Provide a duly completed tender securing declaration form.
5. Provide Litigation History (both court and arbitration cases) and satisfactorily complete Confidential Business Questionnaire & Declaration form.
6. Meet all statutory requirements as per Public Procurement and Asset Disposal Act, 2015
7. Provide Copies of Company Registration, current valid Tax Compliance Certificate, Business Permit, PIN and VAT Registration Certificates
8. Provide all information requested in the Clause 11.1 (a-h) of instruction to Tenderers in the tender documents.
9. Submission of the bid document qualification information in a well bound, paginated and serialized and labelled "Technical Bid" comprising of one original and one copy and a soft copy of the whole bid in a compact disk or a flash disk
10. Submission of the issued document, properly serialized, well bound, and paginated document without loose pages

A Tenderer who:

- i). Has been served with a default notice in an on-going government contracts; or
- ii). Has had their contract with the Government of Kenya terminated in the past and has not been reinstated in the Register of Contractors

NEED NOT place their bid as they shall be treated as **NON-RESPONSIVE** and therefore subject to **AUTOMATIC DISQUALIFICATION**

A Tenderer who has previously worked with KoTDA or has current on-going works should provide a completion certificate of the works to be eligible for this tender.

All questions/clarifications regarding the project or offer of submission including requests for site visit, should be sent by email to procurement@konza.go.ke and copied to ceo@konza.go.ke by Tuesday 1st March, 2022 at 1700hrs local Kenyan time.

No other email addresses shall be used for this tender and KoTDA shall not be liable if bidders choose to send their information and/or enquiries to other email addresses.

Tenderers shall submit **One Original** and **One Soft Copy** in a Flash disk or CD of all tender documents in plain sealed envelopes, with the Tender Number Clearly marked on the right-hand side corner and bearing no indication of the tenderer's name and addressed to:

The Chief Executive Officer
Konza Technopolis Development Authority
P.O. Box 1 - 90150,
KONZA TECHNOPOLIS, KENYA.
E-Mail; procurement@konza.go.ke and ceo@konza.go.ke
Tel; +254-20-4343013/4

and placed in the KoTDA Tender Box on the 7th Floor of **Konza Complex, Konza Technopolis, located along Nairobi - Mombasa road near Malili Township** to reach the above address not later than **Wednesday 9th March 2022 at 1400hrs** local time.

Submitted bids will be opened publicly at the same venue shortly thereafter in the presence of the tenderers or their representatives who choose to attend.

Prices quoted must remain valid for One Hundred and Eighty (180) days from the date of Tender opening.

Any form of canvassing will lead to automatic disqualification.

SECTION A
INSTRUCTIONS TO TENDERERS

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

A. GENERAL PROVISIONS

1. Scope of Tender

1.1 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.

1.2 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.

2. Fraud and Corruption

2.1 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.

2.2 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.

2.3 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.

2.4 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

3. Eligible Tenderers

3.1 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 agreement with the intent to enter into 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.

3.2 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.

3.3 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 conflicts stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.
- 3.4 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
- 3.5 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.
- 3.6 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.
- 3.7 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.
- 3.8 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 competes with firms in the private sector on an equal basis.
 - iv.

- 3.9 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.

- 3.10 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".
- 3.11 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.
- 3.12 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 not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.
- 3.13 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.
- 3.14 A Kenyan tenderer 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.

4. Eligible Goods, Equipment and Services

- 4.1 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.
- 4.2 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

5. Tenderer's Responsibilities

- 5.1 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.
- 5.2 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.
- 5.3 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
- 5.4 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

6. Sections of Tender Document

- 6.1 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

- 6.2 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.
- 6.3 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.
- 7. Clarification of Tender Document, Site Visit, Pre-Tender Meeting**
- 7.1 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.
- 7.2 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.
- 7.3 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.
- 7.4 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.

7.5 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.

8. Amendment of Tender Documents

8.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.

8.2 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.

8.3 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. 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. 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-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. 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.

13.3 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.

13.4 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.

14. Tender Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.

14.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill 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 Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill 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.

14.3 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.

14.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.

14.5 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.

14.6 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.

14.7 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

15. Currencies of Tender and Payment

- 15.1 The currency (ies) of the Tender and the currency (ies) of payments shall be the same.
- 15.2 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.
- 15.3 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. 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, and insufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

17. Documents Establishing the Eligibility and Qualifications of the Tenderer

- 17.1 Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.
- 17.2 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.
- 17.3 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.

- 17.4 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.
- 17.5 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.
- 17.6 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which in formation 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
- 17.7 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.
- 17.8 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.
- 17.9 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:
- a. If the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
 - b. if the contract has been awarded to that tenderer, the contract award will be set as depending the outcome of (iii),

- c. 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 tenderer
- 18. 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
- 19. Tender Security**
- 19.1 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.
- 19.2 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;
 - (iii) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.

- 19.3 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.
- 19.4 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.
- 19.5 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.
- 19.6 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.
- 19.7 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 there to 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.
- 19.8 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.
- 19.9 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.

20. Format and Signing of Tender

- 20.1 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.
- 20.2 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.
- 20.3 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.
- 20.4 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.
- 20.5 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. 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 "SOFT COPY", 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 "SOFT COPY- 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. 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. Late Tenders

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.

24. Withdrawal, Substitution and Modification of Tenders

24.1 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.
- 24.2 Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.
- 24.3 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**
- 25.1 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**.
- 25.2 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.
- 25.3 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.
- 25.4 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 read out at Tender opening.
- 25.5 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.
- 25.6 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.

- 25.7 At the Tender Opening, the Procuring Entity's Hall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 25.8 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.
- 25.9 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

- 26.1 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.
- 26.2 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.
- 26.3 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.

27. Clarification of Tenders

- 27.1 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.
- 27.2 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. 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. 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. Non-Material and 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.

30.3 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. Arithmetic 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. 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. 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. 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** and 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 will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36. Comparison of Tenders

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. 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 a nab normally 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.

38. Unbalanced and/or Front-Loaded Tenders

- 38.1 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.
- 38.2 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

39. Qualifications of the Tenderer

- 39.1 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.
- 39.2 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.

39.3 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.

40. 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. 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. 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. Notice of Intention to Enter into a Contract

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 (c) above already reveals the reason;
- d. the expiry date of the Standstill Period; and
- e. instruction son how to request a debriefing and/ or submit a complaint during the stand still period

44. Standstill 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. 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. 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. 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. 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. 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. Procurement Related Complaint

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

SECTION B

TENDER DATA SHEET

SECTION II – TENDER DATA SHEET (TDS)

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 the ITT.	
A. GENERAL	
ITT1.1	<p>The Name of the Contract is: PROPOSED PARTITIONING OF KoTDA HEAD OFFICE ON PARCEL NO.74 AT KONZA TECHNOPOLIS</p> <p>The Reference Number of the Contract is: KoTDA/NC034/2021-2022.</p> <p>The Number and Identification of Lots (Contracts) Comprising this Tender are: <i>None</i></p>
ITT2.3	<p>The Information Made Available on Competing Firms is as Follows</p> <ol style="list-style-type: none"> a. Bank Statements (January 2019 to December 2021) b. Audited Financial Statements (for 3 consecutive years, 2018/19 - 2021) c. Personnel Academic and Professional Qualifications
ITT2.4	The firms that provided consulting services for the contract being tendered for are: As per the definitions
ITT3.1	Maximum Number of Members in the Joint Venture (JV) Shall be: NOT ALLOWED
B. CONTENTS OF TENDER DOCUMENT	
ITT7.1	<ol style="list-style-type: none"> i. The Tenderer will submit any request for clarifications in writing at the address <i>as indicated in the tender advertisement</i> to reach the Procuring Entity no later than <i>As indicated in the tender advertisement.</i> ii. The Procuring Entity shall publish its response at the website <i>As indicated in the tender advertisement</i>
ITT7.2	<ol style="list-style-type: none"> i. A pre-arranged pretender site visit shall not take place. Instead the tenderers are advised to make arrangements with KoTDA or a site visit at the address quoted in the advertisement. ii. A pre-tender meeting SHALL NOT take place.
ITT7.3	<p>For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:</p> <p>Attention: The Chief Executive Officer</p>

	<p>Building: Konza Technopolis Development Authority. Address: P. O. Box 1-90150 Attention: Supply Chain Procurement Manager. E-Mail Address: procurement@konza.go.ke</p>
ITT7.5	The procuring entity website where minutes of the pre-tender meeting and the pre-arranged pretender will be published is <i>As per the advertisement</i>
ITT9.1	
C. PREPARATION OF TENDERS	
ITT11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: a) Technical brochures
ITT13.1	Alternative tenders shall not be considered
ITT13.2	Alternative times for completion shall not be permitted
ITT13.2	Alternative technical solutions shall not be permitted
ITT14.5	The prices quoted by the Tenderer shall be fixed
ITT15.2(a))	Foreign currency requirements not allowed.
ITT18.1	The tender validity period shall be 150 days.
ITT18.3	<p>(a) The Tender price shall be adjusted by the following percentages of the tender price:</p> <ul style="list-style-type: none"> i. <i>By 0% the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and</i> ii. <i>By 0%, the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.</i>
ITT19.1	Tender shall provide Tender Securing Delcaration form. The Tender security is not required.
ITT20.1	In addition to the original tender, the number of copies is 1 soft copy in a flash-drive.
ITT20.3	The written confirmation of authorization to sign on behalf of the tenderer shall consist of a written power of attorney witnessed
D. SUBMISSION AND OPENING OF TENDERS	
ITT22.1	<p>For tender submission purposes only, the Procuring Entity's address is:</p> <p>THE CHIEF EXECUTIVE OFFICER, KONZA TECHNOPOLIS DEVELOPMENT AUTHORITY, P.O. Box 1-90150 KONZA TECHNOPOLIS KENYA.</p> <p>Date and time as per invitation to tender</p> <p>Tenderers shall not submit tenders electronically.</p>

ITT25.1	The Tender opening shall take place at the time and the address for Opening of Tenders Provided below: <i>as indicated in the tender advertisement</i> Date and time as per invitation to tender
ITT25.5	The number of representatives of the Procuring Entity to sign is <i>As directed by procuring entity</i>
E. EVALUATION AND COMPARISON OF TENDERS	
ITT30.3	The adjustment shall be based on the <i>highest</i> 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.
ITT33.2	A margin of preference <i>shall not</i> apply.
ITT33.4	The invitation to tender is extended to the following group that qualify for Reservations <i>(These groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be; describe precisely which group qualifies).</i>
ITT34.1	At this time, the Procuring Entity <i>intends</i> to execute certain specific parts of the Works by subcontractors selected in advance. Not Applicable
ITT34.2	Contractors may propose subcontracting: Maximum percentage of subcontracting permitted is <i>5% of the total contract amount</i> . 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 sub contracted along with complete details of the subcontractors and their qualification and experience.
ITT34.3	The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows: N/A For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.
ITT35.1	Instead, the procuring entity will evaluate the tender in 3 stages: 1. Preliminary evaluation – Mandatory requirements. 2. Technical Evaluation. 3. Financial Evaluation. Refer to Section C of the tender document on Evaluation and Qualification Criteria.
ITT48.1	Other documents required in addition to the Performance Security are insurance as per General Conditions of Contract (GCC) clause 18.2, 18.3 and 18.4
ITT50	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.

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 by hand either delivery or email).

SECTION C
EVALUATION AND QUALIFICATION CRITERIA

1.1 GENERAL PROVISIONS

- 1.2 This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity shall use **the Standard Tender Evaluation Document for Goods and Works** for evaluating Tenders.
- 1.3 Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:
- a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
 - b) Value of single contract - Exchange rate prevailing on the date of the contract signature.
 - (a) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

1.4 EVALUATION AND CONTRACT AWARD CRITERIA

The Procuring Entity shall use the criteria and methodologies listed in this Section to evaluate tenders and arrive at the Lowest Evaluated Tender. The tender that (i) meets the qualification criteria, (ii) has been determined to be substantially responsive to the Tender Documents, and (iii) is determined to have the Lowest Evaluated Tender price shall be selected for award of contract.

2.0 PRELIMINARY EXAMINATION FOR DETERMINATION OF RESPONSIVENESS

Preliminary examination for Determination of Responsiveness

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other mandatory requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements provided for in the preliminary evaluation criteria outlined below. The Standard Tender Evaluation Report Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered non- responsive and will not be considered further.

[The Procuring Entity will provide the preliminary evaluation criteria. To facilitate, a template may be attached or clearly described all information and list of documentation to be submitted by Tenderers to enable preliminary evaluation of the Tender]

S/No	MANDATORY REQUIREMENTS(MR)ALL TO BE SERIALISED
MR1	Be Registered with National Construction Authority Category 4 for Main Works and Electrical Works and Category 6 for HVAC and Mechanical ventilation works.
MR2	Have Completed minimum three projects of similar magnitude and complexity in the last six years.
MR3	Provide evidence of financial, personnel and equipment capability necessary for carrying out the works.
MR4	Provide a duly completed tender securing declaration form.
MR5	Provide Litigation History (both court and arbitration cases) and satisfactorily complete Confidential Business Questionnaire & Declaration form.
MR6	Meet all statutory requirements as per Public Procurement and Asset Disposal Act, 2015
MR7	Provide Copies of Company Registration, current valid Tax Compliance Certificate, Business Permit, PIN and VAT Registration Certificates, Valid AGPO certificates.
MR8	Provide all information requested in the Clause 11.1 (a-h) of instruction to Tenderers in the tender documents.
MR9	Submission of the bid document qualification information in a well bound, paginated and serialized and labelled "Technical Bid" comprising of one original and one copy and a soft copy of the whole bid in a compact disk or a flash disk
MR10	Submission of the issued document, properly serialized, well bound, and paginated document without loose pages.

3.0 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(e):
.....

4 MULTIPLE CONTRACTS

4.1 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.

OPTION 2

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 3.1, 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.

6.1 MARGIN OF PREFERENCE

- 6.2** 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%).
- 6.3** 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.
- 6.4** 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%).
- 6.5** 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)
 - ii) Minimum average annual construction turnover capable of meeting the Contract cost.
 - iii) Contractor's Representative and **Key Personnel**, which are specified as _____

1. KEY PERSONNEL (ATTACH EVIDENCE)
At least 1No. <u>Foreman</u> with a degree/diploma in relevant engineering field with a minimum of 10 years relevant experience .
a) <u>Electrical Installation Works</u>
1) At least 1No. Site supervisor with a diploma in relevant field with a minimum of 5 years relevant experience ;
1. a) At least 1No <u>Technicians</u> with a certificate in relevant field with a minimum of 5 years relevant experience;
OR
b) At least 2No <u>Artisans</u> with a trade test certificate in relevant field with a minimum of 5 years relevant experience .

- iv) **Contractors' key equipment** listed on the table "Contractor's Equipment" below and more specifically listed as *[specify requirements for each lot as applicable]*.

CONTRACTORS EQUIPMENT

Relevant equipment for the works being tendered for;

- | |
|--|
| <ol style="list-style-type: none">1. Motor and Phase Rotation Indicator2. Digital Earth Loop Tester3. Insulation Continuity Tester4. Digital Earth Resistance Tester5. Multimeter and Clamp Meter6. Electrician 's Tool Kit |
|--|

iv) 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 1 year. 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 1 year. 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*

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 2020.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	

	Procuring Entity			
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 2020	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 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>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 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, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 3 years, divided by 3 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 4 years, starting 1 st January 2017	4. Form EXP - 4.1 Experience	
14	Specific Construction & Contract Management Experience	<p>A minimum number of similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2017 and tender submission deadline i.e. 3 contracts, each of minimum value Kenya shillings equivalent.</p> <p><i>[In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]</i></p> <p>The similarity of the contracts shall be based on the following: <i>[Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITT 34.3]</i></p>	Form EXP 4.2(a)	

TENDER EVALUATION CRITERIA

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

1. Determination of Responsiveness
2. Detailed Technical Examination
3. Financial Evaluation.
4. Combination of Technical, Tender Sums Comparison and Financial Score

STAGE 1- DETERMINATION OF RESPONSIVENESS

A) PRELIMINARY EXAMINATION

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

These conditions will include the following:

- (i) Current Registration with Ministry of Public Works in the relevant trade.
- (ii) Licenses with the relevant statutory bodies where applicable e.g. EPRA,NCA.
Tender document
- (iii) Dully filled Form of Tender
- (iv) Any other conditions included in the advertisement notice/Invitation letter.

Note:

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

- **Clause 13.1** of Instruction to Tenderers, “the tenderers shall furnish as part of his tenders a tender surety in the amount stated in the tender document in the Appendix to Instructions to Tenderers”.
- **Clause 13.2** of Instruction to Tenderers, “the unconditional Tender surety shall be in Kenya shillings and be in form of a certified cheque, bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank/ Insurance approved by PPOA located in the Republic of Kenya. The format of the surety shall be in accordance with the sample form included in the tender documents and the tender surety shall be valid for **120 days** from the date of tender opening”.
- **Clause 23.2** of Instruction to Tenderers: “For the purposes of this clause, a substantially responsive tender is one which conforms to all terms and condition and specifications of the tender document without material deviation or reservation and has a valid Bank/Insurance guarantee”.

The employer may seek further clarification/confirmation if necessary to confirm authenticity/compliance of any condition of the tender.

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

B) COMPLETENESS OF TENDER DOCUMENT

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

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

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

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
(i) Statement of Compliance -----	3
Tender Questionnaire - -----	5
(ii) Confidential Business Questionnaire -----	5
(iii) Key personnel - -----	15
(iv) Contract Completed in the last Five (5) years - -----	15
(v) Schedules of on-going projects -----	
10Schedules of contractors equipment -----	10
(vi) Audited Financial Report for the last 3 years-----	10
(vii) Evidence of Financial Resources -----	10
Name, Address and Telephone of Banks (Contractor to provide) -----	5
Litigation History-----	2
(viii) Sanctity of the tender document as in accordance with clause 5 of Instruction to tenderer -----	10

TOTAL **100**

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

TABLE 1

Item	Description	Point Scored	Max. Point
i	Statement of Compliance Signed and stamped ----- 3 Signed but not stamped or vice versa ----- 2 Not signed nor stamped -----0		3
ii	Tender Questionnaire Form Completely filled ----- 5 Partially filled ----- 3 Not filled -----0		5
iii	Confidential Business Questionnaire Form. Completely filled ----- 5 Partially filled ----- 3 Not filled ----- 0		5
Iv	Key Personnel (Attach evidence)		15
	Director of the firm <ul style="list-style-type: none"> ○ Holder of degree or diploma in relevant Engineering or required field-----4 ○ Holder of certificate in relevant Engineering or required field -----3 ○ Holder of trade test certificate in relevant Engineering or required field--2 ○ No relevant certificate -----0 	4	
	At least 1No. degree/diploma of key personnel in relevant Engineering field(attach copies of CV) <ul style="list-style-type: none"> ○ With over 10 years relevant experience-----4 ○ With over 5 years relevant experience----- 3 ○ With under 5 years relevant experience ----- 1 	4	
	C-11		
	At least 1No certificate holder of key personnel in relevant		

	field <ul style="list-style-type: none"> ○ With over 10 years relevant experience----- 3 ○ With over 5 years relevant experience ----- 2 ○ With under 5 years relevant experience -----1 		3	
	At least 2No artisan (trade test certificate in relevant Engineering field) <ul style="list-style-type: none"> ○ Artisan with over 10 years relevant experience----- 4 ○ Artisan with under 10 years relevant experience --- 1 ○ Non skilled worker with over 10 years relevant experience -----1 		4	
v	Contract completed in the last five (5) years (Max of 5 No. Projects) <ul style="list-style-type: none"> ○ Project of similar nature, complexity and magnitude --- -----15 ○ Project of similar nature but of lower value than the one in consideration----- 10 ○ No completed project of similar nature ----- 0 		15	
vi	On-going projects (Max of 5 No. Projects) <ul style="list-style-type: none"> ○ Project of similar nature, complexity and magnitude - -- -----10 ○ Project of similar nature but of lower value than the one in consideration -----5 ○ No ongoing project of similar nature - -----0 		10	
vii	Schedule of contractors equipment and transport (proof or evidence of ownership) <ul style="list-style-type: none"> ○ Means of transport (Vehicle) ----- 4 ○ No means of transport ----- 0 		4	10
	For each specific equipment required in the installation of the Work being tendered for. (Maximum No. of equipment to be considered -----6 No.---- 0		6	
viii	Financial report		10	
	Audited financial report (last three (3) years) <ul style="list-style-type: none"> ○ Turn over greater or equal to 5 times the cost of the project ----- 10 ○ Turn over greater or equal to 3 times the cost of the project-----6 			

	<ul style="list-style-type: none"> ○ Turn over greater or equal to the cost of the project----4 ○ Turn over below the cost of the project ----- 2 		
ix	Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc) <ul style="list-style-type: none"> ○ Has financial resources equal or above the cost of the project----- 10 ○ Has financial resources below the cost of the project --5 ○ Has not indicated sources of financial resources -----0 		10
x	Name, Address and Telephone of Banks (Contractor to provide) <ul style="list-style-type: none"> ○ Provided ----- 5 ○ Not provided ----- 0 		5
xi	Litigation History <ul style="list-style-type: none"> ○ Filled -----2 ○ Not filled -----0 		2
xii	Sanctity of the tender document <ul style="list-style-type: none"> ○ Having the document intact (not tempered with in any way),well organized ,clear and presentable -----10 ○ Having mutilated or modified the tender document--0 		10
	TOTAL		100

Any bidder who scores 75 points and above shall be considered for further evaluation

STAGE 2 - TECHNICAL EVALUATION

A) COMPLIANCE WITH TECHNICAL SPECIFICATIONS

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document.

The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

Where the Equipment proposed by the tenderer differs with the models specified in the tender document, it is **mandatory that the brochures/catalogues** of the same be submitted with the tender document highlighting the catalogues Numbers of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

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

Following the above analyses, where the proposed equipment are found not to satisfy the specifications, the tender will be deemed Non – Responsive and will not be evaluated further.

B) TECHNICAL EXAMINATION

In this section, the information provided in the Technical Schedule or Brochures attached will be analyzed for bidders who have qualified from **STAGE 2A** above and points awarded as shown below to a maximum of 50 points

TABLE 2

Item	Description	Score	Max. score
	<p>Technical schedule/Brochures</p> <ul style="list-style-type: none"> ○ Relevant Manufacturer Brochures for items in the technical schedule with equipment to be supplied highlighted and meets specification (Where alternative are to supplied----- 50 or ○ Completely filled Technical Schedule indicating Brand, Model/ Country of origin as per specification in the tender----- 50 ○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied not highlighted but within range of those specified and meets specifications ----- 40 or ○ Completely filled Technical Schedule indicating items as specified in the tender but with over 75% of items in the technical schedule provided-----40 ○ Relevant Manufacturer Brochures for less than 75% of items in the technical schedule with equipment's to be supplied highlighted and meets specifications----- 30 or ○ Less than 75% of Technical Schedule filled indicating Brand, Model/Country of origin for the items considered as specified in the tender -----30 ○ No technical data provided, either in form of brochures or filling of Technical Schedule. ----- 0 		50
	TOTAL		50

The Technical score will be carried forward to **STAGE 4**

STAGE 4 - FINANCIAL EVALUATION

Tenders that attain the pass mark of 75% and above in the Technical evaluation shall proceed to the Financial Evaluation. These are bidders that have passed BOTH the Mandatory Requirements and the Technical Evaluation stage.

The evaluation shall be in two sections

1. Preliminary examinations and
2. Tender sum Comparisons

PRELIMINARY EXAMINATIONS

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

The parameter to be considered under this section includes:

- a) Arithmetic errors;
- b) Comparison of rates.

(1) Arithmetic Errors

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

(2) Comparison of rates

The Evaluation Committee will compare rates offered by different qualified bidders and note if there is inconsistency of rates or front loading.

Bidders who pass the test of price consistency and reasonableness and those who accept their arithmetic errors (if any) shall finally be ranked in terms of their submitted tender sums from lowest to highest. The lowest bid ranked number one shall be recommended for award.

SECTION D
TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40% RULE

Item	Description of Work Item	Describe Location of Source	Cost in K. Shillings	Comments if Any
A	Local Labour			
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				
1				
2				
3				
4				
5				
E				
1				
2				
3				
4				
5				
	TOTAL COST OF LOCAL CONTENT			
	PERCENTAGE OF CONTRACT PRICE			

2. FORM :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
Current	Capacity	Year of Manufacture
	Current Location	
	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

Contractors 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

1.	Title of Position	
	Name of Candidate	
	Duration of Appointment	
	Time Commitment for This Position	
	Expected Time Schedule for This Position	
2.	Title of Position	
	Name of Candidate	
	Duration of Appointment	
	Time Commitment for This Position	
	Expected Time Schedule for This Position	
3.	Title of Position	
	Name of Candidate	
	Duration of Appointment	
	Time Commitment for This Position	
	Expected Time Schedule for This Position	
4.	Title of Position	
	Name of Candidate	
	Duration of Appointment	
	Time Commitment for This Position	
	Expected Time Schedule for This Position	

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: <i>[language and levels of speaking, reading and writing skills]</i>	
	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
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

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	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnell is available to work in this contract]</i>
Time commitment	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnell is available to work in this contract]</i>

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:

Signature:

Date: (day month year):

Counter signature of authorized representative of the Tenderer:

Signature:

Date: (day month year):

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

5.1. 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 Year of Incorporation
Tenderer's Legal Address [in country of registration]
Tenderer's Authorised Representative Information Name: Address: Telephone/Fax Numbers: E-mail Address:
<ol style="list-style-type: none">1. Attached are copies of original documents of:<ul style="list-style-type: none">● 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● In case of JV, letter of intent to form JV or JV agreement in accordance with ITT 3.5● In case of state-owned enterprise or institution in accordance with ITT 3.8 documents establishing:<ol style="list-style-type: none">a. Legal and financial autonomyb. Operation under commercial lawc. Establishing that the tenderer is not under the supervision of the Procuring Entity2. Included are the organisational chart, a list of Board of Directors and the beneficial ownership

5.2. FORM ELI - 1.2

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 Authorised Representative Information Name: Address: Telephone/Fax Numbers: E-mail Address:
3. Attached are copies of original documents of: <ul style="list-style-type: none">● 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● In case of state owned enterprise or institution in accordance with ITT 3.8 documents establishing:<ul style="list-style-type: none">d. Legal and financial autonomye. Operation under commercial lawf. Establishing that the tenderer is not under the supervision of the Procuring Entity, in accordance with ITT 3.5
4. Included are the organizational chart, a list of Board of Directors and the beneficial ownership

5.3. 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 1 st January [insert year] specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1			
Contract(s) non-performance since 1 st January [insert year] specified in Section III, Evaluation and Qualification Criteria, Requirement 2.1			
Contract(s) withdrawn did not occur since 1 st January [insert year] 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] Name of Procuring Entity: [insert street/city/country] Reason(s) for non-performance: [indicate main reasons]	[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)
[insert year]	[insert percentage]	Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____	[insert amount]

		Status of Dispute: _____	
[insert year]	[insert percentage]	Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of Dispute: _____	[insert amount]
Litigation in accordance with Section III, Evaluation and Qualification Criteria			
No Litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub Factor 2.4			
Pending Litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
[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 reasons]	[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

5.4. FORM FIN – 3.1

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)					
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 Opening 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 incase 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 statements for the _____ years required above and complying with the requirements.

5.5. FORM FIN – 3.2

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 Shilling Equivalent
<i>[Indicate year]</i>	<i>[Insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

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

5.6. 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 contractor contracts as specified in Section III, Evaluation and Qualification Criteria.

No.	Source of Finance	Amount (Kenya Shilling Equivalent)
1		
2		
3		

5.7. 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.

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					

5.8. FORM EXP – 4.1

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 _____	

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:				
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:				
Amount				
Physical Size of Required Works Items				
Complexity				
Methods/Technology				
Construction Rate for Key Activities				
Other Characteristics				

5.10. FORM EXP – 4.2(b)

Specific Construction and Contract Management Experience

Tenderer's Name: _____ Date: _____

JV Member's Name: _____ ITT No. and Title: _____

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.

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	
Quantity (Volume, Number of 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:				
Description of the similarity in accordance with Sub-Factor 4.2(b) of Section III:				

6. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.

All italicized text is to help Tenderer in preparing this form.

Tenderer must complete and sign **CERTIFICATE OF INDEPENDENT TENDER DETERMINATION** and the **SELF DECLARATION OF THE TENDERER** attached to this Form of Tender.

The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.

- **Tenderer's Eligibility- Confidential Business Questionnaire**
- **Certificate of Independent Tender Determination**
- **Self-Declaration of the Tenderer**

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 there in for the sum of Kenya Shillings *[[Amount in figures]*Kenya Shillings *[amount in words]*

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

.....*[words]*.....

The percentage or amount quoted above does not include provisional sums, and only allows not more than two foreign currencies.

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.
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;

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.

- xiii. 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];
- xiv. 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

- xv. 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;
- xvi. 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;
- xvii. 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
- xviii. 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.
- xix. 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.
- xx. We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:

a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are not in any conflict to interest.

(b) 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:

.....

Name of the person duly authorized to sign the Tender on behalf of the Tenderer:]

.....
.....

Title of the person signing the Tender:

.....

Signature of the person named above:

.....

Date signed day of

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

Instruction to Tenderer

Tenderer 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 Contract Details of the Tenderer. (Country, city, location, building, floor, postal address and 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 Registration 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.	

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				

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/have an interest or relationship in this firm? Yes/No

If Yes provide details as follows:

	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 controls, is 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.		
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 such 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.		

Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name _____

Title or Designation _____

(Signature)

(Date)

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]

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. Box being 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 therefore said 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)

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 here by 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.....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name.....

Sign.....

Date.....

(c) **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 processor 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.

FORM OF TENDER SECURITY-DEMAND BANK GUARANTEE

Beneficiary: Request forTenders No: _____ **Date:** _____ **TENDER C**

Guarantor: _____

1. We have been informed that _____(here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of under Request for Tenders No. _____
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 there to 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)]

4. FORM OF TENDER SECURITY (TENDER BOND)

[The Surety shall fill in this Tender Bond Form in accordance

with the instructions indicated.] BOND NO. ___

1. BY THIS BOND..... *[name of tenderer]* as Principal (hereinafter called "the Principal"), and..... *[name, legal title, and address of surety]*, **authorized to transact business in***[name of country of Purchaser]*, as Surety (hereinafter called "the Surety"), are held and firmly bound unto..... *[name of Purchaser]* as Obligee (hereinafter called "the Purchaser") in the sum of.....
..... *[amount of Bond][amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and as signs, jointly and severally, firmly by these presents.

2. WHERE AS the Principal has submitted or will submit a written Tender to the Purchaser dated the _____ day of _____, 20, for the supply of.....
[name of Contract] (herein after called the "Tender").

3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- 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 there to provided by the Principal; or
- b) Having been notified of the acceptance of its Tender by the Purchaser during the Tender Validity Period or any extension there to 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 Purchaser's Tendering document.

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

4. The Surety here by agrees that its obligation will remain in full force and effect upto and including the date 30 days after the date of expiration of the Tender Validity Period set forth in the Principal's Letter of Tender or any extension thereto provided by the Principal.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this day of _____20.

Principal: _____ Surety: _____

Corporate Seal (where appropriate)

Principal: _____ Surety: _____

(Signature)

(Signature)

(Printed name and title)

(Printed name and title)

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]

SECTION E
BILLS OF QUANTITIES

BILLS OF QUANTITIES

PRICING OF PRELIMINARIES ITEMS

Prices will be inserted against item of preliminaries in the Contractor's Bills of Quantities and specification. These Bills are designated as Bill No.1 in this Section. Where the Contractor fails to insert his price in any item, he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:

(a) **Preliminaries – Bill No.1**

Contractor's preliminaries are as per those described in section C – Contract Preliminaries and General Conditions of Contract. The Contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However, the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

(b) **Installation Items – Other Bills**

- (i) The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
- (ii) The unit of measurements and observations are as per those described in clause 1.0 5 of the section C.

(c) **Summary**

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The Contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document.

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes including V.A.T at the time of tender.
3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the contractor shall adhere to. Otherwise, alternative brands of **equal** and **approved** quality will be accepted.

Should the contractor install any material not specified here-in before receiving **approval** from the Project Manager, the contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender**.
6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

Statement of Compliance

1. I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
2. I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed: _____ *for and on behalf of the Tenderer*

Date: _____

Official Rubber Stamp: _____

SECTION F
GENERAL SPECIFICATONS
OF
MATERIALS AND WORKS

DESCRIPTION

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

1. General
2. Standard of Materials
3. Workmanship
4. Procurement of Materials
5. Shop Drawings
6. Record Drawings
7. Regulations and Standards
8. Setting out Works
9. Position of Electrical Plant and apparatus
10. M.C.B Distribution Panels and Consumer Units
11. Fused Switchgear and Isolators
12. Conduits and Conduit Runs
13. Conduit Boxes and Accessories
14. Labels
15. Earthing
16. Cables and Flexible Cords
17. Armoured PVC Insulated and Sheathed Cables
18. Cable Supports; Markers and Tiles
19. PVC Insulated Cables
20. Heat Resisting Cables
21. Flexible Cords
22. Cable Ends and phase Colours
23. Cable Insulation Colours
24. Sub-circuit Wiring
25. Space Factor
26. Insulation
27. Lighting Switches
28. Sockets and Switched sockets
29. Fused Spur Boxes
30. Cooker Outlets
31. Connectors
32. Lampholders
33. Lamps
34. lighting Fittings Street lighting Lanterns
35. Position of Points and Switches
36. Street/Security Lighting Columns
37. Timing Control Switch
38. Wiring System for Street Lighting
39. Metal control Pillar
40. Current Operated Earth leakage circuit breaker
41. MV Switchboard
42. Steel Conduits and Steel Trunking
43. Testing on Site

1. GENERAL

This specification is to be read in conjunction with the drawings which are issued with it. Bills of quantities shall be the basis of all additions and omissions during the progress of the works.

2. STANDARD OF MATERIALS

Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the contractor shall adhere.

Should the contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the contractor. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

3. WORKMANSHIP

The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the contractor's expense.

Permits, Certificates or Licenses must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licenses exist under Government legislation.

4. PROCUREMENT OF MATERIALS

The contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

Contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

5. SHOP DRAWINGS

Before manufacture or Fabrication is commenced the contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent information including sizes, capacities, construction details, etc, as may be required to determine the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

6. RECORD DRAWINGS

These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.

The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.

Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.

One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

7. REGULATIONS AND STANDARDS

All work executed by the contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, and with the Regulations of the Local Electricity Authority.

Where the two sets of regulations appear to conflict, they shall be clarified with the Engineers. All materials used shall comply with relevant Kenya Bureau of Standards Specification.

8. SETTING OUT WORK

The contractor at his own expenses; is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his Tender for all such modifications and for the provision of any such sketches or drawings related thereto.

9. POSITIONS OF ELECTRICAL PLANT AND APPARATUS

The routes of cables and approximate positions of switchboards etc, as shown on the drawings shall be assumed to be correct for purpose of Tendering, but exact positions of all electrical Equipment and routes of cables must be agreed on site with the Engineer before any work is carried out.

10. MCB DISTRIBUTION PANELS AND CONSUMER UNITS

All cases of MCB Panels and consumer units shall be constructed in heavy gauge sheet with hinged covers.

Removable undrilled gland plates shall be provided on the top and bottom of the cases. Miniature circuit breakers shall be enclosed in moulded plastic with the tripping mechanism and arc chambers separated and sealed from the cable terminals.

The operating dolly shall be tripfree with a positive movement in both make and break position. Clear indication of the position of the handle shall be incorporated.

The tripping mechanism shall be on inverse characteristic to prevent tripping in temporary overloads and shall not be affected by normal variation in ambient temperature.

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of perspex, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each

distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart.

Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

Neutral cables shall be connected to the neutral bar in the same sequence as the phase cables are connected to the MCB's. This shall also apply to earth bars when installed.

11. FUSED SWITCHGEAR AND ISOLATORS

All fused switchgear and isolators whether mounted on machinery, walls or industrial panels shall conform to the requirements of KS 04 – 226 PART: 1: 1985.

All contacts are to be fully shrouded and are to have a breaking capacity on manual operations as required by KS 04 – 182: 1980.

Fuse links for fused switches are to be of high rupturing capacity cartridge type, conforming to KS 04 – 183: 1978.

Isolators shall be load breaking/fault making isolators.

Fused switches and isolators are to have separate metal enclosures. Mechanical interlocks are to be provided between the door and main switch operating mechanism so arranged that the door may not be opened with the switch in the 'ON' position. Similarly; it shall not be possible to close the switch with the door open except that provision to defeat the mechanical interlock and close the switch with the door in the open position for test purposes. The 'ON' and 'OFF' positions of all switches and isolators shall be clearly indicated by a mechanical flag indicator or similar device. In T.P & N fused switch units, bolted neutral links are to be fitted.

12. CONDUITS AND CONDUIT RUNS

Conduit systems are to be installed so as to allow the loop-in system of wiring:

All conduits shall be black rigid super high impact heavy gauge class 'A' PVC in accordance with KS 04 – 179: 1988 and IEE Regulations. No conduit less than 20mm in diameter shall be used anywhere in this installation.

Conduit shall be installed buried in plaster work and floor screed except when run on wooden or metal surface when they will be installed surface supported with saddles every 600mm. Conduit run in chases shall be firmly held in position by means of substantial pipe hooks driven into wooden plugs.

The Sub-contractors attention is drawn to the necessity of keeping all conduits entirely separate from other piping services such as water and no circuit connections will be permitted between conduits and such pipes.

All conduits systems shall be arranged wherever possible to be self-draining to switch boxes and conduit outlet points for fittings:

The systems, when installed and before wiring shall be kept plugged with well fitting plugs and when short conduit pieces are used as plugs, they shall be doubled over and tied firmly together with steel wire; before wiring all conduit systems shall be carried out until the particular section of the conduit installation is complete in every respect.

The sets and bends in conduit runs are to be formed on site using appropriate size bending springs and all radii of bends must not be less than 2.5 times the outside diameter of the conduit. No solid or inspection bends, tees or elbows will be used.

Conduit connections shall either be by a demountable (screwed up) assembly or adhesive fixed and water tight by solution. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between the conduit and switch boxes, circular or non-screwed boxes, care shall be taken that no rough edges of conduit stick out into the boxes.

Runs between draw in boxes are not to have more than two right angle bends or their equivalent. The sub-contractor may be required to demonstrate to the Engineers that wiring in any particular run is easily withdrawable and the sub-contractor may, at no extra cost to the contract; be required to install additional draw-in boxes required. If conduit is installed in straight runs in excess of 6000mm, expansion couplings as manufactured by Egatube shall be used at intervals of 6000mm.

Where conduit runs are to be concealed in pillars and beams, the approval of the Structural Engineer, shall be obtained. The sub-contractor shall be responsible for marking the accurate position of all holes chases etc, on site, or if the Engineer so directs, shall provide the Main Contractor with dimensional drawings to enable him to mark out and form all holes and chases. Should the sub-contractor fail to inform the main contractor of any inaccuracies in this respect they shall be rectified at the sub-contractors expense.

It will be the Sub-contractors responsibility to ascertain from site, the details of reinforced concrete or structural steelwork and check from the builder's drawings the positions of walls, structural concrete and finishes. No reinforced concrete or steelwork may be drilled without first obtaining the written permission of the Structural Engineer.

The drawings provided with these specifications indicate the appropriate positions only of points and switches, and it shall be the Sub-Contractors responsibility to mark out and centre on site the accurate positions where necessary in consultation with the Architect and the Engineer. The sub-contractor alone shall be responsible for the accuracy of the final position.

13. CONDUIT BOXES AND ACCESSORIES

All conduit outlets and junction boxes are to be either malleable iron and of standard circular pattern of the appropriate type to suit saddles being used or super high impact PVC manufactured to KS 04 – 179 : 1983.

Small circular pattern boxes are to be used with conduits up to and including 25mm outside diameter. Rectangular pattern adaptable boxes are to be used for conduits of 32mm outside diameter and larger. For drawing in of cables in exposed runs of conduit, standard pattern through boxes are to be used:

Boxes are to be not less than 50mm deep and of such dimensions as will enable the largest appropriate number of cables for the conduit sizes to be drawn in without excessive bending.

Outlet boxes for lighting fittings are to be of the loop-in type where conduit installation is concealed and the sub-contractor shall allow one such box per fitting, except where fluorescent fittings are specified when two such boxes per fitting shall be fitted flush with ceiling and if necessary fitted with break joint rings. Pattresses shall be fitted where required to outlets on surface conduit runs.

Adaptable boxes are to be of PVC or mild steel (of not less than 12swg) and black enamelled or galvanised finish according to location. They shall be of square or oblong shape location. They shall be of square or oblong shape complete with lids secured by four 2 BA brass roundhead screws; No adaptable box shall be less than 75mm x 75mm x 50mm or larger than 300mm x 300mm x 75mm and shall be adequate in depth in relation to the size of conduit entering it. Conduits shall only enter boxes by means of conduit bushes.

14. LABELS

Labels fitted to switches and fuse boards;-

- (i) Shall be Ivorine engraved black on white.
- (ii) Shall be secured by R.H brass screws of same manufacturing throughout.
- (iii) Shall be indicated on switches:-
 - a) Reference number of switch
 - b) Special current rating
 - c) Item of equipment controlled
- (iv) Shall indicate on MCB panels
 - a) Reference number
 - b) Type of board, i.e., lighting, sockets, etc.,
 - c) Size of cable supplying panel
 - d) where to isolate feeder cable
- (v) Shall be generally not less than 75mm x 50mm.

15. EARTHING

The earthing of the installation shall comply with the following requirements;-

- (i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.
- (ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.
- (iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).
- (iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided
- (v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.
- (vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.
- (vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6M. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

- (viii) Earth plates will not be permitted
- (ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.
- (x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.
- (xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.
- (xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.
- (xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.
- (xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

16. CABLES AND FLEXIBLE CORDS

All cables used in this Sub-Contract shall be manufactured in accordance with the current appropriate Kenya standard Specification which are as follows:-

P.V.C. Insulated Cables and Flexible Cords	---	Ks 04-192:1988
P.V.C Insulated Armoured Cables	---	Ks 04-194:1990
Armouring of Electric cables	---	Ks 04-290:1987

The successful Sub-Contractor will, at the Engineers discretion be required to submit samples of cables for the Engineers approval; the Engineer reserves the right to call for the cables of an alternative manufacture without any extra cost being incurred.

P.V.C. insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform to the details stated in the "Cable Braid and insulation Colours" Clause.

17. ARMoured P.V.C. INSULATED AND SHEATHED CABLES:

Shall be 600/1000-volt grade manufactured to Ks 04-194:1988 and Ks 04-187/188 with copper stranded conductors.

The wire armour of the cable shall be used wholly as an earth continuity conductor and the resistance of the wire armour shall have a resistance not more than twice of the largest current carrying conductor of the cable.

P.V.C./S.W.A./P.V.C. cables shall be terminated using "Telecom" "B" type or approved equal or approved equal glands and a P.V.C. tapered sleeve shall be provided to shroud each gland.

18. CABLE SUPPORTS, MARKERS AND TILES

All PVC/SWA/PVC cables run inside the building shall be fixed in rising ducts or on ceilings by means of die cast cable hooks or clamps, of appropriate size to suit cables, fixed by studs and back nuts to their channel sections.

Alternatively, fixing shall be by BICC claw type cleating system with die-cast cleats and galvanised mild steel back straps or similar approved equal method. For one or two cables run together the cleats shall be fixed a special channel section supports or backstraps described above which shall in turn be secured to walls or ceilings of ducts by rawbolts.

In excessively damp or corrosive atmospheric conditions special finishes may be required and the Sub-contractor shall apply to the Engineer for further instructions before ordering cleats and channels for such areas.

The above type of hooks and clamps and channels or cleats and blackstraps shall also be used for securing cables in vertical ducts.

Cables supports shall be fixed at 600mm maximum intervals, the supports being supplied and erected under this Sub-contract. Saddles shall not be used for supporting cables nor any other type of fixing other than one of the two methods described above or other system which has received prior approval of the Engineer;

Cables are to be kept clear of all pipe work and the Sub-contractor shall work in close liaison with other services Sub-contractors.

The Sub-Contractor shall include for the provision of fixing of approved type coloured slip on cables end markers to indicate permanently the correct phase and neutral colours on all ends.

Provision shall be made for supplying and fixing approved non-corrosive metal cable markers to be attached to the outside of all PVC/SWA/PVC cables at 15mm intervals indicating cable size and distinction.

Where PVC/SWA/PVC cables are outside the building they shall be laid underground 750mm deep with protecting concrete interlocking cover tiles laid over which shall be provided and laid under this Sub-contract.

All necessary excavations and reinstatement of ground including sanding or trenches will be carried out by the Sub-Contractor, unless otherwise stated.

19. PVC INSULATED CABLES

Shall be of non-braided type as CMA reference 6491 x 600/1000/1000 volt grade cables, or equal approved.

PVC cables shall conform to the details of the “Cables and Flexible cords” and “Cable Braid and Insulation Colours” clauses.

20. HEAT RESISTING CABLES

Final connections to cookers, water heaters, etc., shall be made using butyl rubber insulated cable as CMA reference 610 butyl (Single core 600/1000 Volt).

This type of cable shall be used in all instances where a temperature exceeding 100°F, but not exceeding 150°F is likely to be experienced. Final connections to all lighting fittings (and other equipment where a temperature in excess of 150°C likely to be experienced) shall be made using silicon rubber insulated cable or equal and approved.

21. FLEXIBLE CORDS

Shall be in accordance with the “Cable and Flexible Cords” clause. No cord shall be less than 24/0.2mm in size unless otherwise specified.

Circular white twin TRS flex shall be used for plain pendant fittings up to 100 watts. For all other types of lighting fittings the flexible cable shall be silicone rubber insulated.

No polythene insulated flexible cable shall be used in any lighting fitting or other appliance (see “Heat Resisting Cables” Clause 30).

22. CABLE ENDS AND PHASE COLOURS

All cable ends connected up in switchgear, MCB panels etc., shall have the insulation carefully cut back and the ends sealed with Hellerman rubber slip on cable end markers.

The markers shall be of appropriate phase colour for switch and all other live feeds to the details of the “Cable Insulation Colours” clause. Black cable with black end markers shall only be used for neutral cables.

23. CABLE INSULATION COLOURS

Unless otherwise stated in later clauses the insulation colours shall be in accordance with the following table.

Where other systems are installed the cable colours shall be in accordance with the details stated in the appropriate clause.

<u>SYSTEM</u> <u>END</u>	<u>INSULATION COLOUR</u>	<u>CABLE</u>
<u>MARKER</u>		
1) Main and Sub-Main		
a) Phase	Red	Red
b) Neutral	Black	Black
2) Sub-Circuits Single Phase		
a) Phase	Red	Red
b) Neutral	Black	Black

24. SUB-CIRCUIT WIRING

For all lighting and sockets wiring shall be carried out in the “looping in” system and there shall be no joints whatsoever. No lighting circuits shall comprise more than 20 points when protected by 10A MCB. Cables with different cross-section area of copper shall not be used in combination.

Lighting circuits P.V.C. cable.

- (i) 1.5mm² for all lighting circuits indicated on the drawing.

Power circuits P.V.C cable (minimum sizes).

- (ii) 2.5mm² for one, two or three 5Amp sockets wired in parallel.

- (iii) 2.5mm² for one 15Amp socket.

- (iv) 2.5mm² for maximum of ten switched 13 Amp sockets wired from 30 Amp MCB.

The wiring sizes for lighting circuits and sockets are shown on the drawings. In such cases, the sizes shown on the drawings shall prevail over the sizes specified.

Wiring sizes for other appliances shall be shown on the drawing or specified in later clauses of this specification.

25. SPACE FACTOR

The maximum number of cables that may be accommodated in a given size of conduit or trunking or duct is not to exceed the number in Tables B.5 and B.6 or as stated in Regulation B.91, B.117 and B.118 of the I.E.E Regulations whichever is appropriate.

26. INSULATION

The insulation resistance to earth and between poles of the whole wiring system, fittings and lumps, shall not be less than the requirements of the latest edition of the I.E.E Regulations. Complete tests shall be made on all circuits by the Sub-contractor before the installations are handed over.

A report of all tests shall be furnished by the Sub-Contractor to the Engineer. The Engineer will then check test with his own instruments if necessary.

27. LIGHTING SWITCHES

These shall be mounted flush with the walls, shall be contained in steel or alloy boxes and shall be of the gangs' ratings and type shown in the drawings. They shall be as manufactured by M.K. Electrical Ltd., or other equal and approved to KS 04 – 247: 1988

28. SOCKETS AND SWITCHED SOCKETS

These shall be flush pattern in steel/PVC box and shall be of the gangs and type specified in the drawings.

They shall be 13- Amp, 3-pin, shuttered, switched and as manufactured by "M.K. Electrical Co. Ltd.", or other approved equal to KS 04 – 246: 1987

29. FUSED SPUR BOXES

These shall be flush, D.P switched as in steel/PVC box and of type and make specified in the drawings complete with pilot light and as manufactured by "M. K. Electrical Company Ltd", or other approved equal. KS 04 – 247: 1988

30. COOKER OUTLETS

These shall be flush mounted with 13-A switched socket outlet and neon indicator Lamps.

The cooker control units shall be as manufactured by "M.K. Electrical Company Ltd", or other approved equal KS 04 – 247: 1988

31. CONNECTORS

Shall be specified in the drawings and appropriate rating. These shall be fitted at all conduit box lighting point outlets for jointing of looped P.V.C cables with flexible cables of specified quality.

32. LAMPHOLDERS

Shall be of extra heavy H.O skirted and shall be provided for every specified lighting fitting and shall be B.C.; E.S.; or G.E.S as required. All E.S. and G.E.S. holders shall be heavy

brass type (except for plain pendants where the reinforced bakelite type shall be used). The screwed cap of the E.S and G.E.S. holders shall be connected to the neutral.

Where lampholders are supported by flexible cable, the holders shall have “cord grip” arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.

The Sub-Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

33. LAMPS

All lamps shall be suitable for normal stated supply voltage and the number and sizes of lamps detailed on the drawings shall be supplied and fixed. The Sub-Contractor must verify the actual supply voltage with the supply authority before ordering the lamps.

Tungsten filament lamps shall be manufactured in accordance with KS 04 – 112:1978 for general service lamps and KS 04 – 307:1985 for lamps other than general services. Tubular fluorescent lamps shall comply with KS 04 – 464:1982

Pearl lamps shall be used in all fittings unless otherwise specified.

34. LIGHTING FITTINGS AND STREET LIGHTING LANTERNS

This Sub-Contract shall include for the provision, handling charges, taking the delivery, safe storage, wiring (including internal wiring) assembling and erecting of all lighting fittings shown on the drawings.

All fittings and pendants shall be fixed to the conduit boxes with brass R/H screws. These to be in line with metal finish of fittings. The lighting fittings are detailed for the purpose of establishing a high standard of finish and under no circumstances will substitute fittings be permitted.

In case of rectangular shaped ceiling fittings, the extreme ends of the fittings shall be secured to suitable support in addition to the central conduit box fittings. Supports shall be provided and fixed by the Sub-Contractor.

The whole of the metal work of each lighting fittings shall be effectively bonded to earth. In the case of ball and/or knuckle joints short lengths of flexible cable shall be provided, bonded to the metal work on either side of the joints. If the above provisions are not made by the manufacturers -, the Sub-contractor shall include cost of additional work necessary in his tender. See “Flexible Cords” clause for details of internal wiring of lighting fittings.

Minimum size of internal wiring shall be 20/0.20mm (23/0067). Each lighting fitting shall be provided with number type and size of lamps as detailed on the drawings. It is to be noted that some fittings are suspended as shown on the drawings.

Where two or more points are shown adjacent to each other on the drawings, e.g socket outlet and telephone outlet, they shall be lined up vertically or horizontally on the centre lines of the units concerned.

Normally, the units shall be lined up on vertical centre lines, but where it is necessary to mount units at low level they shall be lined up horizontally.

35. POSITIONS OF POINTS AND SWITCHES

Although the approximate positions of all points are shown on the drawings, enquiry shall be made as to the exact positions of all M.C.B panels, lighting points, socket outlets etc, before work is actually commenced. The Sub-contractor must approach the Architect with regard to the final layout of all lights on the ceiling and walls.

The Sub-contractor must consult with the Engineer in liaison with the Clerk of Works, or the General Foreman on site regarding the positions of all points before fixing any conduit etc. The Sub-Contractor shall be responsible for all alterations made necessary by the non-compliance with the clause.

36. STREET/SECURITY OUTDOOR LIGHTING COLUMNS:

The column shall be at a minimum of 225mm in the ground on 75mm thick concrete foundations and the pole upto 150mm shall be surrounded with concrete. The top bracket and plain section of the columns shall be common to and interchangeable with all brackets with maximum mismatching tolerance of 3mm between any pole and bracket. After manufacture and before erection the columns shall be treated with an approved mordant solution which shall be washed off and the whole allowed to dry. Thereafter, the columns shall be painted with one undercoat and two coats of gloss paint to an approved colour. All columns shall be complete with fused cut-outs.

37. TIMING CONTROL SWITCH

These shall be installed where shown on the drawings. Photocell timing control circuits which will operate 'on' with a specified level of darkness and 'off' with a given level of light. The initial adjustment will be done with approval of the Electrical Engineer.

38. WIRING SYSTEM FOR STREET LIGHTING

Cables shall be as indicated on the drawings, and shall be laid in a cable trench 450mm deep along the road sides and 600mm deep across the roads and 900mm away from the road kerb or 1500mm away from the edges of the road. 'Loop-in' and 'Loop-out' arrangement shall be used at every pole. Wiring to the lanterns on each pole shall be with 1.5mm² PVC twin insulated and sheathed cable with earth wire shall be laid at least 600mm below the finished road level on a compact bed of murrum at least 50mm thick and covered with a concrete surrounded 150mm thick.

39. METAL CONTROL PILLAR

These shall be metal clad and fabricated as per contract drawings and specification. The Sub-Contractor shall supply, install, test and commission control pillars including supplying, fixing connecting switchgears as detailed on the appropriate drawings.

40. CURRENT OPERATED EARTH LEAKAGE CIRCUIT BREAKER

Current operated earth leakage circuit breaker shall conform to B.S.S. 4293:68 rated at 240 volts D.P. 50 cycles A.C. Mains.

The breaker shall be provided with test switch and fitted in weather proof enclosure for surface mounting. The rated load current and earth fault operating current shall be as specified in the drawings. These shall be as manufactured by Crabtree, Siemens or other equal and approved.

41. M.V. SWITCHBOARD AND SWITCHGEAR

The switchboard shall be manufactured in accordance with KS04-226 which co-ordinates the requirements for electrical power switchgear and associated apparatus. It is not intended that this K.S. should cover the requirements for specified apparatus for which separate Kenyan Standard exist. All equipment and material used in the switchboard shall be in accordance with the appropriate Kenya Standard.

The switchboard shall comprise the equipment shown on the drawings together with all current transformers, auxiliary fuses, labels, small wiring and interconnections necessary for the satisfactory operation of the switchboard.

The Switchboard shall be of the flush fronted, enclosed, metal clad type with full front or rear access as called for in the particular specifications, suitable for indoor use, sectionalized as necessary to facilitate transport and erection. The maximum height of the switchboard is to be approximately 2.0 metres. A suitable connection chamber containing all field terminals shall be provided at the top or bottom of the switchboard as appropriate.

Before manufacture, the Sub-Contractor shall submit to the consulting Engineer for approval of detailed drawings showing the layout, construction and connection of the switchboard.

All bus-bars and bus-bar connections shall consist of high conductivity copper and be provided in accordance with KS 04-226: 1985. The bus-bars shall be clearly marked with the appropriate phase and neutral colours which should be red, yellow, blue for the phases and black for neutral. The bus-bars shall be so arranged in the switchboard that the extensions to the left and right may be made in the future with ease should the need arise.

Small wiring, which will be neatly arranged and cleated, shall be executed in accordance with B.S. 158 and the insulation of the wiring shall be coloured according to the phase or neutral connection.

Switches and fuse switches, shall be in strict accordance with KS04-183:1978 Class 2 switches. Means of locking the switch in the "OFF" position shall be provided.

All fuse switches shall comply with KS04-183:1978, PARTS 2 and 3 a fault rating at least equal to the fault rating of the switchboard in which they are installed. Cartridge fuse links to KS 04-183:1978 category A.C. 46, class Q1 and fusing factor not exceeding 1.5 shall be supplied with each fused switch.

Mounting arrangements shall be such that individual complete fuse switches may be disconnected and withdrawn when necessary without extensive dismantling work.

When switches are arranged in their formation all necessary horizontal and vertical barriers shall be provided to ensure segregation from adjacent units. Means of locking the switch in the "OFF" position shall be provided.

42. STEEL CONDUITS AND STEEL TRUNKING

Conduits shall be of heavy gauge class "B" welded to Standard specification KS 04-180:1985. In no case will conduit smaller than 20mm diameter be used on the works. Conduits installed within buildings shall be black enamelled finish except where specified otherwise. Where installed externally or in damp conditions they shall be galvanised. Conduit fittings, accessories or equipment used in conjunction with galvanised conduits shall also be galvanised or otherwise as approved by the service engineer.

Metal trunking shall be fabricated from mild steel of not less than 18 swg. All sections of trunking shall be rigidly fixed together and attached to the framework or fabric or the

building at intervals of not less than 1.2m. Joint trunking shall not overhang fixing points by more than 0.5m.

All trunking shall be made electrically continuous by means of 25 x 3mm copper links across each joint and where the trunking is galvanised, the links shall be made by galvanised flat iron strips.

All trunking fittings (i.e. Bends, tees, etc) shall leave the main through completely clear of obstructions and continuously open except through walls and floors at which points suitable fire resisting barriers shall be provided as may be necessary. The inner edge of bends and tees shall be chamfered where cables larger than 35mm² are employed.

Where trunking passes through ceilings and walls the cover shall be solidly fixed to 150mm either side of ceilings and floors and 50mm either side of walls.

Screws and bolts securing covers to trunking or sections of covers together shall be arranged so that damage to cables cannot occur either when fixing covers or when installing cables in the trough.

Where trunking is used to connect switchgear or fuseboards, such connections shall be made by trunking fittings manufactured for this purpose and not by multiple conduit couplings.

Where vertical sections of trunking are used which exceed 4.5m in length, staggered tie off points shall be provided at 4.5m intervals to support the weight of cables.

Unless otherwise stated, all trunking systems shall be painted as for conduit.

Where a wiring system incorporates galvanised conduit and trunking, the trunking shall be deemed to be galvanised unless specified otherwise.

The number of cables to be installed in trunking shall be such as to permit easy drawing in without damage to the cables, and shall in no circumstances be such that a space factor of 45% is exceeded.

Conduit and trunking shall be mechanically and electrically continuous. Conduit shall be tightly screwed between the various lengths so that they butt at the socketed joints. The internal edges of conduit and all fittings shall be smooth, free from burrs and other defects.

Oil and any other insulating substance shall be removed from the screw threads; where conduits terminate in fuse-gear, distribution boards, adaptable boxes, non-spouted switchboxes, etc., they shall, unless otherwise stated, be connected thereto by means of smooth bore male brass bushes, compression washers and sockets. All exposed threads and abrasions shall be painted using an oil paint for black enameled tubing and galvanizing paint for galvanised tubing immediately after the conduits are erected. All bends and sets shall be made cold without altering the section of the conduit.

The inner radius of the bed shall not be less than four (4) times the outside diameter of the conduit. Not more than two right angle bends will be permitted without the inter-position of a draw-in-box. Where straight runs of conduit are installed, draw-in-boxes shall be provided at distances not exceeding 15m. No tees, elbows, sleeves, either of inspection or solid type, will be permitted.

Conduit shall be swabbed out prior to drawing in cables, and they shall be laid so as to drain of all condensed moisture without injury to end connections.

Conduits and trunking shall be run at least 150mm clear of hot water and steam pipes, and at least 75mm clear of cold water and other services unless otherwise approved by the services engineer.

All boxes shall conform to KS 04 – 668: 1986, to be of malleable iron, and black enamelled or galvanised according to the type of conduit specified. All accessory boxes shall have threaded brass inserts.

Box lids where required shall be heavy gauge metal, secured by means of zinc plated or cadmium plated steel screws.

All adaptable boxes and lids of the same size shall be interchangeable.

Boxes used on surface work are to be tapped or drilled to line up with the conduit fixed in distance type saddles allowing clearance between the conduit and wall without the need for setting the conduit.

Where used in conjunction with mineral insulated copper sheathed cable, galvanized boxes shall be used and painted after erection.

Draw-in boxes in the floors are generally to be avoided but where they are essential they must be grouped in positions approved by the services engineer and covered and by the suitable floor traps, with non-ferrous trays and covers.

The floor trap covers are to be recessed and filled in with a material to match the floor surface.

The Sub-contractor must take full responsibility for the filling in of all covers, but the filling in material will be supplied and the filling carried out by the main building contractor.

Where buried in the ground outside the building the whole of the buried conduit is to be painted with two coats of approved bitumastic composition before covering up.

Where run on the surface, unpainted fittings and joints shall be painted with two coats of oil bound enamel applied to rust and grease free metalwork.

The contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specification and the Electric Supply Company's By-Laws.

43. TESTING ON SITE

- (a) Tests shall be carried out to prove that all single pole switches are installed in the 'live' conductor.
- (b) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the 'live' conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system. Tests shall be carried out to verify the continuity of all conductors of each 'ring' circuit.
- (c) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the contractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.
- (d) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the contractor at his own expense.
- (e) The contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be made available to the services engineer to enable him to carry out such tests as he may require.
- (f) The contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.
- (g) The contractor shall test to the services engineer's approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment,

plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.

- (h) Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. air conditioning system) the contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the service engineer's approval.

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The contractor shall comply with the following: -

- a) Government Electrical Specifications No. 1 and No. 2.
- b) All requirements of Kenya Power and Lighting Company Limited, and Communications Commission of Kenya (CA).

SECTION G
PARTICULAR SPECIFICATIONS FOR ELECTRICAL
SYSTEMS

PARTICULAR SPECIFICATIONS FOR ELECTRICAL SYSTEMS

1.0 SITE LOCATION

The site of the proposed works is at **Konza Technopolis Development Authority Headquarters**

2.0 SCOPE OF WORKS

The works to be carried out under this sub-contract comprise supply, installation, testing and commissioning of the following: -

(a) Electrical Works

This shall include conduiting, cabling, fittings and accessories.

(b) Voice and data installation works

This shall include conduiting and Trunking.

Data and Voice outlet plates, Data switches, Cabling, Telephone instruments and IP.P.B.X shall be done by others.

(c) Lightning Protection

This shall include air terminations, copper tape, junction clamps, test clamps and earthing.

(d) TV Installation

This shall include the following: -

- Master Antenna Television (M.A.T.V)
- Cabling using low attenuation TV co- axial cable
- TV outlet plates

Unless otherwise stated elsewhere in this document the television sets shall be supplied by others.

3.0 MATERIALS FOR THE WORKS

Materials shall be as specified in Section F and in the Bills of Quantities of this document which shall be read in conjunction with contract drawings. Alternative materials shall be accepted only after approval by the Project Electrical Engineer.

4.0 BROCHURES FOR FIRE ALARM PANEL

For consideration and qualification tenderers shall, at their own cost, provide coloured manufacturer's brochures detailing technical literature and specifications where applicable.

5.0.MINIMUM TECHNICAL SPECIFICATIONS FOR LED LAMPS/ LIGHTING FITTINGS

<p>i) LED LIGHT FITTING (i.e. Tubes, Panels, Strips e.tc.)</p> <p>TECHNICAL SPECIFICATIONS</p> <p>IEC Compliant</p>		
Item	Minimum Specifications	Proposed solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Operating	<input type="checkbox"/> voltage range: 130-300 V ac <input type="checkbox"/> frequency range: 50-60Hz <input type="checkbox"/> Power factor ≥ 0.9 lagging <input type="checkbox"/> Total Harmonic Distortions (THD) $<15\%$ <input type="checkbox"/> Ambient temperature range -10 to +35 °Operating <input type="checkbox"/> Colour Consistency $\leq 5\text{SDCM}$	
Performance	<input type="checkbox"/> System efficacy $\geq 90\text{lm/W}$ <input type="checkbox"/> Lamp colour temperature $\geq 4000\text{K}$ <input type="checkbox"/> Colour Rendering Index ≥ 80 <input type="checkbox"/> Median useful life $\geq 25000\text{ h}$	
Standards Compliance	<input type="checkbox"/> CB/EMC/CE	
General	<input type="checkbox"/> Driver/power unit/transformer - PSU-E <input type="checkbox"/> Protection class IEC - Safety class II (II)	
<p>LIGHTING CONTROL The lighting shall be intelligent system with dimmable lights controlled by motion detection sensors and dali system remotes (Detection/motion sensors and dali system controllers)</p>		
Item	Minimum Specifications	Proposed solution
Brand (detectors)	State the brand, model and attach Technical Brochure (Mandatory)	
Opertaion	<ul style="list-style-type: none"> ➤ Operates in 315MHz ➤ Controls both 120VAC AND 240VAC receptacles. ➤ Thermostatic material ➤ Weight 1.00lb 	

Standards Compliance	Compliant with part 15 of FCC rules	
Dali controllers	State the brand, model and attach Technical Brochure (Mandatory)	
Operating	<ul style="list-style-type: none"> ➤ Power 120V 50/60Hz 120Ma ➤ 240V 50/60Hz 80mA ➤ Can withstand voltage of upto 6000V AND CURRENT 3000A ➤ Standby power 7W 	
Performance	<ul style="list-style-type: none"> ➤ Surrounding air temperature range 0°-65°C degrees ➤ Relative humidity less than 90% non condensing. ➤ Calibration point maximum 75°C ➤ Indoor use only 	
Standards Compliance	<ul style="list-style-type: none"> ➤ Luton quality systems registered to ISO 9001:2015 ➤ IEC 60669-2-1 ➤ DALI-2 Certified ➤ UL ➤ NOM 	

Bidders must provide technical brochures to determine technical compliance with these specifications.

SECTION H
SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Engineer	

SECTION I
TECHNICAL SCHEDULE
OF
ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered non responsive.

NB. The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT LEGIBLE** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule and **CLEARLY HIGHLIGHT THE SPECIFIC REQUIRED ITEM ONLY.**

NO.	DESCRIPTION	MAKE	TYPE
1.	MCBs and MCCBs		
2.	Socket outlets		
3.	Trunking		
4	Cable trays		
5	PVC/SWA/PVC copper cable		
6.	SC copper cable		
7.	Distribution Boards		
8.	Isolators		
9.	Smoke Detectors		
10.	Fire Alarm Panel		
11.	Nurse call control panel		
12	Lighting fittings; a) LED' fittings b) Downlighters c) EXIT emergency lighting d) Bulkhead fittings.		
13	Switches		

SECTION J
SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

SCHEDULE OF UNIT RATES

(To be completed by the Tenderer)

ITEM	DESCRIPTION	RATE (KSHS)
1	<p><u>Cables</u> PVC SWA PVC Cables:-</p> <p>a) 2 core 10mm2</p> <p>b) 2 core 16mm2</p> <p>c) 4 core 10mm2</p> <p>100A 4-way TPN Distribution Board.</p>	
2	Blanking Cover for Twin socket outlet points.	
3	Blanking Cover for Single socket outlet points.	
4	70W LED IP 65 Flood light	
5	12 ways SP&N, flush mounted CU complete with	
6	100A integral isolator	
6	6 ways TP&N, flush mounted distribution board complete with 100A integral isolator.	
7		

SECTION K

GENERAL CONDITIONS OF CONTRACT

PROPOSED PARTITIONING OF KOTDA HEAD OFFICE ON PRC EL NO.74 AT KONZA TECHNOPO LIS.

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 may be) 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 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.

“Testson Completion” means the tests which are specified in the Contractor 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.

1.2 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.

1.3 Communications

1.3.1 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.

1.3.2 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.

1.4 Law and Language

1.4.1 The Contract shall be governed by the laws of **Kenya**.

1.4.2 The ruling language of the Contract shall be **English**.

1.5 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.

1.6 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.

1.7 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 as sign 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.

1.8 Care and Supply of Documents

- 1.8.1 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.
- 1.8.2 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.
- 1.8.3 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.
- 1.8.4 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.

1.9 Timely provision of Drawings or Instructions

- 1.9.1 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.

- 1.9.2 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.
- 1.9.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 1.9.4 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

1.12.1 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.

1.12.2 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

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.

1.15 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

2.1 Right of Access to the Site

- 2.1.1 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.
- 2.1.2 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].
- 2.1.3 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.
- 2.1.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 2.1.5 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.

2.2 Permits, Licenses or Approvals

- 2.2.1 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.

2.3 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 action 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].

2.4 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 Clause 14 [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
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.
- 3.1.6 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.
- 3.1.7 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.

3.2 Delegation by the Engineer

- 3.2.1 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].
- 3.2.2 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.

3.3 Instructions of the Engineer

- 3.3.1 The Architect may issue to the Contractor (at anytime) 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.
- 3.3.2 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,
 - a) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and 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).

3.4 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.

3.5 Determinations

3.5.1 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 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, befit for such purposes for which the part is intended as are specified in the Contract; and

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.

4.2 Performance Security

- 4.2.1 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.
- 4.2.2 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.
- 4.2.3 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.
- 4.2.4 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.
- 4.2.5 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.
- 4.2.6 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 4.2.7 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.

4.3 Contractor's Representative

- 4.3.1 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**.
- 4.3.2 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 any other suitable person for such appointment.
- 4.3.3 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 4.3.4 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.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

- 4.3.5 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.
- 4.3.6 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.

4.4 Sub-contractors

- 4.4.1 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.
- 4.4.2 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].
- 4.4.3 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.
- 4.4.4 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

4.5 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.

4.6 Co-operation

- 4.6.1 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.
- 4.6.2 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.

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.

4.7 Setting Out of the Works

- 4.7.1 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.
- 4.7.2 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.
- 4.7.3 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.

4.8 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.

4.9 Quality Assurance

- 4.9.1 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.
- 4.9.2 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.

4.10 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.

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.

4.12.5 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.

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.

4.12.6 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.

4.16 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

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.

4.17 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.

4.18 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, surfaced is charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

4.19 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.

4.20 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 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.

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.

4.21 Progress Reports

4.21.1 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.

4.21.2 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.

4.22 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.

4.23 Contractor's Operations on Site

- 4.23.1 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.
- 4.23.2 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.

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

4.24 Fossils

- 4.24.1 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.
- 4.24.2 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].

5.2 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].

5.3 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].

5.4 Evidence of Payments

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
 - ii) 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

6.1 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.

6.2 Rates of Wages and Conditions of Labor

- 6.2.1 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.
- 6.2.2 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.

6.3 Persons in the Service of Procuring Entity

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

6.4 Labour Laws

The Contractor shall comply with all the relevant labour 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.

6.5 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.

6.6 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.

6.7 Health and Safety

- 6.7.1 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.

- 6.7.2 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.
- 6.7.3 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.
- 6.7.4 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.

6.8 Contractor's Superintendence

- 6.8.1 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 super intendence to plan, arrange, direct, manage, inspect and test the work.
- 6.8.2 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.

6.9 Contractor's Personnel

- 6.9.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractors 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 in competently 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.
- 6.9.2 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

6.10 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.

6.11 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

6.12 Foreign Personnel

- 6.12.1 The Contractor shall not employ foreign personnel unless the contractor demonstrates that there are no Kenyans with the required skills.
- 6.12.2 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.

6.13 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.

6.14 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.

6.15 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.

6.16 Prohibition of Forced or Compulsory Labour

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.

6.17 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.

6.18 Employment Records of Workers

The Contractor shall keep complete and accurate records of the employment of labour 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].

6.19 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.

6.20 Non-Discrimination and Equal Opportunity

The Contractor shall base the labour 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 employ mentor 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.

7.4 Testing

- 7.4.1 This Sub-Clause shall apply to all tests specified in the Contract.
- 7.4.2 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.
- 7.4.3 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.
- 7.4.4 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.
- 7.4.5 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.
- 7.4.6 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 7.4.7 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.

7.5 Rejection

- 7.5.1 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.
- 7.5.2 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 are as 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 condition shave 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 16.2 [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 14 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
 - e) 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

8.3.2 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.

8.3.3 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.

8.3.4 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.

8.4 Extension of Time for Completion

8.4.1 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.

8.4.2 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.

8.5 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].

8.6 Rate of Progress

8.6.1 If, at any time:

- 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
- c) [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.

8.6.2 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.

8.6.3 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.

8.7 Delay Damages

8.7.1 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.

8.7.2 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.

9.4 Failure to Pass Tests on Completion

- 9.4.1 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.
- 9.1.3 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.
- 9.1.4 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.

9.2 Taking Over of Parts of the Works

- 9.2.3 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.
- 9.2.4 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.
- 9.2.5 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.
- 9.2.6 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 Contract 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.
- 9.2.7 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.

9.3 Interference with Tests on Completion

- 9.3.3 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.
- 9.3.4 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.
- 10.3.3 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.
- 10.3.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

10.4 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

11.3 Completion of Outstanding Work and Remedying Defects

- 11.3.3 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 there after, 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).
- 11.3.4 If a defect appears or damage occurs, the Contractor shall be notified accordingly by the Engineer.

11.4 Cost of Remedying Defects

- 11.4.3 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.

11.4.4 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.

11.5 Extension of Defects Notification Period

11.5.3 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.

11.5.4 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.

11.6 Failure to Remedy Defects

11.6.3 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.

11.6.4 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 Contract 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.

11.7 Removal of Defective Work

If the defector 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.

11.8 Further Tests

11.8.3 If the work of remedying of any defector 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.

11.8.4 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.

11.9 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.

11.10 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.

11.11 Completion Certificate

11.11.3 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.

11.11.4 The Architect shall issue the Completion Certificate within 30 days 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.

11.11.5 Only the Completion Certificate shall be deemed to constitute acceptance of the Works.

11.12 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.

11.13 Clearance of Site

11.13.3 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

11.13.4 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.

11.13.5 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

12.3 Works to be Measured

12.3.3 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.

- 12.3.4 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.
- 12.3.5 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.
- 12.3.6 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.
- 12.3.7 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.

12.4 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.

12.5 Evaluation

- 12.5.3 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.
- 12.5.4 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.
- 12.5.5 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.
- 12.5.6 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.
- 12.5.7 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.

- 12.5.8 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.
- 12.5.9 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.

12.6 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

13.3 Right to Vary

- 13.3.3 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.
- 13.3.4 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.
- 13.3.5 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.
- 13.3.6 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.

13.2. Variation Order Procedure

13.2.1 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.

13.2.2 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.

13.2.3 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.

13.3 Value Engineering

13.3.1 The Contractor may, at anytime, 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.

13.3.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

13.2.3 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 (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.

13.4 Variation Procedure for Value Engineering proposal

13.4.1 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.

13.5 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.

13.6 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.

13.7 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].

13.8 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].

13.9 Adjustments for Changes in Cost

13.9.1 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.

13.9.2 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.

13.9.3 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:

$$P = A + B I_m/I_o$$

where:

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

A and **B** a recoefficients **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

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 Incases 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

14.3 The Contract Price

14.3.3 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.

14.3.4 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.

14.4 Advance Payment

- 14.4.3 The Procuring Entity shall make an advance payment, as an interest-free loan for mobilization and cash flow 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**.
- 14.4.4 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.
- 14.4.5 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.

- 14.4.6 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.
- 14.4.7 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.
- 14.4.8 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.

14.5 Application for Interim Payment Certificates

- 14.5.3 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 their part on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].
- 14.5.4 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.

14.6 Schedule of Payments

14.6.3 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.

14.6.4 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.

14.7 Plant and Materials intended for the Works

14.7.3 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].

14.7.4 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.

14.7.5 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.

14.7.6 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.

14.7.7 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.

14.8 Issue of Interim Payment Certificates

14.8.3 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.

14.8.4 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.

14.8.5 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.

14.8.6 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.

14.7 Payment

14.7.1 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 60 days after the Architect Issues Interim Payment Certificate; and
- c) the amount certified in the Final Payment Certificate within 60 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].

14.7.2 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.

14.8 Delayed Payment

14.8.1 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.

14.8.2 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 inter bank offered rate, and shall be paid in such currency.

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

14.9 Payment of Retention Money

14.9.1 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.

14.9.2 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.

14.9.3 However, if any work remains to be executed under Clause 11 [Defects Liability], the Architect shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

14.9.4 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause13.8 [Adjustments for Changes in Cost].

14.9.5 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.

14.9.6 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 Contractor 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".

14.11.3 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

14.13.1 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.

14.13.2 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

14.14.1 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].

14.14.2 However, this Sub-Clause shall not limit the Procuring Entity's liability under his in demnification 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

15.3 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.

15.4 Termination by Procuring Entity

15.4.3 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.

15.4.4 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.

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

15.4.6 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.

15.4.7 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.

15.4.8 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.

15.5 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.

15.6 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.

15.7 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].

15.8 Fraud and Corruption

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

15.9 Corrupt gifts and payments of commission

15.9.3 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.

15.9.4 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

16.3 Contractor's Entitlement to Suspend Work

16.3.3 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.

16.3.4 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].

16.3.5 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.

16.3.6 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.

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

16.5 Termination by Contractor

16.5.3 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].

16.5.4 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.

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

16.6 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.

16.7 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 actor 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.

17.4 Consequences of Procuring Entity's Risks

- 17.4.1 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.
- 17.4.2 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 subparagraphs (e) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.
- 17.4.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

17.5 Intellectual and Industrial Property Rights

- 17.5.1 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.
- 17.5.2 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.
- 17.5.3 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 infused 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.
- 17.5.4 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.
- 17.5.5 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.
- 17.5.6 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 contractor has received the rights to grant sub-licenses and shall also grant to the Procuring Entity a non-exclusive and non-transferable license (without the right to sub-license) to use the know-how and other technical information disclosed to the contractor or under the contract. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, 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 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 at 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 Contract 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 Contract 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.

18.2 Insurance for Works and Contractor's Equipment

- 18.2.1 The insuring Party shall insure the Works, Plant, Materials 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.
- 18.2.2 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]).
- 18.2.3 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.

18.2.4 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].

18.2.5 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].

18.3 Insurance against Injury to Persons and Damage to Property

18.3.1 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.

18.3.2 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.

18.3.3 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.

18.4 Insurance for Contractor's Personnel

- 18.4.1 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.
- 18.4.2 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.
- 18.4.3 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.
- 19.2.3 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.

19.3 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.

19.4 Consequences of Force Majeure

- 19.4.1 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].
- 19.4.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

19.5 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.

19.6 Optional Termination, Payment and Release

- 19.6.1 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].
- 19.6.2 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.
- 20.1.5 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.

- 20.1.6 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.
- 20.1.7 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.
- 20.1.8 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.
- 20.1.9 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.

20.2 Procuring Entity's Claims

- 20.2.1 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.
- 20.2.2 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.
- 20.2.3 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].

20.2.4 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.

20.3 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.

20.4 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

20.5.1 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.

20.5.2 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.

20.5.3 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.

20.5.4 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.

20.5.5 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 mentor notice had been given.

20.5.6 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.

- 20.5.7 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.
- 20.5.7 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.
- 20.5.8 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

- 20.6.1 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
- 20.6.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.

20.7 Arbitration with Foreign Contractors

- 20.7.1 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.
- 20.7.2 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

- 20.9.1 The award of such Arbitrator shall be final and binding upon the parties.
- 20.9.2 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

20.11 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 L
SPECIAL CONDITIONS OF CONTRACT

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.

Part A - Contract Data

Conditions	Sub-clause	Data
Procuring Entity's name and address	Heading	KONZA TECHNOPOLIS DEVELOPMENT AUTHORITY
Name and Reference No. of the Contract	Heading and 3.1.1	TENDER NO.KOTDA/NC034/2021-2022
Engineers Name and address	Heading and 3.1.1	SYNCHROCONSULT ASSOCIATES LTD P.O BOX79626-0020 NAIROBI
Contractor's Representative's name	4.3.1	To be agreed with the Engineer
Key Personnel names	16.9.1	To be agreed with the Engineer
Time for Completion	1.1	_____ Weeks
Defects Notification Period	1.1	_____ Days
Sections	1.1	<i>If sections are to be used, refer to Table : Summary of sections below</i>
Electronic transmission systems	1.3	
Time for the parties entering into a Contract Agreement	1.6	Within 30days
Commencement Date	8.1.1	To be agreed with the Engineer
Time for access to the site	2.1	No later than the Commencement Date, and not later than _____ 14 _____ 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 <u>25</u> % shall require approval of the procuring Entity.
Performance Security	4.2.1	The performance security will be in the form of a performance bond in the amount of 5% of the accepted Amount in the same currency(ies) of the accepted contract amount
Normal working hours	6.5	To be agreed with the Engineer
Delay damages for the works	8.7 & 14.15(b)	0.025 % of the Contract Price per day.
Maximum amount of delay damages	8.7	5 % of the final Contract Price.
Provisional Sums	13.5. (b)(ii)	<i>[If there are Provisional Sums, insert a percentage for adjustment of Provisional Sums]</i> ---25%
Adjustments for Changes in Cost	13.8	Not Applicable
Total advance payment	14.2.1	Not Applicable
Repayment amortization rate of advance payment	14.2.5 (b)	Not Applicable
Percentage of Retention	14.3.2 (c)	10 %
Limit of Retention Money	14.3.2 (c)	<u>10</u> % of the Accepted Contract Amount
Plant and Materials	14.5(b)(i)	Not applicable
	14.5(C)(i)	Not applicable

Minimum Amount of Interim Payment Certificates	14.6	Not applicable
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	annual rate of three percentage points above the mean lending rate of the Central Bank in Kenya of the currency of payment
Maximum total liability of the Contractor to the Procuring Entity	17.6	As per applicable laws
Periods for submission of insurance: a. evidence of insurance. b. Relevant policies	18.1	14_days 14_days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	<i>As per applicable laws</i>
Minimum amount of third-party insurance	18.3	<i>As per applicable laws</i>
The place of arbitration	20.7.2	<i>Nairobi County, Kenya</i>

SECTION M
CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM No. 2 – NOTIFICATION OF AWARD – LETTER OF ACCEPTANCE

FORM No. 3 – CONTRACT AGREEMENT

FORM No. 4 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]

FORM No. 5- PERFORMANCE SECURITY [Option 2 – Performance Bond]

FORM No. 6 – ADVANCE PAYMENT SECURITY

FORM No. 7 - 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				
3				
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: _____

FORM NO 2: 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 here by 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 3: 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. 4 - 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....., 2.....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.*

FORM No. 5- PERFORMANCE SECURITY

[Option 2– Performance Bond]

[Note: Procuring Entities a readvised to use Performance Security – Unconditional Demand Bank Guarantee instead 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. 6 - 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 _2____,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.*

FORM NO. 7 – 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 upto 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 demands 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 of.....2.....2, 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.*

ELECTRICAL BILLS

PROPOSED KONZA TECHNOPOLES DEVELOPMENT AUTHORITY -ELECTRICAL INSTALLATION WORKS BILLS OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QTYs	RATE	AMOUNT
1.0	PRELIMINARIES AND GENERAL CONDITIONS				
1.1	Provide bond as stated in the published conditions of sub-contract.	Sum	1		
1.2	Provide insurance as required in the sub contract conditions.	Sum	1		
1.3	Fabrication of store, workshop, lockup etc. as necessary.	Sum	1		
1.4	Preparation of working drawings “As installed” record drawings	Sum	1		
1.5	Printing of paper copies of item 1.4 above.	Sum	1		
	<u>TOTAL CARRIED FORWARD TO PRICE SUMMARY PAGE</u>				
2.0	<u>6TH FLOOR LIGHTING</u>				
2.1	Supply and install lighting points using 3 x 1.5mm ² PVC insulated Copper cables to be drawn in 20mm diameter PVC heavy gauge conduits concealed in the floors, roof and for one way switching but excluding the fittings and switches.	No	70		
2.2	As item 2.1above but for two way switching	No	135		
2.3	Supply and install 10 Amps rated architrave switches(white in colour) for flush mounting and as crabtree.				
	(a) one gang one way	No	15		
	(b) one gang two way	No	0		
	(c) two gang one way	No	4		
	(c) two gang two way	No	5		
	(d) three gang two way	No	10		
	(e) three gang one way	No	3		
2.4	Supply and install the following lighting fittings				
	(a) 600x1200 LED flat panels dimmable 45W as ROBUS complete with all othe accessories.	No	25		
	(b) 600x1200 flat panels with detachable LED engine switchable integral emergency and sensor dimmable	No	8		
	(c) 5W warm light white LED 90mm recessed ceiling mounted decorative down lighter as THORN CHALICE or approved equivalent.(4)	No	120		
	(d) Supply and install 15W LED pendants lighting fixture to clients choice.	No	19		
	(e) Supply and install coloured LED strip light kit 5M 12W Warm white complete with transformers.	m	320		
	(f) Converters for led strip light	No	30		
	(g) Decorative LED 600mm 36W Single lamp IP65 fully polycarbonate weather resistant and corrosion proof luminaire with High Frequency Control Gear with detachable engine integral emergency and sensor .	No	7		
	(h) Decorative LED 600mm 36W Single lamp IP65 fully polycarbonate weather resistant and corrosion proof luminaire with High Frequency Control Gear.	No	7		
	(i) 1x8 watts double sided EXIT emergency lighting luminaires as thorn or any approved equivalent.	No	2		
	(j) Occupancy sensor package as 752/CD2RC clipsal 752 Dual-Tech or approved equivalent consisting both ultrasonic and PIR sensing technologies complete with wiring.	No	40		
	(i) Dali control panels with remote control	No	20		
	(i) Dali lighting system complete with all the accessories for the two wings of the floor.	No	2		
	TOTAL CARRIED FORWARD TO COLLECTION D6				

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
3.0 Cable Ladders, Cable Trays, Trunking & Conduits Installations					
Supply, install and connect as describe below					
3.1	CABLE TRAY (POWER) : 150 x 50mm POWDER COATED (WHITE) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	74		
3.2	CABLE TRAY (DATA) : 150 x 50mm POWDER COATED (GREY) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	74		
3.3	TRUNKING: 250 x 50mm, 3 compartment Screw on stove enamelled factory fabricated metallic trunking c/w angle bends, Tees, end caps to detail and and mounting brackets & accessories to approval. Includes equipotential bonding.	LM	220		
3.4	TRUNKING FACEPLATES (TWIN): Trunking faceplates for Twin outlets for raw power and Clean power	No.	181		
3.5	FLOOR PVC CONDUITS: 38mm Ø HG PVC conduits for linking from the Duct to the Equipment	LM	300		
3.6	Supply and install corrosive resistant floor box for the data and power points with 4No. compartment and cover lid to IP65 floor mounted and recessed as indicated in drawing number drg.	No.	12		
3.7	PEDESTAL: Off Floor Pedestal with Knockout provisions to facilitate installation of Twin sockets For Power (8No.) & Single Sockets for Data (6No.). This should be made of Stove Enamelled factory fabricated metallic structure.	No.	6		
TOTAL CARRIED FORWARD TO COLLECTION D6					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
4.0 Power Supply					
All equipment Isolators will be located not more than 2 meters from the actual equipment. This should be considered when quoting for the points. All Sockets to be as Legrand Belanko (Raw Power - White, Clean Power- Red inner trim)					
4.1	RAW SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	95		
4.2	SOCKET (13A): Supply and install White 13Amps twin switched socket outlet and as MK Cat No. 2757WH1 for item 3.19, CRABTREE or equivalent and approved.	No.	95		
4.3	CLEAN POWER SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	86		
4.4	SOCKET (CLEAN-13A): Supply and install Red 13Amps twin switched socket outlet plate for CLEAN Power as MK, CRABTREE or equivalent and approved.	No.	86		
4.5	TEA URN SOCKET POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 4.0mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls but without the outlet plates.	No.	2		
4.6	TEA URN SOCKET (15A): Supply and Install 15A Single shuttered switched socket plate c/w neon indicator as MK or approved equivalent	No.	2		
4.7	COOKER POINT: Supply and install a cooker circuit wired using 2x6mmsq+1x2.5mmsq ECC PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits, but excluding the cooker control and connection units.	No	2		
4.8	COOKER CONTROL UNIT: Supply and install a 45A rated cooker control unit incorporating a 13 Amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No	2		
4.9	COOKER CONNECTION UNIT: Supply and install a cooker connection unit capable of accommodating upto 2x10mmsq cable and as MK Cat 5045 WHI incorporating a 13 amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No	2		
4.10	FIRE ALARM PANEL POWER POINT: Supply and Insatall Single phase Systems Panels outlet points wired in 2.5mm ² twin + earth PVC insulated CU cables.	No.	1		
4.11	DP SWITCH (PANELS): Supply and Install 20A fused, unswitched DP control switch with neon indicator as MK or Approved equivalent.	No.	1		
4.12	FIRE ALARM POINTS: Supply and Install Conduit Outlets for CCTV in concealed 25mm Ø HG PVC conduit c/w draw wire.	No.	20		
4.13	CCTV POINTS: Supply and Install Conduit Outlets for CCTV in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	10		
4.14	Access Control System: Supply and Install Conduit Outlets for ACS in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	6		
4.15	Supply and install television outlet point using 25mm dia PVC heavy gauge conduits complete with a draw wire and blanking plate.	No	5		
4.16	TV POINTS: Supply and Install television white faceplates and as mk or approved equivalent complete with the wiring.	No.	5		
4.17	AIRCON (OUTDOOR) POWER POINTS: 20A TPN control Isolator switch for 3 phase unit with enclosure as Hager (IP65 Rated)	No.	1		
4.18	AIRCON OUTDOOR (OUTDOOR) CABLING : Three phase power outlet points wired in 6mm sq 4 Core PVC SWA PVC CU cables from Distribution Board to Equipment Isolator in close proximity to the Unit	LM	40		
4.19	INDUSTRIAL PLUG (1-PH) - 32A 3-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	1		
4.20	CABLING (INDUSTRIAL PLUG): Single phase outlet points wired in 3 Core 6mm sq SC PVC FLEX CU cables drawn in concealed 25mm Ø HG PVC conduits concealed in building fabrics.	No.	1		
4.21	INDUSTRIAL PLUG (3-PH) - 32A 5-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	1		
4.22	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	1		
4.23	Provide for the shifting of toilet urinal sensors in the ladies toilets.	Item	1		
TOTAL CARRIED FORWARD TO COLLECTION D6					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
5.0 Power distribution and Cabling					
All Distribution board & Consumer Units incomers should have a short circuit breaking capacity of 25kA to IEC standards.					
All MCB's should have a short circuit breaking capacity of 10-15kA to IEC standards.					
All Distribution board & Consumer Units incomers should have Rated Live busbars, Neutral busbar & Earth busbar to IEC standards.					
All cables to distribution boards should be XLPE CU cables and this should be catered for in the rates.					
All Distribution Boards shall be as Merlin Gerlin					
All MCB's shall have Isobar Mechanism					
5.1	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x': 8 way 100A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for raw power.(existing)	No.	0		
5.2	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x': 6way 100A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for clean power.(existing)	No.	0		
5.4	CONSUMER UNIT (RAW POWER) CU'Rx-x': 6 way 100A rated SPN Wall Surface mounted distribution board as Merlin Gerlin for the server room.(existing)	No.	0		
5.5	10A SP MCB with Isobar Mechanism	No.	11		
5.6	20A SP MCB with Isobar Mechanism	No.	10		
5.7	32A SP MCB with Isobar Mechanism	No.	14		
5.8	45A SP MCB with Isobar Mechanism	No.	2		
5.9	63A TP MCB with Isobar Mechanism	No.	4		
5.10	SP Blanking plates	No.	11		
5.11	3 core 10mm square PVC copper cable from the switchboard on Ground Floor switchroom to the Distribution Boards on the sixth floor. a) To DB 01 to CU in the server room	m	40		
5.12	Cable glands for above cables	No.	4		
5.13	Cable lugs for for above cables	No.	2		
5.14	2Core 10mm sq PVC/SC copper cable from the Clean Power DB to Server room to CU02.	M	45		
5.15	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	1		
5.16	Provide for a smart three phase energy check metres for monitoring the consumption of the distribution boards.	No.	4		
5.17	Provide for a smart three phase sub energy check metres for monitoring the consumption of the distribution boards.	No.	2		
TOTAL CARRIED FORWARD TO COLLECTION D6					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
<ul style="list-style-type: none"> • The Contractor shall supply labour and supply, deliver, install, fix, connect, test, label and commission the works, clean, complete and working to every detail as described below and in the related specifications and /or on the drawings to the satisfaction of the Consulting Engineers. • The Fire alarm system shall be an Addressable Fire Alarm system • All Main Panels and Repeater panels shall be Network ready. • The Fire alarm system should be able to accommodate additional detectors and mimic panels that will be installed by the office users in future. • All systems quoted for MUST meet the minimum threshold outlined in the technical specifications • Fire Alarm Models shall be as Bosch, Menvier, Protec, GE, EST. Any other must be approved by the Engineer. • NB: Technical product Catalogues of the specified models should be attached as part of the Bid document. • NOTE: Kindly Note that all Bidders Will be required to give the Authorization Letter from the Local Authorized agent for Fire Alarm. This will be Mandatory in the Evaluation. 					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
6.0	FIRE ALARM PANEL: Supply and install complete 4 - loop analogue addressable fire detection and alarm system as Menvier DF6000/2/P complete with protective cover, printer and other necessary accessories, as per the specifications	No	1		
6.1	INPUT/OUTPUT INTERPHASE Supply and install analogue addressable input output interface unit as Menvier MIO240 with mains rated contacts	No	1		
6.2	Supply and install analogue addressable spur isolator module unit Menvier MSI850 complete with all the necessary accessories	No	1		
6.3	MANUAL CALL POINT (BREAKGLASS) - As TYPE 01 WITH HINGED COVER: Supply and install analogue addressable manual call point units as Menvier MBG814 complete with conduit and wiring and any other necessary accessories	No	4		
6.4	SMOKE DETECTOR: Supply and install analogue addressable optical smoke detector units as Menvier MAP820 complete with bases, conduit, wiring and any other necessary accessories	No	22		
6.5	HEAT DETECTOR: Supply and install analogue addressable multi - mode heat detector units as Menvier MAH830 complete with bases, conduit, wiring and any other necessary accessories	No	2		
6.6	FIRE ALARM BELL: Supply and install analogue addressable 150mm diameter fire alarm bell as Menvier MBM 246 complete with bases, conduit, wiring and any other necessary accessories	No	4		
6.7	BEACON: Supply and install analogue addressable beacon as Menvier MAB870 complete with bases, conduit, wiring and any other necessary accessories	No	4		
6.7	FIRE ALARM CABLE: Allow for multicore cabling (2core 1.5mm sq FP cable) and any other accessories necessary for the complete wiring, testing and commissioning of the entire fire detection and alarm installations	Roll	20		
6.9	Allow for integration with other fire alarm panels within the facility as may be required	Sum	1		
6.10	PROGRAMMING, TESTING & COMMISSIONING: Programming, testing and commissioning of the entire system by the SUPPLIER specialist complete with all accessories, interconnections, controls, BMS link & activation and the necessary programming.	Sum	1		
TOTAL CARRIED FORWARD TO COLLECTION D6					-

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
7.0	<u>SUMMARY PAGE FOR 6TH FLOOR</u>				
7.1	Light Fittings & Accessories				
7.2	Cable Ladders, Cable Trays, Trunking & Conduits Installations				
7.3	Power Supply				
7.4	Power distribution and Cabling				
7.5	Fire Alarm				
ELECTRICAL INSTALLATIONS PRICE SUMMARY PAGE D19					-

ITEM	DESCRIPTION	UNIT	QTYs	RATE	AMOUNT
8.0	<u>FIFTH FLOOR LIGHTING</u>				
8.1	Supply and install lighting points using 3 x 1.5mm ² PVC insulated Copper cables to be drawn in 20mm diameter PVC heavy gauge conduits concealed in the floors, roof and for one way switching but excluding the fittings and switches.	No	35		
8.2	As item 2.1above but for two way switching	No	16		
8.3	Supply and install 10 Amps rated architrave switches(white in colour) for flush mounting and as crabtree.				
	(a) one gang one way	No	5		
	(b) one gang two way	No	0		
	(c) two gang one way	No	1		
	(c) two gang two way	No	0		
	(d) three gang two way	No	2		
	(e) three gang one way	No	3		
8.4	Supply and install the following lighting fittings				
	(a) 600x600 LED flat panels dimmable 45W as ROBUS complete with all the accessories.	No	16		
	(b) 600x600 flat panels with detachable LED engine switchable integral emergency and sensor dimmable	No	14		
	(b) 5W warm light white LED 90mm recessed ceiling mounted decorative down lighter as THORN CHALICE or approved equivalent.(4)	No	20		
	(c) Supply and install coloured LED strip light kit 5M 12W warm white complete with transformers.	m	60		
	(d) Converters for led strip light	No	5		
	(e) Occupancy sensor package as 752/cd2rc CLIPSAL 752 Dual-Tech or approved equivalent consisting both ultrasonic and PIR sensing technologies complete with wiring.	No	20		
	(f) Dali control panels and remote	No	7		
	(i) Dali lighting system complete with all the accessories for the whole floor.	No	1		
	TOTAL CARRIED FORWARD TO COLLECTION D12				

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
9.0 Cable Ladders, Cable Trays, Trunking & Conduits Installations					
Supply, install and connect as describe below					
9.1	CABLE TRAY (POWER) : 150 x 50mm POWDER COATED (WHITE) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	20		
9.2	CABLE TRAY (DATA) : 150 x 50mm POWDER COATED (GREY) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	20		
9.3	TRUNKING: 250 x 50mm, 3 compartment Screw on stove enamelled factory fabricated metallic trunking c/w angle bends, Tees, end caps to detail and and mounting brackets & accessories to approval. Includes equipotential bonding.	LM	100		
9.4	TRUNKING FACEPLATES (TWIN): Trunking faceplates for Twin outlets for raw power and Clean power	No.	62		
9.5	FLOOR PVC CONDUITS: 38mm Ø HG PVC conduits for linking from the Duct to the Equipment	LM	50		
9.6	Supply and install corrosive resistant floor box for the data and power points with 4No. compartment and cover lid to IP65 floor mounted and recessed as indicated in drawing number drg.	No.	2		
9.7	PEDESTAL: Off Floor Pedestal with Knockout provisions to facilitate installation of Twin sockets For Power (8No.) & Single Sockets for Data (6No.). This should be made of Stove Enamelled factory fabricated metallic structure.	No.	0		
TOTAL CARRIED FORWARD TO COLLECTION D12					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
10.0 Power Supply					
All equipment Isolators will be located not more than 2 meters from the actual equipment. This should be considered when quoting for the points. All Sockets to be as Legrand Belanko (Raw Power - White, Clean Power- Red inner trim)					
10.1	RAW SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	32		
10.2	SOCKET (13A): Supply and install White 13Amps twin switched socket outlet and as MK Cat No. 2757WHI for item 3.19, CRABTREE or equivalent and approved.	No.	32		
10.3	CLEAN POWER SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	30		
10.4	SOCKET (CLEAN-13A): Supply and install Red 13Amps twin switched socket outlet plate for CLEAN Power as MK, CRABTREE or equivalent and approved.	No.	30		
10.5	TEA URN SOCKET POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 4.0mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls but without the outlet plates.	No.	0		
10.6	TEA URN SOCKET (15A): Supply and Install 15A Single shuttered switched socket plate c/w neon indicator as MK or approved equivalent	No.	0		
10.7	COOKER POINT: Supply and install a cooker circuit wired using 2x6mmsq+1x2.5mmsq ECC PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits, but excluding the cooker control and connection units.	No	1		
10.8	COOKER CONTROL UNIT: Supply and install a 45A rated cooker control unit incorporating a 13 Amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No	1		
10.9	COOKER CONNECTION UNIT: Supply and install a cooker connection unit capable of accommodating upto 2x10mmsq cable and as MK Cat 5045 WHI incorporating a 13 amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No	1		
10.1	FIRE ALARM PANEL POWER POINT: Supply and Insatall Single phase Systems Panels outlet points wired in 2.5mm ² twin + earth PVC insulated CU cables.	No.	1		
10.11	DP SWITCH (PANELS): Supply and Install 20A fused, unswitched DP control switch with neon indicator as MK or Approved equivalent.	No.	1		
10.12	FIRE ALARM POINTS: Supply and Install Conduit Outlets for CCTV in concealed 25mm Ø HG PVC conduit c/w draw wire.	No.	13		
10.13	CCTV POINTS: Supply and Install Conduit Outlets for CCTV in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	10		
10.14	Access Control System: Supply and Install Conduit Outlets for ACS in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	0		
10.15	Supply and install television outlet point using 25mm dia PVC heavy gauge conduits complete with a draw wire and blanking plate.	No	0		
10.16	TV POINTS: Supply and Install television white faceplates and as mk or approved equivalent complete with the wiring.	No.	0		
10.17	AIRCON (OUTDOOR) POWER POINTS: 20A TPN control Isolator switch for 3 phase unit with enclosure as Hager (IP65 Rated)	No.	0		
10.18	AIRCON OUTDOOR (OUTDOOR) CABLING : Three phase power outlet points wired in 6mm sq 4 Core PVC SWA PVC CU cables from Distribution Board to Equipment Isolator in close proximity to the Unit	LM	0		
10.19	INDUSTRIAL PLUG (1-PH) - 32A 3-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	0		
10.20	CABLING (INDUSTRIAL PLUG): Single phase outlet points wired in 3 Core 6mm sq SC PVC FLEX CU cables drawn in concealed 25mm Ø HG PVC conduits concealed in building fabrics.	No.	0		
10.21	INDUSTRIAL PLUG (3-PH) - 32A 5-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	0		
10.22	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	1		
10.23	Prove for ceiling mount projectors points in the meeting rooms.	Item	2		
TOTAL CARRIED FORWARD TO COLLECTION D12					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
11.0 Power distribution and Cabling All Distribution board & Consumer Units incomers should have a short circuit breaking capacity of 25kA to IEC standards. All MCB's should have a short circuit breaking capacity of 10-15kA to IEC standards. All Distribution board & Consumer Units incomers should have Rated Live busbars, Neutral busbar & Earth busbar to IEC standards. All cables to distribution boards should be XLPE CU cables and this should be catered for in the rates. All Distribution Boards shall be as Merlin Gerlin All MCB's shall have Isobar Mechanism					
11.1	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x' : 8 way 100A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for raw power.(existing)	No.	0		
11.2	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x' : 6way 100A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for clean power.(existing)	No.	0		
11.3	CONSUMER UNIT (RAW POWER) CU'Rx-x' : 6 way 100A rated SPN Wall Surface mounted distribution board as Merlin Gerlin.(existing)	No.	0		
11.4	10A SP MCB with Isobar Mechanism	No.	6		
11.5	20A SP MCB with Isobar Mechanism	No.	2		
11.6	32A SP MCB with Isobar Mechanism	No.	6		
11.7	45A SP MCB with Isobar Mechanism	No.	1		
11.8	63A TP MCB with Isobar Mechanism	No.	3		
11.9	SP Blanking plates	No.	11		
11.10	4 core 25mm ² square PVC copper cable from the switchboard on Ground Floor switchroom to the Distribution Boards on the sixth floor.				
	a) To DB 01	m	40		
	b) To DB 02	m	40		
11.11	Cable glands for above cables	No.	4		
11.12	Cable lugs for for above cables	No.	2		
11.13	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	1		
5.16	Provide for smart three phase energy check metres for monitoring the consumption of the distribution boards.	No.	2		
5.17	Provide for smart three phase energy check metres for monitoring the consumption of the distribution boards.	No.	2		
TOTAL CARRIED FORWARD TO COLLECTION D12					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
<ul style="list-style-type: none"> • The Contractor shall supply labour and supply, deliver, install, fix, connect, test, label and commission the works, clean, complete and working to every detail as described below and in the related specifications and /or on the drawings to the satisfaction of the Consulting Engineers. • The Fire alarm system shall be an Addressable Fire Alarm system • All Main Panels and Repeater panels shall be Network ready. • The Fire alarm system should be able to accommodate additional detectors and mimic panels that will be installed by the office users in future. • All systems quoted for MUST meet the minimum threshold outlined in the technical specifications • Fire Alarm Models shall be as Bosch, Menvier, Protec, GE, EST. Any other must be approved by the Engineer. • NB: Technical product Catalogues of the specified models should be attached as part of the Bid document. • NOTE: Kindly Note that all Bidders Will be required to give the Authorization Letter from the Local Authorized agent for Fire Alarm. This will be Mandatory in the Evaluation. 					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
12.1	FIRE ALARM PANEL: Supply and install complete 4 - loop analogue addressable fire detection and alarm system as Menvier DF6000/2/P complete with protective cover, printer and other necessary accessories, as per the specifications	No	1		
12.2	INPUT/OUTPUT INTERPHASE Supply and install analogue addressable input output interface unit as Menvier MIO240 with mains rated contacts	No	1		
12.3	Supply and install analogue addressable spur isolator module unit Menvier MSI850 complete with all the necessary accessories	No	1		
12.4	MANUAL CALL POINT (BREAKGLASS) - As TYPE 01 WITH HINGED COVER: Supply and install analogue addressable manual call point units as Menvier MBG814 complete with conduit and wiring and any other necessary accessories	No	1		
12.5	SMOKE DETECTOR: Supply and install analogue addressable optical smoke detector units as Menvier MAP820 complete with bases, conduit, wiring and any other necessary accessories	No	10		
12.6	HEAT DETECTOR: Supply and install analogue addressable multi - mode heat detector units as Menvier MAH830 complete with bases, conduit, wiring and any other necessary accessories	No	1		
12.7	FIRE ALARM BELL: Supply and install analogue addressable 150mm diameter fire alarm bell as Menvier MBM 246 complete with bases, conduit, wiring and any other necessary accessories	No	1		
12.8	BEACON: Supply and install analogue addressable beacon as Menvier MAB870 complete with bases, conduit, wiring and any other necessary accessories	No	1		
12.9	FIRE ALARM CABLE: Allow for multicore cabling (2core 1.5mm sq FP cable) and any other accessories necessary for the complete wiring, testing and commissioning of the entire fire detection and alarm installations	Roll	10		
12.1	Allow for integration with other fire alarm panels within the facility as may be required	Sum	1		
12.11	PROGRAMMING, TESTING & COMMISSIONING: Programming, testing and commissioning of the entire system by the SUPPLIER specialist complete with all accessories, interconnections, controls, BMS link & activation and the necessary programing.	Sum	1		
TOTAL CARRIED FORWARD TO COLLECTION D12					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
13	<u>SUMMARY PAGE FOR FIFTH FLOOR</u>				
13.0	Light Fittings & Accessories				
13.1	Cable Ladders, Cable Trays, Trunking & Conduits Installations				
13.2	Power Supply				
13.3	Power distribution and Cabling				
13.4	Fire Alarm				
	ELECTRICAL INSTALLATIONS PRICE SUMMARY PAGE D19				

ITEM	DESCRIPTION	UNIT	QTYs	RATE	AMOUNT
	BASEMENT AND GROUND FLOOR RECEPTION				
14.0	<u>BASEMENT FLOOR LIGHTING</u>				
14.1	Supply and install lighting points using 3 x 1.5mm ² PVC insulated Copper cables to be drawn in 20mm diameter PVC heavy gauge conduits concealed in the floors, roof and for one way switching but excluding the fittings and switches.	No	14		
14.2	As item 2.1above but for two way switching	No	1		
14.3	Supply and install 10 Amps rated architrave switches(white in colour) for flush mounting and as crabtree.				
	(a) one gang one way	No	1		
	(b) one gang two way	No	2		
	(c) two gang one way	No	2		
	(c) two gang two way	No	0		
	(d) three gang two way	No	0		
	(e) three gang one way	No	0		
14.4	Supply and install the following lighting fittings				
	(a) 600x600 LED dimmable flat panels luminaire	No	12		
	(b) 600x600 flat panels with detachable LED engine switchable integral emergency and sensor dimmable	No	3		
	(c) Occupancy sensor package as 752/CD2RC clipsal 752 Dual -Tech or approved equivalent consisting both ultrasonic and PIR sensing technologies complete with wiring.	No	5		
		No	5		
	TOTAL CARRIED FORWARD TO COLLECTION D6				

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
15.0 Cable Ladders, Cable Trays, Trunking & Conduits Installations					
Supply, install and connect as describe below					
15.1	CABLE TRAY (POWER) : 150 x 50mm POWDER COATED (WHITE) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	10		
15.2	CABLE TRAY (DATA) : 150 x 50mm POWDER COATED (GREY) steel factory fabricated Cable tray complete with angle bends, Tees, end caps to detail and mounting brackets & accessories to approval.. Includes equipotential bonding.	LM	10		
15.3	TRUNKING: 250 x 50mm, 3 compartment Screw on stove enamelled factory fabricated metallic trunking c/w angle bends, Tees, end caps to detail and and mounting brackets & accessories to approval. Includes equipotential bonding.	LM	40		
15.4	TRUNKING FACEPLATES (TWIN): Trunking faceplates for Twin outlets for raw power and Clean power	No.	6		
15.5	FLOOR PVC CONDUITS: 38mm Ø HG PVC conduits for linking from the Duct to the Equipment	LM	0		
15.6	Supply and install corrosive resistant floor box for the data and power points with 4No. compartment and cover lid to IP65 floor mounted and recessed as indicated in drawing number drg.	No.	0		
15.7	PEDESTAL: Off Floor Pedestal with Knockout provisions to facilitate installation of Twin sockets For Power (8No.) & Single Sockets for Data (6No.). This should be made of Stove Enamelled factory fabricated metallic structure.	No.	0		
TOTAL CARRIED FORWARD TO COLLECTION D6					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
16.0	Power Supply All equipment Isolators will be located not more than 2 meters from the actual equipment. This should be considered when quoting for the points. All Sockets to be as Legrand Belanko (Raw Power - White, Clean Power- Red inner trim)				
16.1	RAW SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	10		
16.2	SOCKET (13A): Supply and install White 13Amps twin switched socket outlet and as MK Cat No. 2757WH1 for item 3.19, CRABTREE or equivalent and approved.	No.	10		
16.3	CLEAN POWER SOCKETS POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 2.5mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls and in the surface mounted powder coated metal trunking but without the outlet plates.	No.	10		
16.4	SOCKET (CLEAN-13A): Supply and install Red 13Amps twin switched socket outlet plate for CLEAN Power as MK, CRABTREE or equivalent and approved.	No.	10		
16.5	TEA URN SOCKET POINTS: Supply and install 13Amps twin switched socket outlet point for UPS power, using 3 x 4.0mm ² PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits laid concealed in the floors and walls but without the outlet plates.	No.	0		
16.6	TEA URN SOCKET (15A): Supply and Install 15A Single shuttered switched socket plate c/w neon indicator as MK or approved equivalent	No.	0		
16.7	COOKER POINT: Supply and install a cooker circuit wired using 2x6mmsq+1x2.5mmsq ECC PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits, but excluding the cooker control and connection units.	No.	0		
16.8	COOKER CONTROL UNIT: Supply and install a 45A rated cooker control unit incorporating a 13 Amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No.	0		
16.9	COOKER CONNECTION UNIT: Supply and install a cooker connection unit capable of accommodating upto 2x10mmsq cable and as MK Cat 5045 WHI incorporating a 13 amps switched socket outlet and fitted with pilot lamps and as MK Cat No.506 WHI	No.	0		
16.10	FIRE ALARM PANEL POWER POINT: Supply and Insatall Single phase Systems Panels outlet points wired in 2.5mm ² twin + earth PVC insulated CU cables.	No.	1		
16.11	DP SWITCH (PANELS): Supply and Install 20A fused, unswitched DP control switch with neon indicator as MK or Approved equivalent.	No.	1		
16.12	FIRE ALARM POINTS: Supply and Install Conduit Outlets for CCTV in concealed 25mm Ø HG PVC conduit c/w draw wire.	No.	3		
16.13	CCTV POINTS: Supply and Install Conduit Outlets for CCTV in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	1		
16.14	Access Control System: Supply and Install Conduit Outlets for ACS in concealed 20mm Ø HG PVC conduit c/w draw wire.	No.	0		
16.15	Supply and install television outlet point using 25mm dia PVC heavy gauge conduits complete with a draw wire and blanking plate.	No.	0		
16.16	TV POINTS: Supply and Install television white faceplates and as mk or approved equivalent complete with the wiring.	No.	0		
16.17	AIRCON (OUTDOOR) POWER POINTS: 20A TPN control Isolator switch for 3 phase unit with enclosure as Hager (IP65 Rated)	No.	0		
16.18	AIRCON OUTDOOR (OUTDOOR) CABLING : Three phase power outlet points wired in 6mm sq 4 Core PVC SWA PVC CU cables from Distribution Board to Equipment Isolator in close proximity to the Unit	LM	0		
16.19	INDUSTRIAL PLUG (1-PH) - 32A 3-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	0		
16.20	CABLING (INDUSTRIAL PLUG): Single phase outlet points wired in 3 Core 6mm sq SC PVC FLEX CU cables drawn in concealed 25mm Ø HG PVC conduits concealed in building fabrics.	No.	0		
16.21	INDUSTRIAL PLUG (3-PH) - 32A 5-Pin Industrial plug c/w Isolator control switch for System above with enclosure as Hager (IP65 rated)	No.	0		
16.22	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	0		
	TOTAL CARRIED FORWARD TO COLLECTION D6				

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
17.0 Power distribution and Cabling					
All Distribution board & Consumer Units incomers should have a short circuit breaking capacity of 25kA to IEC standards.					
All MCB's should have a short circuit breaking capacity of 10-15kA to IEC standards.					
All Distribution board & Consumer Units incomers should have Rated Live busbars, Neutral busbar & Earth busbar to IEC standards.					
All cables to distribution boards should be XLPE CU cables and this should be catered for in the rates.					
All Distribution Boards shall be as Merlin Gerlin					
All MCB's shall have Isobar Mechanism					
17.1	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x': 4 way 63A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for raw power	No.	0		
17.2	DISTRIBUTION BOARDS (RAW POWER) DB'Rx-x': 4way 63A rated TPN Wall Surface mounted distribution board as Merlin Gerlin for clean power.	No.	0		
17.3	CONSUMER UNIT (RAW POWER) CU'Rx-x': 4 way 100A rated SPN Wall Surface mounted distribution board as Merlin Gerlin.	No.	2		
17.3	10A SP MCB with Isobar Mechanism	No.	2		
17.4	20A SP MCB with Isobar Mechanism	No.	0		
17.5	32A SP MCB with Isobar Mechanism	No.	2		
17.8	45A SP MCB with Isobar Mechanism	No.	0		
17.9	63A TP MCB with Isobar Mechanism	No.	0		
17.10	SP Blanking plates	No.	4		
17.11	3 core 10mm ² square PVC copper cable from the switchboard on Ground Floor switchroom to the Distribution Boards on the sixth floor.				
	a) To CU 01	m	30		
	b) To CU 02 from CU1	m	5		
17.12	Cable glands for above cables	No.	2		
17.13	Cable lugs for for above cables	No.	2		
17.14	2Core 10mm sq PVC/SWA/PVC Armoured copper cable from the Server room to CU02.	M	0		
17.15	Labelling of final sub-circuits. Labelling of all Final sub-circuits should be done in red Traffolytte labels properly anchored on the specific devices.	Item	1		
17.16	Supply and install,test and commission a three phaseVoltage Regulator with a rating of 30KVA.It should offer protection against over voltage,under voltage and spikes with automatic re-start.It should have a 15 milliseconds response time and give an output accuracy of +- 4% As Sollatek or equivalent and approved .To be located in the generator house.	Each	0		
17.17	Supply, install and commission a 20KVA UPS unit online type.Unit capable of continuous duty rated at 50Hz, 240V single phase input (two wire+earth) and output of 240V (2 wire+earth)	No	0		
17.18	Supply and install a 100 AMPS TPN surface mounted change over switch for the voltage regulator in item 5.17 complete with all the termination and cabling from the switchboard and to the voltage regulator .	No	0		
17.19	Supply and install a 63 AMPS SP surface mounted change over switch for the clean power with all the termination and cabling in the server room .	No	0		
5.17	Provide for a smart single phase energy check metres for monitoring the consumption of the distribution boards.	No.	1		
TOTAL CARRIED FORWARD TO COLLECTION D6					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
<ul style="list-style-type: none"> • The Contractor shall supply labour and supply, deliver, install, fix, connect, test, label and commission the works, clean, complete and working to every detail as described below and in the related specifications and /or on the drawings to the satisfaction of the Consulting Engineers. • The Fire alarm system shall be an Addressable Fire Alarm system • All Main Panels and Repeater panels shall be Network ready. • The Fire alarm system should be able to accommodate additional detectors and mimic panels that will be installed by the office users in future. • All systems quoted for MUST meet the minimum threshold outlined in the technical specifications • Fire Alarm Models shall be as Bosch, Menvier, Protec, GE, EST. Any other must be approved by the Engineer. • NB: Technical product Catalogues of the specified models should be attached as part of the Bid document. • NOTE: Kindly Note that all Bidders Will be required to give the Authorization Letter from the Local Authorized agent for Fire Alarm. This will be Mandatory in the Evaluation. 					

Item	Description	Unit	QTY	RATE (Kshs.)	COST (Kshs.)
18.0	FIRE ALARM PANEL: Supply and install complete 4 - loop analogue addressable fire detection and alarm system as Menvier DF6000/2/P complete with protective cover, printer and other necessary accessories, as per the specifications	No	1		
18.1	INPUT/OUTPUT INTERPHASE Supply and install analogue addressable input output interface unit as Menvier MIO240 with mains rated contacts	No	1		
18.2	Supply and install analogue addressable spur isolator module unit Menvier MSI850 complete with all the necessary accessories	No	1		
18.3	MANUAL CALL POINT (BREAKGLASS) - As TYPE 01 WITH HINGED COVER: Supply and install analogue addressable manual call point units as Menvier MBG814 complete with conduit and wiring and any other necessary accessories	No	1		
18.4	SMOKE DETECTOR: Supply and install analogue addressable optical smoke detector units as Menvier MAP820 complete with bases, conduit, wiring and any other necessary accessories	No	3		
18.5	HEAT DETECTOR: Supply and install analogue addressable multi - mode heat detector units as Menvier MAH830 complete with bases, conduit, wiring and any other necessary accessories	No	0		
18.6	FIRE ALARM BELL: Supply and install analogue addressable 150mm diameter fire alarm bell as Menvier MBM 246 complete with bases, conduit, wiring and any other necessary accessories	No	1		
18.7	BEACON: Supply and install analogue addressable beacon as Menvier MAB870 complete with bases, conduit, wiring and any other necessary accessories	No	1		
18.8	FIRE ALARM CABLE: Allow for multicore cabling (2core 1.5mm sq FP cable) and any other accessories necessary for the complete wiring, testing and commissioning of the entire fire detection and alarm installations	Roll	2		
18.9	Allow for integration with other fire alarm panels within the facility as may be required	Sum	1		
18.10	PROGRAMMING, TESTING & COMMISSIONING: Programming, testing and commissioning of the entire system by the SUPPLIER specialist complete with all accessories, interconnections, controls, BMS link & activation and the necessary programming.	Sum	1		
TOTAL CARRIED FORWARD TO COLLECTION D6					

ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	COST (Kshs.)
	<u>SUMMARY PAGE FOR BASEMENT FLOOR</u>				
19.0	Light Fittings & Accessories				
19.1	Cable Ladders, Cable Trays, Trunking & Conduits Installations				
19.2	Power Supply				
19.3	Power distribution and Cabling				
19.4	Fire Alarm				
	ELECTRICAL INSTALLATIONS PRICE SUMMARY PAGE D19				

ICT WORKS

PROPOSED PARTITIONING OF KoTDA
HEAD OFFICE ON PARCEL No. 74 AT
KONZA TECHNOPOLIS

ICT WORKS

TENDER SPECIFICATIONS & BILLS OF
QUANTITIES FOR SUPPLY, INSTALLATION,
TESTING AND COMMISSIONING OF ICT
INSTALLATION WORKS

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SECTION B

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

1. General
2. Standard of Materials
3. Workmanship
4. Procurement of Materials
5. Record Drawings
6. Regulations and Standards
7. Setting out Works
8. Testing on Site

1. GENERAL

1.1. This specification is to be read in conjunction with any other information herein issued with it. Bills of quantities and schedule of unit rates shall be the basis of all additions and omissions during the progress of the works.

2. STANDARD OF MATERIALS

2.1. Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the contractor shall adhere.

2.2. Should the contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

2.3. All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the Contractor. All materials required for the works shall be from branded manufacturers, and shall be new and the best of the respective kind and shall be of a uniform pattern.

3. WORKMANSHIP

3.1. The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

3.2. Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the contractor's expense.

3.3. Permits, Certificates or Licenses must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licenses exist under Government legislation.

4. PROCUREMENT OF MATERIALS

4.1. The contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

4.2. Contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

5. RECORD DRAWINGS

- 5.1. These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.
- 5.2. The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.
- 5.3. Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.
- 5.4. One cultured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

6. REGULATIONS AND STANDARDS

- 6.1. All work executed by the contractor shall comply with the current edition of the –Regulations II for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, Electric Power Act, Kenya Bureau of Standards (KeBS), Institution of Electrical Engineers (I.E.E) Wiring Regulations, Current recommendation of CCITT and CCIR, and with the Regulations of the Local Electricity Authority and the Communications Authority of Kenya (CAK)
- 6.2. Where the sets of regulations appear to conflict, they shall be clarified with the Engineer.

7. SETTING OUT WORK

- 7.1. The contractor, at his own expenses, is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his tender for all such modifications and for the provision of any such sketches or drawings related thereto.

8. TESTING ON SITE

- 8.1. The contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specifications No. 1 and No.2, Electric Supply Company's By-Laws, Communications Authority of Kenya (CAK) requirements or any other supplementary Regulations as may be produced by the engineer.
- 8.2. Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation shall be rectified by the contractor at his own expense.

SECTIONC
PARTICULAR
SPECIFICATIONS OF
MATERIALS AND
WORKS

PART1: TECHNICALSPECIFICATIONSFORICTWORKS

1. SITE LOCATION

The site of the proposed works is at **KOTDA head office on Parcel No 74 at konza technopolis.**

2. SCOPE OF WORKS

The works to be carried out under this sub-contract comprise supply, installation, testing and commissioning of the following: -

- a) Structured Cabling
- b) CCTV and Access Control
- c) Video conferencing

TELECOMMUNICATIONS DISTRIBUTION SYSTEM – STRUCTURED

CABLING A. PART 1: GENERALTECHNICALSPECIFICATIONS

- a. Section Includes: Equipment, materials, labor, and services to provide telephone and data distribution system including but not limited to:

1. Telephone and data cabling terminations
2. Optical fiber and terminations
3. Data/voice outlets
4. Terminal blocks/cross-connect systems
5. Equipment racks and cabinets
6. System testing
7. Documentation and submissions
8. Core switch, edge switches

- b. Provide all equipment, materials, labor, and services, not specifically mentioned or shown, which may be necessary to complete or perfect all parts of the installation. Ensure that they are in compliance with requirements stated or reasonably inferred by the contract documents.

1. REFERENCES

- a. Design, manufacture, test, and install telecommunications cabling networks per manufacturer's requirements and in accordance with NFPA-70 (National Electrical Code®)/IEE Regulations, state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards: ANSI/NECA/BICSI-568--Standard for Installing Commercial Building Telecommunications Cabling ANSI/TIA/EIA Standards.

- 1) ANSI/TIA/EIA-568-B.1 -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
- 2) ANSI/TIA/EIA-568-B.2 -- Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components

- 3) ANSI/TIA/EIA-568-B.3 -- Optical Fiber Cabling Components Standard
- 4) ANSI/TIA/EIA-569-A -- Commercial Building Standard for Telecommunications Pathways and Spaces
- 5) ANSI/TIA/EIA-606(A) -- The Administration Standard for the Telecommunication Infrastructure of Commercial Buildings
- 6) ANSI/TIA/EIA-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications
- 7) ANSI/TIA/EIA-526-7 -- Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
- 8) ANSI/TIA/EIA-526-14A -- Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant

ANSI/TIA/EIA-758(A) -- Customer-Owned outside plant Telecommunications Cabling Standard

ISO/IEC 1101 Amendment 2

- b. Local codes, rules, regulations, and ordinances governing work, are as Part of the specifications as if herein repeated or hereto attached. If the contractor should note items in the drawings or the specifications, construction of which would be code violations, promptly call them to the attention of the Project Manager in writing. Where the requirements of other sections of the specifications are more stringent than applicable codes, rules, regulations, and ordinances, the specifications shall apply.

1. PERMITS, FEES, AND CERTIFICATES OF APPROVAL

- a. The Contractor to include the cost of application and pay for building permit.
- b. As prerequisite to final acceptance, supply to the client certificates of inspection from an inspection agency acceptable to the owner and approved by local municipality and utility company serving the Project Manager.

2. SYSTEM DESCRIPTION

- a. A telecommunications cabling system generally consists of one telecommunications outlet in each workstation, wall telephones in common and power socket outlet.
- b. The typical work area consists of a single-gang plate with one/two standards compliant work area outlets.
- c. One work area outlet consists of one (1) four-pair data Category 6A cable or above, installed from work area outlet to the data cabinet. Terminate data cables on modular patch panels located in the appropriate data cabinet.

4. One work area outlet consists of one (1) four-pair screened (ScTP) cable installed from work area outlet to the data termination rack in the cabinet. Terminate data cables on rack mounted modular patch panels.

2.1 Vertical/horizontal copper backbone cabling consists of multiple pair unshielded twisted-pair installed from the main cross-connect (MC) to the horizontal cross-connect (HC) and/or from the MC to the intermediate cross-connect (IC) to the HC.

2.2 Vertical/horizontal backbone cabling consists of 62.5/125 multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC.

2.3 Vertical/horizontal backbone cabling consists of 50/125 μ m multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC. Specification Note: State what this backbone will be utilized for. Examples are voice telecommunications service, premises switching equipment, data communications, etc.

3. SUBMITTALS

a. Submit to the P.M shop drawings, product data (including cut sheets and catalog information), and samples required by the contract documents. Submit shop drawings, product data, and samples with such promptness and in such sequence as to cause no delay in the work or in the activities of separate contractors. The engineer will indicate approval of shop drawings, product data, and samples submitted to the engineer by stamping such submittals "APPROVED" with a stamp. Submitted shop drawings shall be initialed or signed by the contractor, showing the date and the contractor's legitimate firm name.

1) By submitting shop drawings, product data, and samples, the contractor represents that he or she has carefully reviewed and verified materials, quantities, field measurements, and field construction criteria related thereto. It also represents that the contractor has checked, coordinated, and verified that information contained within shop drawings, product data, and samples conform to the requirements of the work and of the contract documents. The engineer/designer remains responsible for the design concept expressed in the contract documents as defined herein.

2) The P.M approval of shop drawings, product data, and samples submitted by the contractor shall not relieve the contractor of responsibility for deviations from requirements of the contract documents, unless the contractor has specifically informed the engineer/designer in writing of such deviation at time of submittal, and the engineer/designer has given written approval of the specific deviation. The contractor shall continue to be responsible for deviations from requirements of the contract documents not specifically noted by the contractor in writing, and specifically approved by the engineer in writing.

3) The P.M approval of shop drawings, product data, and samples shall not relieve the contractor of responsibility for errors or omissions in such shop drawings, product data, and samples.

4) The P.M review and approval, or other appropriate action upon shop drawings, product data, and samples, is for the limited purpose of checking for conformance with information given and design concept expressed in the contract documents. The engineer's review of such submittals is not conducted for the purpose of determining accuracy and completeness. Of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the contractor as required by the contract documents.

The review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences, or procedures. The P.M approval of a specific item shall not indicate approval of an assembly of which the item is a component.

b. Shop drawings: Submit the following :

- 1) Backbone (riser) diagrams
- 2) System block diagram, indicating interconnection between Components and subsystems
- 3) Interface requirements, including connector types and pin-outs, to external Systems and systems or components not supplied by the contractor
- 4) Fabrication drawings for custom-built equipment

c. Product Data -- Provide catalog cut sheets and information for the following:

- 1) Wire, cable, and optical fiber
- 2) Outlets, jacks, faceplates, and connectors
- 3) All metallic and nonmetallic raceways, including surface raceways, outlet Boxes, and fittings
- 4) Terminal blocks and patch panels
- 5) Enclosures, racks, and equipment housings
- 6) Over-voltage protectors
- 7) Splice housings

d. Samples -- Submit samples as required by the Engineer.

e. Project record drawings:

- 1) Submit project record drawings at conclusion of the project and include:
 - (a) Approved shop drawings.
 - (b) Plan drawings indicating locations and identification of work area outlets, nodes, data cabinet rooms, and backbone (riser) cable runs.
 - (c) Cross-connect schedules including entrance point, main cross-connects, Intermediate cross-connects, and horizontal cross-connects. (d) Labeling and administration documentation.
 - (e) Warranty documents for equipment.
 - (f) Copper certification test result printouts and diskettes.
 - (g) Optical fiber power meter/light source test results.
 - (h) Operation and maintenance manuals:

4. QUALITY ASSURANCE

- a. The contractor shall have worked satisfactorily for a minimum of five (5) years on systems of this type and size.
- b. Upon request by the P.M, furnish a list of references with specific information regarding type of project and involvement in providing of equipment and systems.
- c. Equipment and materials of the type for which there are independent standard testing requirements, listings, and labels, shall be listed and labeled by the independent testing laboratory.
- d. Where equipment and materials have industry certification, labels, or standards (i.e., NEMA - National Electrical Manufacturers Association), this equipment shall be labeled as certified or complying with standards.
- e. Material and equipment shall be new, and conform to grade, quality, and standards specified. Equipment and materials of the same type shall be a product of the same manufacturer throughout.
- f. Subcontractors shall assume all rights and obligations toward the contractor that the contractor assumes toward the client and P.M.

5. WARRANTY

- 5.1 Unless otherwise specified, unconditionally guarantee in writing the materials, equipment, and workmanship for a period of not less than fifteen (15) years from date of commissioning of the project for active components.
- 5.2 Transfer manufacturer's warranties to the owner in addition to the General System Guarantee. Submit these warranties on each item in list form with shop drawings. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the guarantee period. Final payment shall not relieve you of these obligations.

6. DELIVERY, STORAGE, AND HANDLING

- 6.1 Protect equipment during transit, storage, and handling to prevent damage, theft, soiling, and misalignment. Coordinate with the client for secure storage of equipment and materials. Do not store equipment where conditions fall outside manufacturer's recommendations for environmental conditions. Do not install damaged equipment; remove from site and replace damaged equipment with new equipment.

7. SEQUENCE AND SCHEDULING

- 7.1 Submit schedule for installation of equipment and cabling. Indicate delivery, installation, and testing for conformance to specific job completion dates. As a

minimum, dates are to be provided for bid award, installation start date, completion of station cabling, completion of riser cabling, completion of testing and labeling, Cutover, completion of the final punch list, start of demolition, owner acceptance, and demolition completion.

8. USE OF THE SITE

8.1 Access to building wherein the work is performed shall be as directed by the P.M. The client will occupy the premises during the entire period of construction for conducting his or her normal business operations. Cooperate with the client to minimize conflict and to facilitate the owner's operations.

Schedule necessary shutdowns of plant services with the main contractor, and obtain written permission from the client.

Proceed with the work without interfering with ordinary use of streets, aisles, passages, exits, and operations of the client.

PART2-PRODUCTS

1. MANUFACTURERS

Provide products of manufacturers as named in individual articles. Where no manufacturer is specified, provide products of manufacturers in compliance with requirements.

2. FABRICATION

Fabricate custom-made equipment with careful consideration given to aesthetic, technical, and functional aspects of equipment and its installation.

3. SUITABILITY

Provide products that are suitable for intended use, including, but not limited to environmental, regulatory, and electrical.

4. VOICE/DATA TELECOMMUNICATIONS SERVICE BACKBONE CABLE

a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) backbone cable, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.2

b. Multimode 62.5/125 μ m diameter tight-buffered optical fiber, with fiber counts as indicated on drawings, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

5. VOICE TELECOMMUNICATIONS STATION CABLE

a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) Category 6A cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.

6. DATA STATION CABLE (Copper)

a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) Category 6A cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.

b. Solid copper, 24 AWG, 100 \square balanced twisted-pair, screened (ScTP) cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 (Annex K) up to 100 MHz.

7. DATA STATION CABLE (Optical Fiber)

a. Multimode 62.5/125 μ m diameter tight-buffered optical fiber, with the required number of fiber counts, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

8. UNDERGROUND TELECOMMUNICATIONS CABLE (Copper)

If you have copper cables installed outside between buildings, be certain to specify overvoltage protectors on both ends of the cable. See article, OVERVOLTAGE PROTECTORS.

Solid copper, 24 AWG 100 \square balanced twisted-pair, gel-filled duct cable, in sizes as indicated on the drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.2 and ANSI/TIA/EIA-758(A).

9. UNDERGROUND TELECOMMUNICATIONS CABLE (Optical Fiber)

Single mode 8.7 μ m to 10 μ m diameter, armored, gel-filled optical fiber, with number of usable fibers as shown on drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.3 and ANSI/TIA/EIA-758(A).

10. VOICE/DATA – COPPER & OPTICAL FIBER WORK AREA

OUTLETS Edit for items that will actually be used on the project.

Pick a color for the faceplate and each type of jack, or make them all one color.

Determine which pinning standard is to be used, T568A, T568B, or USOC. If not otherwise specified, specify T568A. Use either 10c with SC connectors or 10d (1) for ST connectors. SC connectors are preferred. Use ST Connectors to match existing cable plant if required.

Single-gang mounting plate with two (2) openings containing the following devices:

a. Data Outlet - 8-pin modular, category 6A, unkeyed, black, pinned to either T568 (A or B) standards.

b. Optical Fiber Connectors – simplex ST - ST adapter.

Provide two optical fiber adapters for each faceplate

11. VOICE/DATA WORK AREA OUTLETS (Copper only)

Single-gang mounting plate with four (4) openings containing the following devices:

Data Outlet - 8-pin modular, Category 6A, unkeyed, black, pinned to either T568 (A or B) standards.

12. VOICE ONLY WORK AREA OUTLET

Single-gang faceplate with 8-pin modular, category 6A, unkeyed, ivory telephone jack, pinned to either T568 (A or B) standards

13. TERMINATION BLOCKS

For items that will actually be used on the project: Coordinate with MC, IC and HC

layout drawing.

a. Product(s) as approved by the P.M: Wiring blocks are to be in following configurations:

- 1) List dimensional configurations
- 2) ER – List pairs categorized for PBX portion of ER and pairs field terminated for backbone and CO portion of ER Provide wiring troughs between ER frame sections.

14. PATCH PANELS

Specification Note: Alter quantities to match job requirements.

19 in. rack mountable, 24-port 8-pin modular to insulation displacement connector (IDC) meeting Category 6A performance standards, and pinned to either T568 (A or B) standards. Typical examples of IDC connections are the 110, BIX, and Krone.

15. WALL MOUNTED OPTICAL FIBER PATCH PANELS

Specification Note: Alter quantities to match job requirements

Wall-mounted optical fiber termination panel with 12-fiber capacity, hinged door, cable strain relief, slack storage, and two 6-port SC or approved alternative connector panels with adapters and provisions for two splice trays.

16. RACK MOUNTED OPTICAL FIBER TERMINATION PANEL

Specification Note: Alter size to match job requirements. Coordinate with connector type.

19 in. rack mounted 72-port rack-mounted optical fiber termination panel with cable strain relief, grounding lugs, slack storage and three 12-port duplex SC or approved alternative connector panels with adapters and provisions for six (6) splice trays.

17. SPLICE TRAYS

Sized for single mode and multimode fibers, nonmetallic with clear plastic cover, 12-fiber splice capacity, and compatible with splice enclosure and splicing method.

18. OPTICAL FIBER CONNECTORS

Ceramic tipped field installed 568SC connectors, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3. Various alternative field installed connector designs, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3 (Annex A).

19. OPTICAL FIBER JUMPERS

Dual 62.5/125- μm (and/or single mode) optical fiber jumper cable, 1 m long with 3.0 mm Duplex 568SC optical fiber connectors on each end.

Dual 62.5/125- μm (and/or single mode) optical fiber jumper cable, 1 m long with approved alternative duplex optical fiber connectors on each end.

20. OPTICAL FIBER PIGTAILS

62.5/125 μm (and/or single mode) optical fiber pigtail 1 m long with 3.0 mm single 568 SC Optical fiber connectors on one end

21. OPEN FRAME EQUIPMENT RACK

Open frame, 19 in. equipment rack, 7 foot 6 in. overall height with flange base, mounting rails drilled front and back and tapped to EIA standards, and a front-rack

mountable 10 outlet multiple outlet electrical strip or 42u enclosed glazed.

22. EQUIPMENT RACKS/CABINETS

a. The equipment rack shall have the following minimum requirements:

- The cabinet shall be metallic with front clear glass and of good finish and conveniently accessible by technical personnel for maintenance. The main cabinet shall be at least 42U and other cabinets housing edge switch should be at least 9U
- Power to the cabinet shall be switched off from within the cabinets. Proper power socket cables to be supplied with the cabinet.
- The cabinet for active devices shall conform to ANSI/TIA/EIA-568A specifications with forced cooling.
- Support small factor pluggable (SFP) and industry leading density up to 240 of IEEE 8033 for 1000 Base-SX ports per system.
- Cabinets shall have adequate room for additional components typically 3U free space. Cabinets shall have adequate room for mounting Rack mounted Edge Switches, Core Switches and Rack mount Uninterruptible Power Supplies (UPS) and leave sufficient working space for these rack mount equipment.

23. LISTED BUILDING ENTRANCE PROTECTORS

Use when copper cables are run outside building. Use appropriate protector modules.

Building entrance terminal utilizing a two (2) foot fuse link between the outside cable plant splice and the protector module with IDC type input and output terminals, 100-pair capacity and female mounting base, equipped with 230 volt solid state protector modules. Provide sufficient protector modules to completely populate all building entrance terminals.

24. SPLICE HOUSING

Use this or something else. Delete splice modules if used for optical fiber cables.

- a. Encapsulated, re-enterable splice housing, sized as required with bonding straps, accessories, end caps and encapsulate as required
- b. Splice modules (such as 710 series or MS²) for use within splice housing

25. SPARES

Change quantities to suit job size. Edit to match that which is actually specified. a. Furnish the following spare equipment and parts:

Terminal block connectors, if required

Test set cords, if required

Install one test cord set in each telecommunications closet

Five (5) percent of base bid quantity of each type of jack shall be provided

Five (5) percent of base bid quantity of each type of outlet

Five thousand (5000) ft of each type of station cable

One thousand (1000) ft of one-pair cross-connect wire for each telecommunications closet

One thousand (1000) ft of two-pair cross-connect wire for each telecommunications closet

Closet

Five (5) percent of base bid quantity of protector modules

EXECUTION

1. PRE-INSTALLATION SITE SURVEY

- a. Prior to start of systems installation, meet at the project site with the P.M and representatives of trades performing related work to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work. Facilitation with the Client will be necessary to plan the crucial scheduled completions of the equipment room and telecommunications closets.
- b. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.

2. HANDLING AND PROTECTION OF EQUIPMENT AND MATERIALS

- a. Be responsible for safekeeping of your own, such as equipment and materials, on the job site. The client assumes no responsibility for protection of above named property against fire, theft, and environmental conditions.

3. PROTECTION OF OWNER'S FACILITIES

- a. Effectively protect the client's facilities, equipment, and materials from dust, dirt, and damage during construction.
- b. Remove protection at completion of the work.

4. INSTALLATION

Receive, check, unload, handle, store, and adequately protect equipment and materials to be installed as part of the contract. Store in areas as directed by the owner's representative. Include delivery, unloading, setting in place, fastening to walls, floors, ceilings, or other structures where required, interconnecting wiring of system components, equipment alignment and adjustment, and other related work whether or not expressly defined herein.

Install materials and equipment in accordance with applicable standards, codes, requirements, and recommendations of national, state, and local authorities having jurisdiction, and National Electrical Code® (NEC) and with manufacturer's printed instructions.

Adhere to manufacturer's published specifications for pulling tension, minimum bend radii, and sidewall pressure when installing cables.

- 1) Where manufacturer does not provide bending radii information, minimum-bending radius shall be 15 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the P.M and the client.
- e. Penetrations through floor and fire-rated walls shall utilize intermediate metallic conduit (IMC) or galvanized rigid conduit (GRC) sleeves and shall be fire stopped after installation and testing, utilizing a fire stopping assembly approved for that application.

f. Install station cabling to the nearest telecommunications room (TR), unless otherwise noted.

g. Installation shall conform to the following basic guidelines:

- 1) Use of approved wire, cable, and wiring devices
- 2) Neat and uncluttered wire termination

h. Attach cables to permanent structure with suitable attachments at intervals of 1200-1500mm. Support cables installed above removable ceilings.

i. Install adequate support structures for 10 foot of service slack at

each TR. j. Support riser cables every floor and at top of run with cable grips.

- 1) Limit number of four-pair data riser cables per grip to fifty (50)

k. Install cables in one continuous piece. Splices shall not be allowed except as indicated on the drawings or noted below:

l. Provide over voltage protection on both ends of cabling exposed to lightning or accidental contact with power conductors.

Specification Note: Insert any other specific installation requirements here, such as hook and latch fasteners instead of cable ties, etc.

5. GROUNDING

a. Grounding shall conform to ANSI/TIA/EIA 607(A) - Commercial Building Grounding and Bonding Requirements for Telecommunications, National Electrical Code®, ANSI/NECA/BICSI-568 and manufacturer's grounding requirements as minimum.

b. Bond and ground equipment racks, housings, messenger cables, and raceways.

- c. Connect cabinets, racks, and frames to single-point ground which is connected to building ground system via #6 AWG green insulated copper grounding conductor.

6. LABELING

Use 6d if the type of termination block permits labels. Otherwise use 6A. Use 6g if the owner does not have a standard for outlet numbering.

Use 6h if required. Alter time as requested.

Labeling shall conform to ANSI/TIA/EIA-606(A) standards. In addition, provide the following:

a. Label each outlet with permanent self-adhesive label with minimum 3/16 in. high characters.

b. Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:

- 1) Inside receptacle box at the work area.
- 2) Behind the communication closet patch panel or punch block.

c. Use labels on face of data patch panels. Provide facility assignment records in a protective cover at each telecommunications closet location that is specific to the facilities terminated therein.

d. Use color-coded labels for each termination field that conforms to ANSI/TIA/EIA-606(A) standard color codes for termination blocks.

e. Mount termination blocks on color-coded backboards.

f. Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.

g. Label cables, outlets, patch panels, and punch blocks with room number in which outlet is located, followed by a single letter suffix to indicate particular outlet within room, i.e., S2107A, S2107B. Indicate riser cables by an R then pair or cable number.

h. Mark up floor plans showing outlet locations, type, and cable marking of cables. Turn these drawings over to the owner two (2) weeks prior to move in to allow the owner's personnel to connect and test owner-provided equipment in a timely fashion.

i. Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in hard copies and soft copy on a CD-ROM/flash disk and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

7. TESTING

Testing shall conform to ANSI/TIA/EIA-568-B.1 standard. Testing shall be accomplished using level I.e. or higher field testers.

Test each pair and shield of each cable for opens, shorts, grounds, and pair reversal. Correct grounded and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.

1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements.

2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable. Use 2 or 3 as required.

3) If copper cables contain more than the following quantity of bad pairs, or if outer sheath damage is cause of bad pairs, remove and replace the entire cable: \\ \\ \\

CABLE SIZE	MAXIMUM BAD PAIRS
<100	1
101 to 300	1 – 3
301 to 600	3 – 6
>601	6

- 4) If horizontal cable contains bad conductors or shield, remove and replace cable. Initially test optical cable with a light source and power meter utilizing procedures as stated in ANSI/TIA/EIA-526-14A: OFSTP-14A Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant and ANSI/TIA/EIA-526-7 Measurement of Optical Power Loss of Installed Single mode Fiber Cable Plant. Measured results shall be plus/minus 1 dB of submitted loss budget calculations. If loss figures are outside this range, test cable with optical time domain reflect meter to determine cause of variation. Correct improper splices and replace damaged cables at no charge to the owner.
- 1) Cables shall be tested at 850 and 1300 nm for multimode optical fiber cables.
Cables shall be tested at 1310 and 1550 nm for single mode optical fibers.
 - 2) Testing procedures shall utilize –Method B II – One jumper reference.
 - 3) Bi-directional testing of optical fibers is required.
- d. Perform optical time domain reflect meter (OTDR) testing on each fiber optic conductor. Measured results shall be plus/minus 1 dB of submitted loss budget calculations.
- 1) Submit printout for each cable tested.
 - 2) Submit 3.5 in. disks with test results and program to view results.
- e. Where any portion of system does not meet the specifications, correct deviation and repeat applicable testing at no additional cost.

FIELD QUALITY CONTROL

- a. Employ job superintendent during the course of the installation to provide coordination of work of this specification and of other trades, and provide technical information when requested by other trades. This person shall maintain current RCDD® (Registered Communications Distribution Designer) registration and shall be responsible for quality control during installation, equipment set-up, and testing.
- b. At least 30 percent of installation personnel shall be BICSI Registered Telecommunications Installers. Of that number, at least 15 percent shall be registered at the Technician Level, at least 40 percent shall be registered at the Installer Level 2, and the balance shall be registered at the Installer Level 1.
Specification Note: Use this or insert manufacturer’s requirements for installer qualifications to meet extended warranty program requirements.
- c. Installation personnel shall meet manufacturer’s training and education requirements for Implementation of extended warranty program.

PART A: PARTICULAR SPECIFICATIONS FOR ACCESS CONTROL SYSTEM
INSTALLATION

1.0.ACCESSCONTROLCOMPONENTS

The main components of an access control system are:

- a) Intelligent System
Controller
- b) The proximity cards
- c) The magnetic
locks
- d) Biometric
readers

(A) PROFESSIONAL MULTI-BIOMETRIC FACE AND FINGERPRINT IP READER

Professional facial recognition and fingerprint reader is combined in this reader. It also includes an RFID Proxy reader. Identify or verify people by their face, fingerprint, proximity card or PIN/password... or any combination, all in one network attached reader. Built-in infrared light source enables operation in dimly lit rooms.

- Capacity: Fingerprint: 4000
Face:
2,000
Card: 10,000
- Display: 2.8 Inch TFT-LCD Touch Screen
- Communication: Ethernet, RS 232, RS485, Wiegand Input and Output, USB Host
 - Power: 12V DC, 3A Comes with power adapter (Can also be powered using PoE splitter)
- Environment: Operating Temperature: 14° F to 122° F (-10° C to 50° C
Operating Humidity: 20% t80%
- Dimensions: 7.5 x 3.3 x 4 inches
- Supported Card Formats :ID Card 125 KHz, Optional: HID, or 13.56 MHz Mifare Card, iClass,
- Access control: Lock Relay Output, Alarm Output/Auxiliary Input, Exit Button/Door Sensor, Doorbell Output
- Communication: TCP/IP, RS485 (for slave reader) USB Host Wiegand Input/Output
- Biometric Performance: A high performance sensor and processor matches

fingerprints or face in less than 1.5 secs.

- Hardware: Fingerprint Sensor 2.8 Inch TFT-LCD Touch Screen 125 kHz or 13.56 MHz Card Reader (options) Features
- High performance and reliable fingerprint capture and identification.
- Advanced facial recognition algorithm
- Live finger detection

- Multiple verification modes – Fingerprint, Facial Recognition, Credential, and Password
- Built-in Camera stores up to 4,000 snapshots
- Network-attached

(B) ACCESS CONTROL SYSTEM SOFTWARE

TECHNICAL SPECIFICATIONS		
Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<ul style="list-style-type: none"> <input type="checkbox"/> The Access Software offers a map viewer, which provides a graphical representation of the premises with device control directly from the map. Monitoring modules shall also include a text based transaction module integrated video functionality Visitor Management- Visitor management shall allow for the pre-authorization and first time arrival of guests to a site. <input type="checkbox"/> The operator shall have the following functionality via GUI: Create a new visitor Set a start and end time for the visitor Choose the access permissions for the visitor Generate a one-time pin (OTP) for the visitor to gain access <input type="checkbox"/> Send an email with information pertaining to visitors visit details <input type="checkbox"/> The software shall be linked via the API / integration layer in order for the visitor to be enabled in the ACS system. All data shall be able to be reported on via the ACS software. The ACS software shall make available the remote / mobile biometric and card units to be used in conjunction with the Visitor Management module. <input type="checkbox"/> Threat levels – when activated, pre-selected doors shall be opened automatically or security will be increased, based upon the defined rules and depending upon the 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Alarm <input type="checkbox"/> Is activated, a signal shall be received by the ACS and system configured actions shall be triggered. 	

	<ul style="list-style-type: none"> <input type="checkbox"/> Time Triggered Actions – specified actions may be activated at specified times with the capacity to generate 512 Time Triggered Actions per site. <input type="checkbox"/> Holidays - feature to define Holidays and qualify access rights accordingly. <input type="checkbox"/> The ACS shall provide suitable T&A hardware and facilitate integration of a T&A solution. <input type="checkbox"/> The facility to set a Relaxed or Strict APB 	
Remote Administration	<ul style="list-style-type: none"> <input type="checkbox"/> It shall be possible to administer and view the ACS sites remotely via an HTML5 compliant browser using any HTML 5 	
Access Modes	<ul style="list-style-type: none"> <input type="checkbox"/> Card only <input type="checkbox"/> Card with PIN (Verification PIN) PIN or Card 	
Integration	<p>The ACS software supports integration options via XML format commands for one or more or all the following 3rd party systems:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Intrusion Alarm systems <input type="checkbox"/> Fire alarms <input type="checkbox"/> Human Resources <input type="checkbox"/> Databases Time and Attendance Systems ERP, <input type="checkbox"/> SCM and CRM Systems <input type="checkbox"/> Student Enrolment Systems 	
Reports	<ul style="list-style-type: none"> <input type="checkbox"/> The Reports feature include the following; Tag Holder report – Displays information on tag holders in the system. <input type="checkbox"/> Transaction Report – Displays all tag holders transactions on a specific date <input type="checkbox"/> Zone Occupancy – Provides APB zone occupancy information <input type="checkbox"/> Time Based Reports – Combines a number of time based reports <input type="checkbox"/> The ability to run and save customized reports. Feature to export all reports to PDF and CSV Contain graphical representation for ease of use in reports i.e. graphs <input type="checkbox"/> Allow for full audit reporting of all events and actions which take place on the ACS 	
Card enrollmen	<ul style="list-style-type: none"> <input type="checkbox"/> USB enrollment devices AMC <input type="checkbox"/> connected readers 	
Operator Security	<ul style="list-style-type: none"> <input type="checkbox"/> The ACS software shall include an Operator 	

	<p>Security module that will enable the System Administrator to define operator groups for users who will operate the various modules.</p> <ul style="list-style-type: none"> □ The Operator Security module shall facilitate the creation of users and passwords, as well as user groups. □ The System Administrator shall be able to set up application security as well as granular security settings within each application. □ The Operator Security module shall facilitate the assignment of tag holder access groups to selected operator groups. □ The ACS must provide configurable security options to limit system users' 	
System Health Check Reporting	<ul style="list-style-type: none"> □ The ACS system shall have a health checking or Self-diagnostic capability. The Health check shall inform an administrator/system integrator of Any faults or issues as well as explain any user initiated elements that is at variance with the rules of implementation. This process must be an automated process □ The option of linking up to 30 access groups to a single tag. □ The option of assigning access groups across multiple sites in the ACS. □ The ability to configure up to 10 000 Access Groups per site □ It shall be possible to administer and view the ACS sites remotely via an HTML5 compliant browser using any HTML 5 compatible device. 	

(C) POWER SUPPLY MODULE

	TEC HNI	
Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<ul style="list-style-type: none"> <input type="checkbox"/> AC Power failure supervision relay <input type="checkbox"/> Battery failure / low battery supervision relay <input type="checkbox"/> DC Power failure supervision relay (EAP-5D5Q only) <input type="checkbox"/> Auxiliary output relay Relays rated 3A@24VDC, 3A@120VAC Adjustable voltage range to compensate for voltage drop <input type="checkbox"/> Built-in backup battery charger (battery not included) <input type="checkbox"/> Selectable 2.2k 9 End-of-Line (EOL) resistor for AC failure and battery failure supervision relays via DIP switch <input type="checkbox"/> Selectable delay timer (5 seconds, 5 minutes, 5 hours) for AC failure supervision relay via DIP switch 	
Power	<ul style="list-style-type: none"> <input type="checkbox"/> Operating Input voltage: 240 <input type="checkbox"/> VAC Field-selectable 12 or 24 VDC <input type="checkbox"/> output Total continuous output current: 5A@12VDC, 2.5A@24VDC <input type="checkbox"/> Individually fused power output (PTC-type fuses) rated at 1.1A, fail-safe or fail-secure modes. <input type="checkbox"/> AC Input fuse rated at <input type="checkbox"/> 3.15A 	
Enclosure	<ul style="list-style-type: none"> <input type="checkbox"/> Heavy-duty steel case with ventilation holes <input type="checkbox"/> Enclosure large enough to fit (>two (2) 12V/12Ah batteries) <input type="checkbox"/> Removable steel cover for easy access to power connections <input type="checkbox"/> 6ft Power cord and battery leads included 	
Warranty	Comprehensive Manufacturer's Warranty (Attach Manufacturer's Warranty Statement)	

(D). MAGNETIC
LOCK

Standard: ANSI/BHMAA
156.23 Grade1 compliant

Key Feature: Electromagnetic Narrow Line (projects only 2-11/16 into the opening) EMLock,1200 lbs/600lbs holding force and failsafe access control, Clear anodized aluminum, wire chamber and integrated PC board with wiring terminal block, dual 12/24VDC input designed to ensure trouble free interface with electronic access control systems, automatic door operators, peripheral equipment and fire life safety systems for emergency release.

Electrical Data: 300Ma /540mA @24VDC/12VDC

Sensor: Magnetic bond sensor, Door status sensor and LED Status indicator

Measurement: 12-1/2 || Lx2-1/8 || Hx1-11/16 || D

(E).PUSH TO EXIT BUTTON

TECHNICAL SPECIFICATIONS		
Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<input type="checkbox"/> illuminated switch button <input type="checkbox"/> high impact resistant material <input type="checkbox"/> Integrated electronic timer, adj. 1-60 sec, <input type="checkbox"/> 12/24VDC, DPDT 2Amp <input type="checkbox"/> contact Wire Leads 6 , 20 <input type="checkbox"/> Gauge Stainless Steel –	

(F). PROXIMITY CARDS

TECHNICAL SPECIFICATIONS		
Compliant Standards: ISO/IEC 15693		
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<ul style="list-style-type: none"> <input type="checkbox"/> 13.56 MHz read/write contactless smart card technology provides high-speed, reliable communications with high data integrity. <input type="checkbox"/> Constructed with ABS shell and PVC cover label, offering durable packaging. <input type="checkbox"/> Available in 2k bit (256 Byte), two application area configurations 	
	<ul style="list-style-type: none"> transfer, and 64-bit diversified keys for Read/write capabilities. <input type="checkbox"/> Meets ISO 15693 standard for contactless communications. <input type="checkbox"/> A PVC Overlay allows for on-site Photo ID Production using most direct image printers. 	
Data Retention	<input type="checkbox"/> 10 years	
Write Endurance	<input type="checkbox"/> Min. 100,000 cycles	
Memory Type	<input type="checkbox"/> EEPROM, read/write	
Band Rate	<input type="checkbox"/> 26 Kbps	
Transaction Time	<input type="checkbox"/> <100ms typical	
Operating Humidity	<input type="checkbox"/> 5-95% non-condensing	
Operating Temperature	<input type="checkbox"/> -40° to 160° F (-40° to 70° C)	
Card Construction	<input type="checkbox"/> ABS Shell with PVC Cover Label.	
Weight	<input type="checkbox"/> 0.24 oz (6.8 g)	
Dimensions	<input type="checkbox"/> 2.125 x 3.375 x 0.070 max.(5.40 x 8.57 x 0.18 cm)	

Typical Maximum Read Range	R10: 1.5-2.5 II (3.8-6.3 cm) R30/RW300: 1.5-3.0 II (3.8-7.6 cm) R40/RW400: 2.5-4.5 II (5.1-10.2 cm) <input type="checkbox"/> RK40/RWK400: 3.0-4.0 II (6.3-8.9 cm) <input type="checkbox"/> <input type="checkbox"/>	
Warranty	<input type="checkbox"/> Comprehensive Manufacturer's Warranty <input type="checkbox"/> (Attach Manufacturer's Warranty Statement)	

(G). OVERRIDE KEY SWITCH Compliant Standards:

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<p>Tamper Resistant, Recessed cylinder</p> <p>Tamper Resistant Spanner Screws</p> <p>Heavy Duty All Steel Assembly Stainless Steel Faceplates of 0.25" Thickness of Aluminm</p> <p>Large Actuator for Positive and Consistent Activation</p> <p>6 Amp @ 30 VD Resistive</p> <p>7",22 Gauge WireLeads</p> <p>Compatible with 1.0" or 1.375" Mortise Cylinder(included)</p> <p>Anti-Tamper Sensor, SPDT</p> <p>Turning the key left or right actuates and latches the contact. Contact position is maintained until the key is inserted and turned again.</p>	

(H). ENCLOSURE

TECHNICAL SPECIFICATIONS		
Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<ul style="list-style-type: none"><input type="checkbox"/> housing with pre-assembled<input type="checkbox"/> cables cable set - partially pre-<input type="checkbox"/> assembled<input type="checkbox"/> cable ties (short) for securing the cables<input type="checkbox"/> screws and screw anchors for wall-mounting 1 DIN rail for mounting	

(I). EMERGENCY EXIT DEVICE

TECHNICAL SPECIFICATIONS

Compliant Standards: CE marked to BS EN 1125

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<ul style="list-style-type: none"><input type="checkbox"/> Suitable for push face of outward opening doors<input type="checkbox"/> 3 point locking comprising Single point central dead latch (active leaf 2 point upper and lower Pullman latches (inactive leaf)Non-handed for maximum flexibilityMax. door leaf width : 900mm or 1200mm<input type="checkbox"/> Anti-thrust steel dead latch<input type="checkbox"/> Adjustable steel strike<input type="checkbox"/> Rods with integral coverComplete with signage and fixing instructions<input type="checkbox"/> Supplied complete with adjustable flat, corner and floor strikes to suit various door frame overlap sizespush bar and rods can be cut down to	
Warranty	Comprehensive Manufacturer's Warranty (Attach Manufacturer's Warranty Statement)	

(J). WORKSTATION

ITEM	DESCRIPTION	MINIMUM REQUIREMENTS	BIDDER'S SPECIFICATIONS
A	GENERAL SPECIFICATIONS		
1	Make	BRANDED	
2	Model		
3	Country of Origin		
4	Manufacturer's brochure and specifications	Must be supplied	
B	TECHNICAL SPECIFICATIONS		
5	Processor	Core i7	
6	System Memory	4GB	
7	Disk cache	64Bit	
8	Storage sub system	1TB GB HDD 48XCD –ROM and CD-Writer 1.44MB 3.5" FDD	
9	Display/Graphics	24" colour LCD	
10	Keyboard	PS/2 Enhanced keyboard	
11	Pointing device	PS/2 compatible optical mouse	

12	I/O interface	<input type="checkbox"/> 1xPS/2 – compatible keyboard <input type="checkbox"/> 1xPS/2 – compatible mouse port <input type="checkbox"/> 2x9 Pin Serial Ports <input type="checkbox"/> 1x25 Pin parallel port <input type="checkbox"/> 4xUSB Ports <input type="checkbox"/> 1xRJ45 jack for ethernet <input type="checkbox"/> 1xexternal VGA port <input type="checkbox"/> HDMI	
13	Audio System	<input type="checkbox"/> PCI 3D audio/video cards <input type="checkbox"/> TV/FM cards <input type="checkbox"/> External Amplified speakers	
14	Communication Interface	10/100Mbps fast ethernet, RJ 45 jack <input type="checkbox"/> 56K ITU V.90 data/fax modern wake-on-ring ready	
15	Operating System Pre-load	Ms Windows XP Pro 2003 (or latest version)	
16	Application Software, pre-installed, registered and CDs supplied	Ms Windows Vista or Ms Windows XP Pro (Service Pack 2)	
17	Power sub- system	220-240V ac, 50HZ	
18	Power connectivity	Power cable compatible with CPU and UPS	
C	WARRANTY	3 year parts replacement warranty	

(K). ACCESS SYSTEM CONTROLLER

TECHNICAL SPECIFICATIONS		
Compliant Standards: • CE approved & ISO 9001		
Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key Features	<input type="checkbox"/> The System Controllers shall be intelligent hardware devices with a full on-board database of tags and access data. <input type="checkbox"/> The System Controllers shall operate in a truly standalone mode when there is no network connection available to the ACS database engine module. <input type="checkbox"/> Each system controller/cluster controller shall be capable of storing Up to 1000 tags, and shall be capable of buffering up to 100 thousand transactions should the	

	<p>Coupled with another master device (System Controller or Application Controller) which increases storage and processing capacity.</p> <ul style="list-style-type: none"> □ The System Controllers shall allow for the easy expansion of door controllers without the need to physically wire power and communications between these 	
	<p>Supports full off-line functionality, Including anti-pass back, access rights, emergency and lockdown modes.</p> <ul style="list-style-type: none"> □ RS485 – with connectivity speeds of 38,400 Baud TCP/IP Ethernet connectivity – with support for up to 100Mbps connectivity speeds □ Serial BUS – with connectivity speeds of 7,600 Baud. □ Database on global Microsoft SQL platform, using HTML5 Simple integration with CCTV, intrusion and Fire alarms Uses AES 128-bit Encryption through a Diffie Hellman key exchange to ensure secure communications □ Stores all information locally on the 	

<p>Key Functions</p>	<p>The ACS server console shall provide an auto detect function that shall poll the RS485 bus, or the LAN/WAN for any ACS controllers</p> <p>The ACS controllers shall respond back with their respective factory assigned addresses which shall be automatically inserted into the ACS database.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The ACS system controllers logically addresses shall automatically be assigned to the devices without any user intervention. <input type="checkbox"/> The ACS System Controller shall support up to 64 physical devices connected via RS485 <input type="checkbox"/> terminal, communications bus, TCP/IP or proprietary solutions. <input type="checkbox"/> Proprietary door controllers for <input type="checkbox"/> connection of proprietary ACS <input type="checkbox"/> readers. <input type="checkbox"/> 3rd Party door controllers for connection of 3rd Party door readers such as biometric devices. <input type="checkbox"/> Door Controllers with the following, or a combination of the following, <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 	
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	<p>components built in to facilitate the opening of doors and the monitoring of doors, Dry contact relays, Digital inputs, Ports for connection to ACS readers, Communications port for 3rd Party readers, RS485 and SBUS connectivity.</p> <p><input type="checkbox"/> Each Door Controller shall support \geq Two (2) readers.</p> <p>A Software utility to upgrade Firmware while installed on-site, without removal of the Cluster Controller.</p>	
Performance	<p><input type="checkbox"/> TCP/IP, RS485 and Serial Bus Communication</p>	
Hardware	<p><input type="checkbox"/> Ethernet and RS485 communication protocols</p> <p>32-bit ARM Cortex M3 processor</p> <p>Operating temperature of -25°C to +60°C</p> <p>4KB Ram 48KB Flash Memory</p> <p>8 LED diagnostic indicators</p> <p>Anti-tamper switch</p> <p>Real time clock battery backup</p>	
Power	<p>Input voltage of 12 VDC to 15 VDC</p> <p>Polarity Sensitive, 140mA current, 1.7W Power, Reverse polarity and over-current protection</p>	
Environmental class	<p>IP 20,</p>	
Certifications	<p>UL(US), CE(EU), SABS (RSA) ROHS</p>	
Housing	<p>Plastic housing 18.6cm (l) x 7.9cm (w) x 5.7cm (h)</p> <p><input type="checkbox"/> Housing material black ABS plastic or IPS boxed solution</p>	
Data Transfer	<p><input type="checkbox"/> Encrypted</p>	
Warranty	<p>Comprehensive 3 Years Manufacturer's Warranty (Attach Manufacturer's Warranty Statement)</p>	

2.0. BROCHURES AND TECHNICAL LITERATURE

Tenderers must enclose together with their submitted bids brochures detailing technical literature and specifications of the active components of the access control system. The brochures shall be used to evaluate the suitability of these components. Any bid submitted without the brochures shall be considered technically non-responsive, and may subsequently be disqualified.

PART B: PARTICULAR SPECIFICATIONS FOR STRUCTURED CABLING WORKS

1.0 DESCRIPTION OF THE PROJECT

The works to be carried out comprise the following;

- i) Proposed supply, installation, testing and commissioning of a structured cabling system to cater for computer data points and telephone points.
- ii) Configure and set up the structured cabling system to be used on LAN,
- iii) Produce test result, warranty certification, reports and as installed drawings.

The Network will be capable of supporting approximately 15 data/voice points.

- iv) Supply, install telephone cables to interconnect the data cabinets to the IP-PBX to be located in the Server Room. The works shall include inter-wiring, programming and activating all voice points.

2.0. REGULATIONS

The contractor shall, in execution and completion of the works in the detailed design for which he is responsible, comply with the provisions of the following as necessary and relevant;

- a) ISO/IEC, CCK, ATM CENELEC 11801
- b) ANSI/EIA/TIA 56
- c) Latest Edition of IEE Regulation
- d) Kenya Bureau of Standards
- e) Electric Power Act and Rules made there under.

3.0. WORKING DRAWINGS

The Contractor shall submit to the Project Manager working drawings for the proposed system for approval. The drawings will show the locations of and identifiers for all cable routing and terminations, telecommunication outlets/connectors. Location of core switch and Edge switches.

i) CABLES

i) HORIZONTAL CABLING

Category 6A UTP 4-Pair Cable		
Item	Minimum specifications	
Length	Reel in a box 305m	
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Construction	<ul style="list-style-type: none"> • UTP • Nominal jacket OD: 8.5mm (0.33 in.) • 0.58mm (0.02 in.) solid (non-tinned) copper • Centre Isolation Member 	
Jacket	8.5mm with Sequential meter markings	
Wire characteristics	DC Resistance: <8.5 O/100m DC Resistance Unbalance: 2% Mutual Capacitance: 5.6 nF/100m	
	Capacitance Unbalance:<160 pF/100m Characteristic Impedance(ohms):1 - 250 MHz: 100 ± 15% 100 - 750 MHz: 100 ± 22% NVP: 67% TCL: 30-10 log (f/100)dB PSANEXT: 62.5-15log(f /100)dB PSAACR-F:38.2-20log(f /100)dB	
Industry Compliance	ISO/IEC 11801 Ed. 2.2 (Class EA) ISO/IEC 61156-5 (Category 6A) LSOH: ISO/IEC 60332, IEC 60754, IEC 61034 EN50399 Class Eca	
Physical Properties	Pulling Tension (max):110N (25 lbf) Bend Radius (min): 45.7mm (1.8 in.) Installation Temperature: 0 to 60°C (+32 to 140°F) Storage Temperature: -20 to 75°C (-4 to 167°F) Operating Temperature: -20 to 60°C (-4 to 140°F)	
Warranty	End-to-End Manufacturer's Warranty on Cabling System (Attach Manufacturer's Warranty Statement) Minimum 15 Years Warranty	

ii) PATCH CORDS: Category 6A double-ended, stranded modular cord

1/2/3/5 Metre

Item	Floor Distribution In Cabinet and user work-station areas	Proposed Solution
	Minimum specifications	
Length	1 & 3 meters	
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Construction	MECHANICAL — PLUG Number of Plug Insertion Cycles: 2500 Min. Plug Retention Force: 50N (11.2 lbf) Plug Compatibility: Compatible with RJ45 Cable to Plug Tensile Strength (min.) 20 lbs.	
Jacket	Factory made	
Wire characteristics	MECHANICAL — CABLE (STRANDED) Wire Size Range (Nominal): 26 AWG 7x32 Stranded tinned copper Cable Construction: UTP dual jacketed Cable O.D. (nominal) 7.37mm (0.29 in.) outer, 6.43mm (0.25 in.) inner Wiring:T568A/B Jacket Type: CMG Bend Radius: 25mm (1.0 in.)	

	<p>4-pair cables with 100-ohm impedance. Compliant to standards such as TIA/EIA-268-B.2-1 and IEC 61156-Made of polyethylene insulation Pulling force should support up to 50N/mm2 Low Smoke Zero Halogen outer Sheath.</p> <p>MECHANICAL—CABLE(SOLID) Wire Size Range (Nominal): 23 AWG Solid bare copper Cable Construction: UTP Cable O.D. (nominal): 7.87mm (0.31 in.) Wiring: T568A/T568B Jacket Type: LSOH Bend Radius: 25mm (1.0 in.)</p>	
<p>Performance Specifications</p>	<p>ELECTRICAL Contact Resistance10 mΩ Input to Output Resistance200 mΩ Min. Dielectric Withstand Voltage(contact to contact) 1000 V DC or AC peak Insulation Resistance500 mΩ Compatibility Backwards tCat 6 Current Rating @ 25° C1.5 A Power over Ethernet Suitable for PoE Type1,2,3,4 and PoH Power over Ethernet < 10 mΩ/m @ 10 MHz</p> <p>MECHANICAL – GENERAL Operating Temperature-10 to (1 to 140° F) Flammability RatingUL 94 V-0 Green Features RoHS, lead-free, halogen-free, PVC free Plug Housing Materials Polycarbonate Contact Materials 50 microinches gold plating or equivalentPlastic Materials Flame retardant themoplastic Screen 360 degree enclosure Marking P/N, length, performance level, QC</p>	
<p>Standards</p>	<p>STANDARDS COMPLIANCE</p> <ul style="list-style-type: none"> • ANSI/TIA-568.2-D • ISO/IEC 11801-1 Ed 1.0 • IEEE 802.3an (10Gbase-T) • IEEE 802.3af (Type 1 PoE) • IEEE 802.3at (Type 2 PoE) • IEEE 802.3bt (Type 3 PoE) • IEEE 802.3bt (Type 4 PoE) • Power over HDBaseT (PoH) • IEC 60603-7 • IEC 60603-7-4 	

	<ul style="list-style-type: none"> • UL Listed 1863 • IEC 60332-1 (LSOH) • IEC 60754 (LSOH) • IEC 61034 (LSOH) 	
Warranty	End-to-End Manufacturer's Warranty on Cabling System(Attach Manufacturer's Warranty Statement) Minimum 15 Years	

iii) CAT 6A UTP PATCH PANELS

Item	Minimum specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Ports	24/48 Ports	
Characteristics	<p>Operating Temperature: -10 to 60 °C, (14 to 140 °F)</p> <p>Flammability Rating: UL94 V-0</p> <p>Green Features: RoHS, lead-free, halogen-free, PVC free Plastic Materials Flame retardant thermoplastic</p> <p>Dimensions (LxWxH):109.2 mmx 482.6mm x 44.2mm (4.30 x19.00 x1.74 -)</p> <p>Mounting: CEA-310-E 19-inch (482.6mm) rack</p> <p>Material – Panel: 18 gauge cold rolled steel, black e-coat</p> <p>Ground Lug Attachment: 3/8 1 hole or two-</p>	
Industry Compliance	<p>STANDARDS COMPLIANCE</p> <ul style="list-style-type: none"> • ANSI/TIA-568-C.2 • ISO/IEC 11801 Ed 2.2 • ETL Tested • IEC 60603-7 • IEC 60603-7-51 • IEEE 802.3an • IEEE 802.3af (PoE) • IEEE 802.3at (PoE+) 	
Warranty	End-to-End Manufacturer's Warranty on Cabling System (Attach Manufacturer's Warranty Statement)	

iv) FACE PLATES - COMPLETE WITH TWIN SCREENED MAX MODULES

Item	Minimum Specifications	Proposed
Solution		
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Construction	Complete with screen Twin MAX RJ45 Modules Double gang faceplates for each designated work area point. UV resistant, high impact plastic preventing color fading and provides added durability	
Wiring	T568A and T568B	
Face Plate Characteristics	Label Covers- Faceplates include pressure-release designation label covers for quick, tool-less removal With icon/label provision	
	With doors/shutters British Standard (85mm x 85mm) White	
Module Characteristics	Backward compatible	
	Max DC Resistance: 9.4ohms/100m 100-250Mhz: 100ohms±22% 1-100Mhz : 100ohms±15% NVP: 0.65	
Industry Compliance	<input type="checkbox"/> <input type="checkbox"/> ANSI/TIA/IEC 754 and IEC 1034 <input type="checkbox"/> IEC 61156-5 1 st Edition	
	LSOH :IEC 754 and IEC 1034 UL CMX UL CMP and CSA FT6	
Warranty	End-to-End Manufacturer's Warranty on Cabling System(Attach Manufacturer's Warranty Statement) Minimum 15 Years	

iv) NETWORK CABINETS

- a) To be located at the server room area as indicated in the electrical drawings.
- b) Must be metallic (appropriately sized as specified in the BQ) with a front clear glass, free standing, complete with lock and key and the following accessories;
 - Cable Management channel rack
 - Cable support hooks
 - Cable support rings and straps
 - Cable duct cover
 - Feed through
 - cable panels
 - vented equipment
 - shelving Blank
 - filler panels
 - Hinged wall mounted brackets
 - Glass viewing window Colored
 - Designation strips
 - Management lock and key
 - Cooling extractor fans
 - Caster wheels
 - Inbuilt 2-gang power socket outlet

v) ACTIVE CONTROL EQUIPMENTS AT THE LAN EDGE

Active control equipment's at the LAN Edge should have the following features

- a) Active control equipment's at the LAN Edge should support 10/100/1000 MBPS on all ports (RJ45) and Gigabit to the desktop connectivity
- b) The equipment's should have at least two 1000BaseXGigabit uplink ports for terminating backbone Fiber.
- c) The equipment should support layer 3 routing.
- d) Should support IEEE 802.1, SSH, SNMP.
- e) More than 12,000MAC addresses should be available on each switch.
- f) Switch Fabric forwarding Bandwidth of 64GBPS or more.
- g) The switches should have 24/48 ports of 10/100/1000 MBPS.
- h) Each stack on the edge will have two links of Fiber to the core switch, totaling two fiber terminations from the core switch to the stack.
- i) Should support Jumbo frames.
- j) Total stack throughput bandwidth of 64 GBPS or more
- k) Active Equipment's at the LAN Edge should be quoted with a minimum of One years of warranty covering free replacement of parts and units.

- l) Integrated wireless access points controller
- m) Active equipment must be stackable
- n) All ports must support power over Ethernet

vi) STANDARD IP TELEPHONE

INSTRUMENTS The standard level model design shall include:

- Backlit touch, liquid crystal display (LCD) and embedded soft keys for efficient call handling and easy message management
 - A minimum of 12 self-labeling programmable call/feature keys (but also be capable of supporting up to 24 if required);
 - Several fixed feature keys, including such popular features/functions as Speaker, Headset, Conference, Transfer, Redial, Mute, Drop, Hold (Color Highlighted), and Volume Up & Down;
 - An integrated full duplex speakerphone; an integrated large graphical backlit grayscale display screen capable of supporting desktop productivity applications
 - Customer programmable self-labeled soft key
 - Network Port (10/100/1000
 - SW) Access Port (10/100/1000
 - PC
- Embedded Web browser functionality, Application keys, such as Call Log, Speed Dial and Web Browser; and hearing aid compatibility

5.0 ADDITIONAL NOTES

Tenderers should take note of the following

- a) The network should be capable of carrying data, voice and video. QOS should be considered as part of installation and configuration of the network.
- b) All active LAN equipment should be from the same manufacturer for seamless integration, management and maintenance.
- c) Each floor should have a telecommunication Closet to house the necessary structured cabling components and active equipment.

6.0 FIELD QUALITY CONTROL

Installation personnel shall meet manufacturer's training and education requirements for implementation of extended warranty program.

7.0 LABELING

Use 6d if the type of termination block permits labels. Otherwise use

6e. Use 6g if the owner does not have a standard for outlet numbering. Use 6h if required. Alter time as requested.

Labeling shall conform to ANSI/TIA/EIA-606(A) standards. In addition, provide the following:

- a. Label each outlet with permanent self-adhesive label with minimum 3/16 in. high characters.
- b. Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:

- 1) Inside receptacle box at the work area.
 - 2) Behind the communication closet patch panel or punch block.
- c. Use labels on face of data patch panels. Provide facility assignment records in a protective cover at each telecommunications closet location that is specific to the facilities terminated therein.
 - d. Use color-coded labels for each termination field that conforms to ANSI/TIA/EIA-606(A) Standard color codes for termination blocks.
 - e. Mount termination blocks on color-coded backboards.
 - f. Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.
 - g. Label cables, outlets, patch panels, and punch blocks with room number in which outlet is located, followed by a single letter suffix to indicate particular outlet within room, i.e., S2107A, S2107B. Indicate riser cables by an R then pair or cable number.
 - h. Mark up floor plans showing outlet locations, type, and cable marking of cables. Turn these drawings over to the owner two (2) weeks prior to move in to allow the owner's personnel to connect and test owner-provided equipment in a timely fashion.
 - i. Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

8.0 TESTING

- a. Testing shall conform to ANSI/TIA/EIA-568-B.1 standard. Testing shall be accomplished using level I.e. or higher field testers.
- b. Test each pair and shield of each cable for opens, shorts, grounds, and pair reversal. Correct grounded and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.
 - 1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements.
 - 2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable. Use 2 or 3 as required.
 - 3) If copper cables contain more than the following quantity of bad pairs, or if outer sheath damage is cause of bad pairs, remove and replace the entire cable:

CABLE SIZE	MAXIMUM BAD PAIRS
<100	1
101 to 300	1 – 3
301 to 600	3 – 6
>601	6

- c. If horizontal cable contains bad conductors or shield, remove and replace cable. Initially test optical cable with a light source and power meter utilizing procedures as stated in ANSI/TIA/EIA-526-14A: OFSTP-14A Optical Power Loss Measurements of Installed

Multimode Fiber Cable Plant and ANSI/TIA/EIA-526-7 Measurement of Optical Power Loss of Installed Single Mode Fiber Cable Plant. Measured results shall be plus/minus 1 dB of submitted loss budget

Calculations. If loss figures are outside this range, test cable with optical time domain reflect meter

To determine cause of variation. Correct improper splices and replace damaged cables at no charge to the owner.

- 1) Cables shall be tested at 850 and 1300 nm for multimode optical fiber cables.
- 2) Cables shall be tested at 1310 and 1550 nm for single mode optical fibers.
- 3) Testing procedures shall utilize –Method B II – One jumper reference.
- 4) Bi-directional testing of optical fibers is required.

d. Perform optical time domain reflect meter (OTDR) testing on each fiber optic conductor. Measured results shall be plus/minus 1 dB of submitted loss budget calculations.

- i Submit printout for each cable tested.
- ii Submit 3.5 in. disks with test results and program to view results.

e. Where any portion of system does not meet the specifications, correct deviation and repeat applicable testing at no additional cost.

9.0 BROCHURES AND TECHNICAL LITERATURE

Tenderers must enclose together with their submitted bids brochures detailing technical literature and specifications of the active components of the structured cabling system. The brochures shall be used to evaluate the suitability of these components.

Any bid submitted without the brochures shall be considered technically non-responsive, and may subsequently be disqualified.

PARTC: PARTICULARS SPECIFICATIONS-IP-PBX EQUIPMENT

1.01 DESCRIPTION OF THE SITE

The site of the proposed works is located at **KONZA TECHNO POLIS AUTHORITY HEADQUARTERS IN KONZA MACHAKOS**

1.02 DESCRIPTION OF THE PROJECT

The works comprise the Supply, Installation, Testing and Commissioning of new IP-PBX Equipment, Telephone Instruments and the associated cabling works.

1.03 CLIMATIC CONDITIONS

The following climatic conditions apply at the site of the Contract Works and the equipment, materials and installations shall be suitable for these conditions:

Mean Maximum Temperatures 32 c

Mean Minimum Temperature 17.4 c

Range of Relative humidity 39% 97%

Salt in the atmosphere 0.02%

Altitude 1095M above sea level

Latitude /Longitude 00 21' N/37 35' E

Solar Radiation, February Mean Max 630 Langley's

Extremely heavy rains fall at certain periods of the year and the contractor shall be deemed to have taken account of this factor both in his prices and his planning of the execution of the contract works.

Equipment de-rating factors for the temperature and altitude shall be stated.

1.04 BOND FOR PABX WITH PROVISIONAL TYPE APPROVAL

Where the IP-PBX offered for this tender does not possess full type approval from C.A.K but has provisional type approval, the tenderer will be required to submit the name of a separate surety who will be willing to be bound to the Kenya Government in an amount equal to the full value of the IP-PBX project for a period of 18 months from the date the IPBX is commissioned into service. The surety will be subject to the approval of the government

1.05 REGULATIONS

The contractor shall, in the execution and completion of the works in the detailed design for which he is responsible complies with the provisions of the following as necessary and relevant:

- Communication Authority of Kenya (formerly CCK)
- The Kenya Communications Act
- The Electronic Power Act and the Rules made there under.

- The Kenya Power and Lighting Company Limited's Bye-Laws.
- The current ediction of the -Regulations for the Electric Equipment of Buildings issued by the Institution of Electrical Engineers.
- The requirements of the Chief Inspector of Factories for the Kenya Government.
- Kenya Bureau of Standards (KEBS) Standard Specifications and Codes of Practice, or other equal and approved standard specifications and codes.
 - The Bye-Laws of the Local Authority.
 - Any other regulations applicable to Electric and Electronic Installations or Communications systems in Kenya.
 - The Employer's Safety Regulations.

1.06 POSITION OF SERVICES AND EQUIPMENT

The route services and approximate positions of apparatus are shown on the contract drawings but their exact positions shall be determined by approved dimensional details on working drawings or on site by the P.M.

The contractor shall ascertain on site that his work will not foil other services or furniture and all services through the ducts must be readily accessible for maintenance and arranged to allow maximum access along the ducts. Any work which has to be redone due to negligence in this respect will be the contractor's responsibility.

1.07 SETTING TO WORK AND REGULATING SYSTEMS

The contractor shall carry out such tests of the contract works as are required by KEBS Standard Specifications and Codes of Practice, I.E.E Regulations or equal and approved codes, or the competent Authority.

No testing or commissioning shall be under taken except in the presence of and to the satisfaction of the P.M. unless approved otherwise by him (contractor's own preliminary and proving tests are exempted).

The contractor shall include in his tender for the costs for testing and commissioning the contract works as herein described. He shall submit for approval to the P.M. a suitable programmer for testing and commissioning. The P.M. and the Employer shall be given ample warning as to the dates on which testing and commissioning will take place.

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

1.08 IDENTIFICATION OF PLANT AND COMPONENTS

The contractor shall supply and install identification labels to all plant and to all switches and items of control equipment with, where no excessive heating is involved, white Trifoliate or equal labels engraved in block lettering denoting the name/function and/or section controlled. Where heating is likely to distort Trifoliate, approved aluminum labels with stamped or engraved lettering shall be used.

The labels shall be mounted on equipment and in most suitable positions. They shall be in English or in internationally understood symbols capable of being read without difficulty. The labels shall conform to descriptions used on record drawing. Details of the lettering of the labels and the method of mounts or supporting shall be forwarded to the P.M. for approval prior to manufacture.

1.09 WORKING DRAWINGS

The contractor shall prepare such working Drawings as may be necessary. The working Drawings shall be completed in such details not only that the contract works can be executed

On site but also that the P.M can approve the contractor's designs and intentions in execution of the contract works.

Approved working drawings shall not be departed from except where provided for. Approval by the P.M. of working Drawings shall neither relieve the contractor of any of his obligations under the contract nor relieve him from correcting any errors found subsequently in the approved working Drawings or elsewhere associated therewith or with the works.

1.10 RECORD DRAWINGS

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

Record Drawing shall include but are not restricted to the following draw information:

- Working Drawings amended as necessary but titled -Record Drawings II and certified as a true record of the as installed II contract works.
- Fully dimensioned drawings of all plant and apparatus.
- System Schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- Wiring diagrams of individual plant, apparatus and switch and control boards. These diagrams to include these particular to individual plant or apparatus and elsewhere applicable those applicable to system operation as a whole.

One reproducible copy of the Record Drawings of the contract works and Schematic Diagrams shall be provided not later than one month afterwards.

Notwithstanding the contractor's obligation referred to above, if the contractor fails to produce to the P.M.'s approval of the Record Drawings, within one month of partial or Practical Completion the Employer shall be at liberty to have these drawings produced by others. The cost of obtaining the necessary information shall be deducted from the out-standing payments due to the contractor.

1.11 TESTS

Both on completion of his work and at the end of the guarantee period the contractor shall carry out such tests as may be required in the presence of the P.M. or his representative, or the competent Authority and shall provide all necessary Instruments, labour and materials to do so. The Contractor shall pay such charges related to such tests if any.

1.12 QUALITY OF MATERIALS

Materials and apparatus required for the complete installation as called for in the specifications or Contract Drawings shall be supplied by the contractor unless specified otherwise.

Unless otherwise specified all materials (including equipment, fittings, cables) shall be new, of the best quality and approved origin.

1.13. TRAINING

In the direction and to the satisfaction of the P.M. the contractor shall arrange for the training of the attendant console operators, users and the administrators at the site or the contractor's office on the workings of the IP based PABX. The cost of such training shall be included in the contractor's prices.

1.14 EQUIPMENT GUARANTEE

The contractor shall undertake in writing to rectify free of charge, all faults arising from faulty components, materials, design or workmanship by the manufacturer or contractor whichever is applicable. This liability shall be for a minimum period of one calendar year from the date of acceptance of the equipment. Twelve months limitation notwithstanding, the period of liability shall not end until all defects which appear during the liability period have been rectified.

1.15 PATENT RIGHTS

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

2.00 TECHNICAL SPECIFICATIONS

2.01 SCOPE OF THE WORKS

The contractor shall supply, deliver, unloaded, test, commission, and guarantee and be liable for defects, and be responsible for the initial maintenance, all as specified herein, of the new

IP-PBX and all its associated accessories. The IP-PBX will be fully IP, ISDN native and with time multiplexing architecture.

The contractor shall supply and install associated items of plant and equipment other than those clearly stated to be supplied by others. He shall supply and install all accessories, whether described in the specification or not, essential to the completion of the works to the satisfaction of the P.M.

All equipment supplied shall be type approved by CAK and the installation shall be approved by the Communications Commission of Kenya (the competent Authority). The tenderer shall be responsible for all negotiations with and payments to the commission. He shall also pay all fees.

2.02 MINIMUM REQUIREMENTS

This specification defines minimum requirements, but bidders who offer superior facilities will be considered.

Any tender that does not comply with the minimum requirements will be rejected.

2.03 EQUIPMENT FINISH

The equipment finish shall be the responsibility of the contractor, who shall be responsible for its protection during erection and in the course of making good to the building finishes after equipment erection.

2.04 INTERFERENCE SUPPRESSION

The equipment and all its accessories shall be suppressed so as not to interfere with any communications, radio, T.V., Security or electro-medical equipment, recording or computer systems.

2.05 DOOR KEYS

The contractor shall keep the IP-PBX suite locked at all times when his staff are not present and shall at the conclusion of the contract hand over all keys to the P.M.

2.06 EQUIPMENT HARDWARE

The tenderer shall quote for a multimedia application fully IP-PBX. The equipment must be Rack mountable Server, with 4GB RAM, 500GB HDD, Core 2 Duo Processor. The equipment must operate on a dual processor configuration with duplicated components so that the PABX services will not be lost due to failure of a single component.

The components to be duplicated should but not

- limited to: Communication Sever
- Power Supply
- Modules Main
- Control Cards
- Hard Disc
- Drives
- Memory storage expansion card
- Switching unit

2.07 EQUIPMENT SOFTWARE

The equipment shall be preloaded with core software for driving it and giving it full operating flexibility. The list of features and services should be comprehensive and extensive and comprising the following:

- System features
- Operator features
- Standard telephone
- features Executive
- telephone features
- System administration
- features IP Network
- features
- Data features
- Special applications features

2.08 SYSTEM FEATURES

The system features shall include but not limited to the following facilities:

- Automated Attendant
- Black List
- Blind transfer
- Call Details Record.
- Call Forward on No Answer
- Call Forward Variable
- Call Monitoring
- Call
- Parking
- Call
- Queuin

- g Call
- Recordi
- ng Call
- Retrieva
- l
- Call Routing (DID
- & ANI) Call
- Snooping
- Call Transfer Call Waiting
- Caller ID and Caller ID on Call Waiting
- Database Store / Retrieve
- Database Integration
- Dial by Name
- Direct Inward System Access
- Distinctive Ring
- Distributed Universal Number Discovery
- (DUNDi™) Do Not Disturb
- Fax Transmit and Receive
- Music on Transfer
- Flexible Extension Logic
- Interactive Directory
- Listing Interactive Voice
- Response (IVR) Local and
- Remote Call Agents
- Music on Hold

- Caller ID Blocking
- Conference Bridging

2.09 WEB BASED COMPANY RECEPTIONIST (CALL QUEUE AND IVR (INTERACTIVE VOICE RESPONSE

- Calls in queue, pick which calls to answer.
- Active Calls Show the list of active calls and engaged extensions.
- Availability, IP Phone/soft phone status like off-hook, on-hook,
- ringing. Call Park.
- Drag and Drop call
- transfer. Voicemail
- transfer.
- Call Toggle – Allows the operator to shift between calls
- Music on Hold per queue.
- Caller Experience – Let the caller hear the phone ring instead of listening to music on hold.
- Ringing Options – Ring All, Round Robin, Fewest Calls, Least Recently Called, Random, and In Order.
- Extension Dialing – Allow the callers to dial an extension at any
- time. Send to Voice Mail.

2.10 CALL CONTROL

- Call Transfer – you can easily transfer incoming calls or active calls to another extension. Set the transfer rules for incoming calls so you can check the call list, then transfer, transfer without checking, or send the call straight to voicemail.
- Call Pick up – You can set up Call Pickup groups so some employees can pick up calls ringing on other extensions by dialing a short code on their own phones. You determine who has this permission and which calls they can pick up.
- Do not disturb.
- Hold – Put a call on Hold using the button on your IP phone, or from the Switchboard. You can customize the Music on Hold that plays until you resume the call.
- Call Parking – Put a call on Hold using the button on your IP phone, or from the Switchboard. You can customize the Music on Hold that plays until you resume the call. Parallel Ringing.
- Follow me.

2.11 VOICE MAIL&VOICE MAIL TO E-MAIL

Voice Mail Setup.

Voice Mail Access.

Voice mail to email or to any email client.

2.12 VOICE RECORDING

Automatically record calls coming in, going out, or even internally, based on the settings you define.

2.13 CONFERENCING

1. 3 Way conferencing from the IP Phone.
2. Meet me conference- With a Meet Me Conference Center, each of your phone extensions can have its own conference room.
3. Dial-in Conference.
4. Dial-out Conference

2.14 FAXING

1. Outgoing Fax.
2. Incoming Fax.

2.1.1 DISTRIBUTED OFFICE SETUP

Connects Multiple Offices through MPLS or VPN. Branch offices can be added to the IP server through an INTERNET connection.

2.16 PAGING/PAS

Dial a code to connect to a separate overhead paging and announcement system. Dial a code and connect directly to a built-in one-way announcement speaker on one or more phones.

2.17 MULTITRUNKING

Connect with PRI ISDN E1, T1. With Analog/PSTN/CO Lines. Connect with GSM Trunk.

2.18 SIP TRUNKING

- Ready to use the sip-trunking and as well the SIP Client
- Create Multiple VOIP accounts.

2.19 CALL ROUTING

- Location Based
- routing. Skill Based
- routing.
- DID Based Routing.

2.20 BARGEIN&LISTEN

Barge in: Barge in on both channels. The manager channel is joined onto the spied-on and bridged channel, and all parties can hear each other.

Listen: Monitor an agent's call/ Extensions. The manager can hear both the spied-on and bridged channels, but they cannot hear the manager.

2.21 WHISPER

Whisper to the agent. The manager can hear both the spied-on and bridged channels, and the spied-on channel (agent) can also hear the manager, but not the bridged channel, hence
-whisper.

2.22 REPORTS

Complete report on day to day, weekly reports, Monthly report, Extension wise report,

2.23 THIRD PARTY INTEGRATION

Connects any 3 party Integration Like,
CRM. ERP.
SMS.
Click to Call.

2.24 MULTIPHONES CONNECTIVITY

Connect with different Phones Like: IP
PHONE. Analog Phone
Soft Phone
Smart Phone
(Mobiles). DECT
phones

2.25 ATTENDANT CONSOLE (PC)

One or more PC operator attendant consoles as indicated in the list of main requirements shall be supplied, together with two operators' handsets and two operators lightweight headsets per position. They shall be installed complete with suitable UPS and any other accessories necessary to complete their installation. Each console shall be equipped with all necessary facilities for controlling, connecting and monitoring the progress of calls and shall display alarms as necessary.

Night service facilities will normally be provided such that the operator can route incoming calls to pre-selected extensions when the console is not manned.

Attendant consoles will be multiplex so that the connecting cable will comprise a minimum number of pairs, with little restriction on the sitting of the consoles and positions shall be so common that any operator can attend to any call.

Call presentation, chaining process, call back will be entirely managed by the IP based PABX. However, it will be possible to put certain call on individual hold, on keys, which have been reserved to that effect.

The information displayed on the terminal will give maximum details about the communication (normal call, urgent call, queue status, internal called-party, status of the terminal etc.).

2.26 TELEPHONE INSTRUMENTS

The acquiring of telephone instruments has been liberalized. However, they must be Type-approved by the CAK and the tenderer must obtain the necessary approval.

EXECUTIVE IP-PHONES

The executive telephone instruments shall be IP-type, keypad or touchpad dialing and shall have, but not limited to, the following operating characteristics: -

- Standard IP- telephone facilities

- Six-line x 16 character, liquid crystal display (LCD) and embedded softkeys for efficient call handling and easy message management
 - Feature buttons for quick access to frequently used functions such as hold, mute, do not disturb, transfer, forward, conference page and more
 - Message waiting lamp, adjustable base and wall mount
 - Includes full-duplex speakerphone and dedicated headset support
 - Red light emitting diodes (LEDs) to indicate a call is active, ringing or holding
 - QoS and web-based programming
 - Upgradeable through software
 - Supports G.711 a-law, G.711 u-law, G.729a, and G.729a/b vocoders
 - Supports centralized power over LAN (local area network) (IEEE compatible) Enables dynamic host configuration protocol (DHCP) or static IP addressing
 - User configurable transmission control protocol (TCP) and user datagram protocol (UDP) port number
 - Includes extra switch
 - port Configurable in
 - SIP mode
- Supports VLAN tagging, which eases management, improves call quality and increases security

STANDARDIP-PHONES

The standard level model design shall include:

- A minimum of 12 self-labeling programmable call/feature keys (but also be capable of supporting up to 24 if required);
 - Several fixed feature keys, including such popular features/functions as Speaker, Headset, Conference, Transfer, Redial, Mute, Drop, Hold (Color Highlighted), and Volume Up & Down;
 - An integrated full duplex speakerphone; an integrated large graphical backlit gray-scale display screen capable of supporting desktop productivity applications
 - Customer programmable self-labeled soft key
 - Embedded Web browser functionality
- Application keys, such as Call Log, Speed Dial and Web Browser; and hearing aid compatibility

2.27 NUMBERING SYSTEM

The numbering scheme will be:

Level 0 Access to PABX Telephone
Operator

- 9 Access to the main exchange
- 8 Night service
- 7 Spare for future ISDN tie line access
- 6 ISDN - Tie line access
- 5 Spare for extensions
- 4 Extensions
- 3 Intercom
- 2 Extensions
- 1 Spare for special facilities.
- 10 plus code for feature de-activation.
- 11 plus code for feature activation.

2.28 EXCHANGE LINES

Exchange lines shall be arranged for first party release. The IP based PABX must be capable of processing the number of digits required for international calls in accordance with CCITT and CCIL recommendations.

A device shall be fitted to sense main exchange dial tone as there may be considerable delay in receiving this after the seizure of a free exchange line.

2.29 ISDN TIE LINES

The lines will provide access to all extensions and the operator. They are to be for auto-auto working through signaling and first party release. Tones are to be returned over to tie lines.

Disconnect loop signaling is at present employed with a maximum loop resistance of 2000 ohms.

2.30 SYSTEM MAINTENANCE

Test Equipment and Tools

PABX routine test set and a set of maintenance tools are to be supplied. The tools and spare parts are to be listed in Appendices —A II and —B II of the Bills of Quantities.

Maintenance Features

The IP- PBX shall have the following system maintenance features:

- Line status monitoring device
- Station message data recording port
- System working report
- On site system administration using a compatible terminal and attendant console. Remote system administration capability
- Automatic on-line diagnostic testing

Maintenance diagnostic software programmers shall be provided which can be run as required whilst the IP - PBX is in normal service.

Maintenance and Operating Manuals

On practical completion of the works, the contractor shall furnish two sets of copies in soft copy and hard copy forms each of maintenance and operating manuals relating to the IP - PBX installed. The hard copy manuals shall be legibly written in English and properly bound with hard cover.

They will include but not limited to the following:

- System description
- Fault finding procedure
- Maintenance and servicing periods and
- procedures Schematic and wiring diagrams of
- the equipment Record drawings

2.31 POWERSUPPLY

Rectifier

The IPBX shall be fed through an integrated rectifier and an AC-DC converter fed from 240V A.C. 50Hz power supply. The rectifier will be equipped with the following devices:

- Security device to monitor the minimum and maximum authorized values of the output voltage. When one of the thresholds is reached, the power supply to the IP-PABX must cut itself automatically -Floating || and automatic -Equalization || device with manual command of the -Equalization || mode and automatic switch back to -floating || mode once the battery is loaded.

The rectifier will be sized to supply power to the IP - PBX and simultaneously allow re-loading of the battery within 10 Hours maximum.

UPS

A UPS of suitable rating is required. It shall have a response time of NOT more than 0.1seconds and a correction range from -12% to +12% with surge/spike protection.

Earthing

An independent telecommunication earth shall be provided for the IP-PBX. The earth lead cable shall not be less than 6mm² and shall terminate to copper earth electrode(s) in a concrete manhole (300mm x 300mm) with a suitable concrete cover. The earth impedance shall not exceed 4 ohms.

2.32 LIST OF MAIN REQUIREMENTS FOR THE PROPOSED IP-PBX.

ITEM	FACILITY DESCRIPTION	INITIAL CAPACITY	ULTIMATE CAPACITY
1.	No. of IP Extensions	100	200
2.	No. of Exchange Lines (Trunks)	4	8
3.	(i) GSM lines (Safaricom, Airtel, and Telkom) complete with lines.	4	8
	(ii) Wireless backup for the pilot exchange line.	1	4
4.	PC Operator Consoles	1	2
5.	Operator Head Sets	2	4
6.	Operator Hand Sets	2	4
7.	ISDN PRI-E1 of 30 channels complete with suitable Modem	1	2

2.33 OTHER MINIMUM REQUIREMENTS FOR THE

IPBX the IP based PBX shall: -

1. Be fully IP enabled and equipped
2. Be VOIP ready
3. be ready to connect to LAN and also support branch connectivity where WAN/internet service is available.
4. Be ISDN ready and equipped
5. Must be able to support five digits' extensions numbering plan
6. Have at least 50% power failure trunk transfer facility
7. Must be capable of offering unified communication services (voice, video & data convergence)
8. Be capable of connecting/transferring an incoming call to a mobile service when the extension user is not at his desk.
9. Have a battery bank of at least 8 hrs. Autonomy.
10. Have direct inward dialing system access facilities and data communication services.
11. Be of compact modular design with sub-lines pre-wired and easily removable
12. Be equipped with flexible music on hold
13. Have call forwarding automatic call transfer, three party conference among other standard features.
14. Be equipped with mains power supply Anti-surge, over-voltage and under-voltage protection devices and lightning protectors for all cards.
15. Have on screen fault indication facility.
16. Be type approved by the Communications Authority of Kenya. The bidder is required to submit the CAK type approvals.
17. Be compatible for connection to Telkom / Orange (Kenya) Ltd, Safaricom networks etc.

2.34 BROCHURES AND TECHNICAL LITERATURE

Tenderers Must enclose together with their submitted bids brochures detailing technical literature and specifications of the IP- PBX and IP network telephone instruments and the UPS. The brochures shall be used to evaluate the suitability of IPBX and the associated accessories. Any bid submitted without the brochures shall be considered technically non-responsive, and shall subsequently be disqualified.

2.35 ITEMS TO BE STATED BY THE TENDERER

Delivery period from date of award of contract..... weeks

Period required for installation from receipt of equipmentweeks

What is the name and model number of the proposed IP based PABX for which you have tendered?

In which countries is the PABX and its PCB's manufactured.....

With what standards does the IP based PABX comply?

Is a full stock of spares available in Kenya?

For how many years is the continuity of spare parts guaranteed? (A minimum of 10 years is required) years

What is the busy hour traffic capacity of the IP-PABX assuming no delay in main exchange dial tone?

What is the maximum ambient temperature in which the PABX will function satisfactorily?.....

Is air conditioning required for the IP-PABX?

Is protection against high transient line voltage incorporated?

How many pairs are required per extension line?

Is the operator's console suitable for a blind operator?

What is the warranty period offered?

(Note: 12 months is the minimum)

Is an MDF incorporated in the PABX?

Is the POE incorporated in the PABX?

Capacity of the standby battery in A.H.....

Output of charger in Amps

Provide a comprehensive list of other places and contacts where the proposed IP-PABX is installed and working (a separate sheet may be used)

.....

Provide a list of branch offices and contacts for purposes of future maintenance when the proposed IP-PABX is installed and extended to the counties and sub-counties (a separate sheet may be used)

.....

PARTD: TECHNICALS PECIFICATIONS FOR THE IP-CCTV CAMERAS SYSTEM

1.01 EXTENT OF WORKS FOR SECURITY SURVEILLANCE SYSTEM

The security surveillance system should consider the following.

IP CCTV Camera. The cameras specified should be able to cover the distance with clear pictures. Consider whether there shall be need to support the fixed digital cameras with the Pan, Tilt and Zoom Cameras or not. Highly sensitive areas should be covered with more cameras able to take pictures of any person coming in both from the front and the rear. The resolution of the cameras should be able to give motion pictures that are clear. LED Monitors. The color monitors must be of high resolution and preferably of plasma screen. The size of the monitor should be big enough to allow the operators make correct deductions both in real time operation and during playbacks.

IP Network Video Recording. The recording multiplexer resolution has to be equally high for the monitor to display images with a high resolution.

The IP CCTV Surveillance system should be able to support following;

- IP based recording system with motion detection.
- Digital zooming into recorded images/ life view
- Multi-level password protection and logging facilities
- Integrates with access control, burglar control, burglar alarms and Fire alarm system and other building management systems as may be specified by the engineer Image compression for remote web live and playback viewing in case of IP.
- Multi display monitors
 - Automatic daily archiving to hard drive or optical drive.
 - Fully adjustable digital video motion detection with exclusion /inclusion multi regions per camera.
 - Efficient video collection, storage retrieval.
 - Advanced and instant search capability
 - Digitally signed recordings, with audit trails of all operator actions and system event.
 - Storage capacity of the Network Video Recorder. Space to provide at least three months continuous recording and back up for automatic archiving for one year and redundancy
 - Infra-red illuminators in poor lighting conditions
 - Able to interface with other systems on the ground
 - Support IP and PoE connectivity.

1.02 WORKINGDRAWINGS

The Contractor shall submit to the Project Manager working drawings for the proposed system for approval. The drawings will show the locations for all cameras, cable routing and terminations, telecommunication outlets/connectors, location of NVR, monitors, core switch and Edge switches.

1.03 MINIMUM ALLOWABLE TECHNICAL SPECIFICATIONS FOR THE CCTV SYSTEM

1.03.1 GENERAL SPECIFICATIONS FOR THE CAMERAS

The cameras are classified into two main types

a) Fixed cameras –

These cameras have a fixed area of view depending on its angle of view and the focal length of the lens used.

They can be used in indoor and outdoor depending on the requirements. When used out door, the cameras are housed in a weather proof housing of IP66. Those used indoor come with different shapes of housings. The review housings are used for cameras covering long distances like corridors and the dome housings are used for common areas like lobbies, security desks etc.

b) Pan Tilt and Zoom Cameras

These cameras are only used to support the static cameras. They are useful as they are able to pan 360 degrees, tilt over 90 degrees and zoom into an object for Min 16 times and above.

The cameras shall be indoor type and outdoor type with PoE/ 240V main supply with the appropriate power adaptors, 50Hz field frequency and operating according to the CCIR standard with minimum resolution of 2megapixels.

The camera shall be fixed on sliding rail track on the ceiling slab or walls as directed by the Electrical Engineer with an appropriate bracket.

It shall be possible to control the lens and the pan only head remotely via a remote control box at the control room. The Camera must be able to be controlled by a CCTV keyboard

They shall be linked to the Television Monitors and the Control Equipment through CAT 6 A cables as appropriate and according to the project Engineers instructions.

The mounting height and position of cameras shall be such that the desired coverage shall be achieved as distinctly as possible.

The digital signal processing (DSP) camera shall be aesthetically styled. The DSP chip will enable advanced video processing and manipulation to be carried out in the camera head.

1.04 MINIMUM REQUIREMENTS FOR THE PROPOSED CCTV SYSTEM

The cameras shall have the following minimum specifications but cameras with higher specifications shall be accepted:

a) IP Bullet camera (CCTV CAMERA TYPE

- 2) IP 6MP Vandal Proof Bullet
- camera
- 1/1.8" CMOS imaging sensor with 120db
- WDR. Fixed Lens length of 3.7 mm
- IR Viewable Length 30m
- Minimum illumination 0.2lux
- (colour) Frame rate of 30fps at 5MP
- True day and night vision capability (ICR)
- IP network capable – IPv4/IPv6
- PoE capability
- H.265 video compression
- Tampering detection, Loitering, Face Detection, Audio Detection, Motion detection, Sound Classification, Heat map, People Counting, Queue management, defocus detection, Bi-directional audio I/O communication, Network Disconnect, defog and event triggered alarm processing
- Masking
- Accessible Edge Storage with internal 128GB MicroSD card slot and complete with a 128GB MicroSD card
- ONVIF compliant application programming interface
- Web viewer/browser support
- Vandal proof IK-10 rating
- housing Weather proof IP66 rating

(State make and type, and enclose brochures/catalogues)

b) IP Dome camera (CCTV CAMERA TYPE 1)

- IP 6MP Vandal Proof Dome camera
- 1/1.8" CMOS imaging sensor with 120db WDR.
- Fixed Lens length of 3.7 mm
- IR Viewable Length 30m
- Minimum illumination 0.2lux
- (colour) Frame rate of 30fps at 5MP
- True day and night vision capability
- (ICR) IP network capable – IPv4/IPv6
- PoE capability
- H.265 video compression
- Tampering detection, Loitering, Face Detection, Audio Detection, Motion detection, Sound Classification, Heat map, People Counting, Queue management, defocus detection, Bi-directional audio I/O communication, Network Disconnect,

- defog and event triggered alarm processing
- Masking
- Accessible Edge Storage with internal 128GB MicroSD card slot and complete with a 128GB MicroSD card
- ONVIF compliant application programming interface
- Web viewer/browser support
- Vandal proof IK-10 rating
- housing Weather proof IP66 rating

(State make and type, and enclose brochures/catalogues)

1.05 MOUNTING BRACKETS

The Brackets shall:

- Be suitable for wall or ceiling mounting of a single camera.
- Be at least 5.5"length
- Have an auto lock facility.

1.06 CAMERA HOUSING

The camera housing shall:

- Be IP66 rated with integral cable management.
- Be Weatherproof and constructed from aluminum with epoxy coating.

1.07 COLOR VIDEO MONITORS

The monitor should be capable of providing high levels of picture quality 10MHz bars visible at low brightness and reliability stable synchronization, black level clamping, low sensitivity and high stability.

The monitors shall be high performance color video monitors for monitoring scenes from the above cameras and viewing playback scenes from the video cassette recorders.

The monitors shall be located at places to be shown on site by the project manager.

The monitor shall give stable and interference free pictures of scenes being viewed. It shall also conform to the following specifications:

- Type: LED; 50,000hours panel life
- System: NTSC/PAL
- Screen Size: 32 II
- Resolution: 1,920 x 1, 080
- Display Colour: 16.0 million
- Brightness: 350cd/m²
- Contrast Ratio: 5,000:1
- Video input signal: 1.0 V pk-pk
- Power consumption: Not more than 80W
- Power input: 240V, 50HZ
- Interface: VGA, DVI, HDMI, RGB, Audio, Video

(State make and type, and enclose catalogues)

1.08 NET WORK VIDEO RECORDER

The network video recorder shall have the following minimum requirements:

- 32 Channels
- Throughput of at least 200Mbps
- C/58
-
-
-
-
-

Gigabit Ethernet connection
 Multi-screen Display: Full/4/9/16 way or as appropriate.
 10 Hot swap HDDs each of 4TB minimum
 capacity external storage support capability
 VGA/HDMI local monitor redundant
 hot swap power supply Network
 management/viewer software in built
 intelligent video analysis
 H.265, MPEG, MJPEG Compression
 ONVIF compatibility
 Web viewer supported
 PoE enabled
 Smart Video Search Feature for streamlined Investigations
 Recording resolution of 5MP
 IP address filtering, user access log, authentication and encryption
 Auto Launch of Video on specified Alarms/Events

- LED status indicator
- CE, UL certification

(State make and type, and enclose catalogues)

1.09 CCTV MANAGEMENT SOFTWARE

CCTV management software with the following minimum

- specifications: - Event Recording Scheme
- Operate Motion-Detector-Recording
- NTSC-PAL video recording.
- Be capable of recording real time images at full resolution and frames rate. Features for connection for alarm system Automatic Recycling
- Users' passwords.
- Input, Output, Audio Alert Facilities
- Remote Viewing Facilities, TCP/IP, INTERNET, ISDN, modem
- Capability of streaming into the client's existing LAN / WAN infrastructure
- Ability to quickly search through thousands of hours of recorded video information
- Event-triggered video recording to reduce storage requirements
- Masks out disturbing areas, or areas of no interest, within the specified region
- Identifies & immediately alerts user to potential security breaches
- Features should be able to be used at very low frame rates
- Easy calibration for specific applications
- Color-matching matches user-specified colour to the video image
- Functions in outside environments with changing light conditions: Auto-learning of background feature
- Object saliency and object Consistency mechanisms to filter out phantom objects
- Out of Focus condition is user-calibrated by level of focus
- Automatic self-test of camera validity
- Motion Trajectory Analyzer provides advanced analysis of the motion

of objects Seamless integration into Enterprise security knowledge management solution. Analysis of stationary objects

(State make and type, and enclose catalogues)

1.10 UNINTERRUPTIBLE POWERS UPPLY (UPS)

This shall be an on-line Un-interruptible power supply with output rating able to provide power to the security surveillance system a minimum of 8 hours in case of power failure. It shall be microprocessor- based so that both output voltage and frequency are closely regulated and continuously monitored and also provide system diagnostic and shut down protection functions. It shall feature a maintenance by-pass to enable normal routine maintenance operations to be performed without interruptions to the system.

It shall be fitted with both visual and audible alarms to indicate any change in equipment status such as:

- Input power
- problems ups faults
- Ups overload
- battery discharging

Other parameters are:

- 240VAC50HZ
- 0.8 lag at full load

Input

supply: Power

factor:

- 125% of the normal
 - 240V AC 50 HZ
 - Tolerance: 2%
 - Tolerance: 0.05%
- (State make and type, and enclose catalogues)

Current
limit: Output
voltage: Output
voltage Output
frequency

1.11 SYSTEMCONTROLKEYBOARD

- System Control
- Keyboard
- 5" TFT touch
- LCD Network
- cameras
- User-friendly design and easy-to-use keypad
- 3 Axis joystick to control PTZ function

Detachable joystick / jogshuttle for universe use (Right / Left hand use) USB interface support (1ea for SSM, 1ea for image snapshot / Upgrade) Fast camera-tile mapping, Config import / export

(State make and type, and enclose brochures/catalogues)

1.12 SERVERSTORAGE

- Rack
- mounted
- Number of Chassis: Upto 36
- Number of Nodes: Upto 144
- Number of Nodes per Chassis: 4 Nodes
- Chassis Capacity: 480TB
- Drives: Upto 60 Hdd Drives (3.5" 4kn Sata) Per Chassis
- Self-Encrypting Drive (Sed Hdd): Option Yes
- Error Correcting Code (ECC) Memory (Per Node): Upto
- 64 GB Solid State Drives (Ssd): Upto 2 Cache 3.2 Tb
- Self-Encrypting Drive (Sed Ssd): Supports
- Front-End Networking (Per Node): 2 x 10ge (Sfp+)
- Infrastructure Networking (Per Node): 2 x 10 Gbe (Sfp+)

Typical Power Consumption @ 240v (Per Chassis): 1120 Watts (@25°C) Maximum Power Consumption @ 240v (Per Chassis): 1560 Watts Thermal Rating: 3800 Btu/Hr

(State make and type, and enclose brochures/catalogues)

1.13 VIDEO MANAGEMENT SYSTEM RECORDING

- SERVER
- Rack Mounted
- Disk Capacity: 8TB HDD
- Memory: RAM 32 GB,
- DDR4

Operating Software: Windows server, Datacenter license

Chassis: Upton 12 x 3.5 ll Hard Drives for 2CPU Configuration

Processor: 2 No. Processors Intel® Xeon® Silver 4110; 2.1GHz; 8Core/16T; 9.6GT/s;

- 11MB Cache; Turbo, HT (85W); DDR4-2400
- Processor Thermal Configuration: 2 Standard Heatsinks for
 - 125W Memory Type: DIMM Type – RDIMMs; Speed
 - 2666MT/s
 - Memory Capacity: 2 No. Memory Capacity 8GB RDIMM, 2666MT/s, Single Rank
 - Storage Controller: RAID Configuration 5
 - Internal Controller: RAID Controller PERCH740P RAID Controller, 8Gbps NV Cache, Adapter,
 - Disk Drives (Bays): 10 No. Hard Drives 12TB 7.2K RPM SATA 6Gbps 512e 3.5in Hot-plug;
 - 120GB SSD SATA Boot 6Gbps 512n 2.5in Hot-plug Drive
 - Performance Fans: 6No.
 - Power Supply: Dual, Hot-plug, Redundant Power Supply
 - (N+1) Riser Config 4, 3x8, 4x16 slots,
 - Graphics Processing Unit (GPU) support: Double-Wide
 - GRAPHIC CARD: Nvidia GeForce
 - Server Configuration Management: Support
 - Ports: Broadcom 57416 2 Port 10Gb Base-T + 5720 2 Port 1Gb Base-T,
 - rNDC PowerEdge 2U Standard Bezel
 - ReadyRails™ Sliding Rails with Cable Management Arm
 - 1Yr Parts Only Warranty (Emerging Only)
 - 3Yr ProSupport Plus and 4hr Mission Critical

(State make and type, and enclose brochures/catalogues)

1.14 CABLING

- a. All cables must pass through conduits or trunking.
- b. All cables and connectors shall be labeled.
- c. No distortion due to kinks, sharp bends or excessive hauling shall Allowed.
- d. Cables shall be run in a manner eliminating any possibility of strain on the cable itself or on the terminations.
- e. Cables shall have no joints or splices.
- f. Cables shall be kept at a minimum distance of 150mm from items liable to become hot or cold.
- g. Bending radii shall be not less than eight times the overall cable diameter.
- h. The manufacturers hauling tension shall not be exceeded.
- i. All cable ties and fixings shall be tightened to support the cable loom without distortion of the cable sheath.
- j. The UTP 4 pair shall be of Solid copper, 24 AWG, 100 balanced twisted-pair (UTP) Category 6E cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz. Cat 6E Structured Cabling shall be used throughout the entire installation.

(State make and type, and enclose catalogues)

1.15 PATCH PANELS

- a) Shall conform to ANSI/TIA/EIA-568A and rack mounted.
- b) Shall be equipped with RJ45 contacts of Cat 6 sockets with capacity of 12, 24 or 48 ports.
- c) Shall be earthed.
- d) Except for patch cords used to connect NICs to the RJ45 sockets, all patch cords shall be labeled at each extremity with PVC support and intelligible marking. For other components the label shall be of stiff plastic PVC type.

(State make and type, and enclose catalogues)

SECTION D

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Engineer	

NOTE:

Tenderers are advised to inspect the electrical drawings at the office of the Electrical consultant during normal working hours.

SECTION E

TECHNICALSCHEDULE

TECHNICALSCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment, which differs in manufacture, type or performance from the specifications indicated by the Project Manager.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered non-responsive.

TECHNICALSCHEDULEOFITEMSTOBESUPPLIED

(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	MODEL	COUNTRY OF ORIGIN
1	Patch panels			
2	Patch cords CAT 6A			
3	Cables Wireless			
4	Access Points Cable			
5	managers Faceplate			
6	Edge Switch			
7	Fibre Optic Cable			
8	UPS			
9	Data Cabinets			
10	Computer			
11	IP-PBX Machine			
12	IP Standard			
13	Telephone instruments			
14	IP Executive Telephone instruments			
15	CCTV Cameras			
	NVR			
16	Storage Servers			
17	Recording			
18	Server LED panel			
19	display Laptop			
20				
22	Access Control Door reader			

SECTION F

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of equal and approved quality will be accepted.
5. The prices quoted shall be deemed to include for all obligations under the sub- contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including V.A.T and all taxes applicable at the time of tender.

SCHEDULE OF UNIT
RATES

(To be completed by the Tenderer)

ITEM	DESCRIPTION	QTY/UNIT	RATE(KSHS)
1.	Recording Server as described in the particular specifications	1N o.	
2.	4 core Single mode fiber cable	1 M	
3.	6 core Single mode fiber cable	1 M	
4.	4 core Multi mode fiber cable	1 M	
5.	6 core Multi mode fiber cable	1 M	
6.	4 core Single mode fiber outdoor cable	1 M	
7.	6 core Single mode fiber outdoor cable	1 M	
8.	4 core Multi mode fiber outdoor cable	1 M	
9.	6 core Multi mode fiber outdoor cable	1 M	
10.	Network Switches Port Switch Rack Mountable with PoE and as described in the particular specifications a) 12 Port Cisco as Cisco Catalyst	1N o.	
11.	Cat 6E UTP 8-Pair outdoor cable	1N o.	
12.	Network Switches Port Switch Rack Mountable with PoE and as described in the particular specifications a) 12U Data Cabinet b) 9U Data Cabinet	1N o. 1N	
17	(i) wireless gateway module completes with accessories & line (ii) Wireless module complete with accessories & line	1No. 1No.	
18	Digital ISDN PRI-E1line card (bidder to indicate the No. Of channels.....)	1No.	
19	ISDN (PRI) card complete with a local modem	1No.	
20	Voice patch panel (48port)	1No.	

SECTION G

BILLS OF QUANTITIES

BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS.

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill No.1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:

- a) Preliminaries – Bill 1

Sub-contractor's preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contract. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

b) Installation Items and Other Bills

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

The unit of measurements and observations are as per those described in clause 1.05 of the section C.

c) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

B) NOTES FOR BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including V.A.T and all taxes applicable at the time of tender.
3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of equal and approved quality will be accepted.

Should the sub-contractor install any material not specified here in before receiving approval from the Project Manager, the sub-contractor shall remove the material in question and, at his own cost, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the Form of Tender.
6. Tenderers must enclose, together with their submitted tenders, detailed manufacturer's Brochures detailing Technical Literature and specifications on the items they intend to offer.

This shall be used in the tender evaluation to determine the first line aesthetics and quality of fittings offered

PROPOSED KONZA TECHNOLPOLIS DEVELOPMENT AUTHORITY - STRUCTURED CABLING BILLS OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
ALL PRICES TO BE IN KSHS AND INCLUSIVE OF VAT					
1.0	<u>PRELIMINARIES AND GENERAL CONDITIONS</u>				
1.1	Provide bond as stated in the published conditions of sub-contract.	Sum	1		
1.2	Provide insurance as required in the sub contract conditions.	Sum	1		
1.3	Preparation of working drawings "As installed" record drawings	Sum	1		
1.4	Printing of paper copies of item 1.3 above.	Sum	1		
TOTAL PRELIMINARIES TO PRICE SUMMARY PAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
SIXTH FLOOR WING A					
<u>SUPPLY & INSTALLATION OF THE FOLLOWING ITEMS</u>					
2.1	RJ45 Cat 6A STP Data faceplates complete with keystone 45° Exit label as SIEMON or approved equivalent.	Each	170		
2.2	3M RJ45-RJ45 Cat 6A STP Factory terminated patch cords as SIEMONS or Approved equivalent for telephone	Each	340		
2.3	Category 6e, 4pair stranded UTP 3 metre factory terminated patch cords. One side RJ 45 and the other RJ12	Each	340		
2.4	Siemon Category 6e 4pair, 24 AWG, UTP, 10 ohm cable in 305m box cable must exceed ANSI/TIA/EIA-568-B1 requirement	Roll	55		
2.5	Siemon Category 6e, 4pair stranded UTP 1meter factory terminated patch cords.	Each	165		
2.6	Siemon 1U(19".0) horizontal cable managers	Each	20		
2.7	44U metal cabinet with a perforated metal door complete 4No fans, power socket 6No, grounding kits and castors.	Each	1		
2.8	48 port Cisco switch model WS-3750-24PC with PoE and approved by engineer	Each	4		
2.9	Siemon 48 port category 6e UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black.	Each	4		
2.10	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire.	Item	3		
2.11	Supply and install a 6 Core OM3 - Multimode Indoor 50/125 micron - amored fire resistant fiber cable and as Siemon /USA 9GD5H006D -T301M/USA LSOH Fire Resistant	Lm	100		
2.12	ISR router complete with accessories As Cisco 2001 w\2 GE,4 ehwic,2 dsp,256mb dram ip base product no. cisco2901/k9	No	1		
2.13	Cisco wireless access point with PoE,standard and encryption protocols to secure access points,receiving sensitivity of 2.5 or 5Ghz, to be 802.11n wireless IEEE standard As cisco AP 541N wireless Access Point	No	2		
2.14	Supply and install Siemon Rack Mount Fiber Patch Panel drawer and as Siemon Fiber Patch Panel FCP3 - DWR	No.	1		
2.15	Provide for wifi Access points as marked on the drawing.	No.	4		
2.16	Telephone cable 50 pair	M	35		
2.17	Self adhesive Labels for cable labelling	pkts	10		
2.18	Provide labour charges to install the entire network	lot	1		
2.19	Provide for testing and attaching FLUKE test results for the network	lot	1		
2.20	Provide for activating the switches at clients instructions	lot	1		
2.21	Panasonic TDA100D EPABX,operator console,7No. Ordinary telephone handsets,1 No executive telephone head set,3No GSM LINES, 1No. Telkom kenya line,power stabiliser and backup battery	lot	1		
TOTAL FOR ADDITIONAL WORKS CARRIED FORWARD TO PRICE SUMMARY PAGE D5					

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
3.0	SIXTH FLOOR WING B				
	<u>SUPPLY & INSTALLATION OF THE FOLLOWING ITEMS</u>				
3.1	RJ45 Cat 6A STP Data faceplates complete with keystone 45° Exit label as SIEMON or approved equivalent.	Each	145		
3.2	3M RJ45-RJ45 Cat 6A STP Factory terminated patch cords as SIEMONS or Approved equivalent for telephone	Each	290		
3.3	Category 6e, 4pair stranded UTP 3 metre factory terminated patch cords. One side RJ 45 and the other RJ12	Each	290		
3.4	Siemon Category 6e 4pair, 24 AWG, UTP, 10 ohm cable in 305m box cable must exceed ANSI/TIA/EIA-568-B1 requirement	Roll	45		
3.5	Siemon Category 6e, 4pair stranded UTP 1meter factory terminated patch cords.	Each	140		
3.6	Siemon 1U(19".0) horizontal cable managers	Each	20		
3.7	44U metal cabinet with a perforated metal door complete 4No fans, power socket 6No, grounding kits and castors.	Each	1		
3.8	48 port Cisco switch model WS-3750-24PC with PoE and approved by engineer	Each	3		
3.9	Siemon 48 port category 6e UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black.	Each	3		
3.10	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire.	Item	2		
3.11	Supply and install a 6 Core OM3 - Multimode Indoor 50/125 micron - amored fire resistant fiber cable and as Siemon /USA 9GD5H006D -T301M/USA LSOH Fire Resistant	Lm	100		
3.12	ISR router complete with accessories As Cisco 2001 w\2 GE,4 ehwic,2 dsp,256mb dram ip base product no. cisco2901/k9	No	1		
3.13	Cisco wireless access point with PoE,standard and encryption protocols to secure access points,receiving sensitivity of 2.5 or 5Ghz, to be 802.11n wireless IEEE standard As cisco AP 541N wireless Access Point	No	2		
3.14	Supply and install Siemon Rack Mount Fiber Patch Panel drawer and as Siemon Fiber Patch Panel FCP3 - DWR	No.	1		
3.15	Provide for wifi Access points as marked on the drawing.	No.	3		
3.16	Telephone cable 50 pair	M	30		
3.17	Self adhesive Labels for cable labelling	pkts	10		
3.18	Provide labour charges to install the entire network	lot	1		
3.19	Provide for testing and attaching FLUKE test results for the network	lot	1		
3.20	Provide for activating the switches at clients instructions	lot	1		
3.21	Panasonic TDA100D EPABX,operator console,7No. Ordinary telephone handsets,1 No executive telephone head set,3No GSM LINES, 1No. Telkom kenya line,power stabiliser and backup battery	lot	1		
	TOTAL FOR ADDITIONAL WORKS CARRIED FORWARD TO PRICE SUMMARY PAGE D5				

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
4.0	FIFTH FLOOR				
	<u>SUPPLY & INSTALLATION OF THE FOLLOWING ITEMS</u>				
4.1	RJ45 Cat 6A STP Data faceplates complete with keystone 45° Exit label as SIEMON or approved equivalent.	Each	68		
4.2	3M RJ45-RJ45 Cat 6A STP Factory terminated patch cords as SIEMONS or Approved equivalent for telephone	Each	136		
4.3	Category 6e, 4pair stranded UTP 3 metre factory terminated patch cords. One side RJ 45 and the other RJ12	Each	136		
4.4	Siemon Category 6e 4pair, 24 AWG, UTP, 10 ohm cable in 305m box cable must exceed ANSI/TIA/EIA-568-B1 requirement	Roll	23		
4.5	Siemon Category 6e, 4pair stranded UTP 1meter factory terminated patch cords.	Each	68		
4.6	Siemon 1U(19".0) horizontal cable managers	Each	4		
4.7	44U metal cabinet with a perforated metal door complete 4No fans, power socket 6No, grounding kits and castors.	Each	1		
4.8	48 port Cisco switch model WS-3750-24PC with PoE and approved by engineer	Each	2		
4.9	Siemon 48 port category 6e UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black.	Each	2		
4.10	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire.	Item	1		
4.11	Supply and install a 6 Core OM3 - Multimode Indoor 50/125 micron - amored fire resistant fiber cable and as Siemon /USA 9GD5H006D -T301M/USA LSOH Fire Resistant	Lm	50		
4.12	ISR router complete with accessories As Cisco 2001 w\2 GE,4 ehwic,2 dsp,256mb dram ip base product no. cisco2901/k9	No	1		
4.13	Cisco wireless access point with PoE,standard and encryption protocols to secure access points,receiving sensitivity of 2.5 or 5Ghz, to be 802.11n wireless IEEE standard As cisco AP 541N wireless Access Point	No	1		
4.14	Supply and install Siemon Rack Mount Fiber Patch Panel drawer and as Siemon Fiber Patch Panel FCP3 - DWR	No.	1		
4.15	Provide for wifi Access points as marked on the drawing.	No.	3		
4.16	Telephone cable 50 pair	M	20		
4.17	Self adhesive Labels for cable labelling	pkts	3		
4.18	Provide labour charges to install the entire network	lot	1		
4.19	Provide for testing and attaching FLUKE test results for the network	lot	1		
4.20	Provide for activating the switches at clients instructions	lot	1		
TOTAL FOR ADDITIONAL WORKS CARRIED FORWARD TO PRICE					
SUMMARY PAGE D5					

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
5.0	BASEMENT FLOOR				
	<u>SUPPLY & INSTALLATION OF THE FOLLOWING ITEMS</u>				
5.1	RJ45 Cat 6A STP Data faceplates complete with keystone 45° Exit label as SIEMON or approved equivalent.	Each	12		
5.2	3M RJ45-RJ45 Cat 6A STP Factory terminated patch cords as SIEMONS or Approved equivalent for telephone	Each	24		
5.3	Category 6e, 4pair stranded UTP 3 metre factory terminated patch cords. One side RJ 45 and the other RJ12	Each	24		
5.4	Siemon Category 6e 4pair, 24 AWG, UTP, 10 ohm cable in 305m box cable must exceed ANSI/TIA/EIA-568-B1 requirement	Roll	4		
5.5	Siemon Category 6e, 4pair stranded UTP 1meter factory terminated patch cords.	Each	12		
5.6	Siemon 1U(19".0) horizontal cable managers	Each	1		
5.7	14U metal cabinet with a perforated metal door complete 4No fans, power socket 6No, grounding kits and castors.	Each	1		
5.8	24 port Cisco switch model WS-3750-24PC with PoE and approved by engineer	Each	1		
5.9	Siemon 24 port category 6e UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black.	Each	1		
5.10	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire.	Item	1		
5.11	Supply and install Siemon Rack Mount Fiber Patch Panel drawer and as Siemon Fiber Patch Panel FCP3 - DWR	No.	1		
5.12	Telephone cable 50 pair	M	3		
5.13	Self adhesive Labels for cable labelling	pkts	1		
5.14	Provide labour charges to install the entire network	lot	1		
5.15	Provide for testing and attaching FLUKE test results for the network	lot	1		
5.16	Provide for activating the switches at clients instructions	lot	1		
	TOTAL FOR ADDITIONAL WORKS CARRIED FORWARD TO PRICE				
	SUMMARY PAGE D5				

PRICE SUMMARY PAGE					
	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1.0	Total for Preliminaries and general conditions				
2.0	Total for sixth floor wing A brought from pade D1				
3.0	Total for sixth floor wing B brought from pade D2				
4.0	Total for fifth floor brought from pade D3				
5.0	Total for basement brought from pade D4				
6.0	Provide for the contingency amount				500,000
TOTAL PROJECT COST TAKEN TO FORM OF TENDER					

PROPOSED KONZA TECHNOPOLES DEVELOPMENT AUTHORITY ACCESS CONTROL AND CCTV BILLS OF QUANTITIES

ITEM	Description	UNIT	QTY	RATE	TOTAL
	ALL PRICES TO BE IN KSHS AND INCLUSIVE OF VAT				
1.0	<u>PRELIMINARIES AND GENERAL CONDITIONS</u>				
1.1	Provide bond as stated in the published conditions of sub-contract.	Sum	1		
1.2	Provide insurance as required in the sub contract conditions.	Sum	1		
1.3	Preparation of working drawings "As installed" record drawings	Sum	1		
1.4	Printing of paper copies of item 1.3 above.	Sum	1		
	TOTAL PRELIMINARIES TO PRICE SUMMARY PAGE D2				
2.0	ACCESS CONTROL SYSTEM COMPONENTS AS PER DRAWING				
2.1	Access Control Module complete with Integrated Power Supply and batteries as specified in Particular Specifications as Impro IPS Combo Cluster box or approved equivalent.	6	No.		
2.2	Electric strike complete with door closer	6	No.		
2.3	IP Based Door Fingerprint and pin biometric & card reader as specified in Particular Specifications as Impro Imprint Biometric Reader or approved equivalent.	6	No.		
2.4	Door Exit switch	6	No.		
2.5	Override Key switch	6	No.		
2.6	Emergency Break glass	6	No.		
2.7	Proximity Cards with the individual employee's name as specified in Particular Specifications.	100	No.		
2.8	Mylair cable for access control system	4	Rolls		
	TOTAL FOR SUPPLY & INSTALLATION OF ITEMS C/F PAGE D3				

ITEM	Description	UNIT	QTY	RATE	TOTAL
	<u>CCTV SYSTEM</u>				
3.0	CAMERA MODEL 1a - IP Dome Camera: IP Dome camera c/w Licence and all other accessories as described in the particular specifications of this document	No.	10		
	a) Indoor Camera				
	b) View Angle - 80 Degrees Minimum				
	c) Resolution - 3MP (2592 x 1520)				
	d) All other properties as described in particular Specification of camera Model				
3.1	CABLING: Horizontal cabling for Cameras wired in 4 pair UTP CAT 6A CU cables drawn in Conduitwork / trunking and radiating in a star topology from the Switches in the Administration cabinet to the individual cameras & Including Associated accessories including factory terminated RJ 45 sockets and modules to enable a full operation of the installations.	No.	10		
3.2	24CHANNEL NETWORK VIDEO RECORDER (NVR): Network Video Recorder c/w all other accessories as described in the particular specifications of this document. NOTE: Storage Capacity for this NVR Should be 90Days for all the Cameras Mentioned above	No.	1		
3.3	40INCH MONITOR(S): Wall Mounted monitors c/w mounting brackets, Connection Cables & all other accessories as described in the particular specifications of this document.	No.	1		
3.4	ADMINISTRATION EQUIPMENT CABINET (WALL MOUNTED) - SECURITY ROOM : 15U Administration Equipment Cabinet for housing all the accessories c/w all other accessories as described in the particular specifications of this document. Model As TOTEN	No.	1		
3.5	PATCH PANEL: 24 port Data patch panel as SIEMON	No.	1		
3.6	CABLE MANAGER: Provide 2HU cable organizers for patch leads, horizontal cabling etc to approval.	No.	3		
3.7	PATCHCORDS: 1 Meter CAT 6A UTP Factory Terminated patch cords for use in the switches & Patch Panels	No.	20		
3.8	24PORT NETWORK SWITCH: Cisco SG350-10P 10- Port Gigabit PoE Managed Switch with structured multilayer software Image with in- line power c/w stacking Kit & stacking cables..The switches to be procured from CISCO channel partners complete with warranty certificate & support. Proof of where the switch was procured will be required. NOTE: All Switches shall have SMARTNET as a Mandatory requirement. Proof of warranty will be required incase of supply.	No.	1		
3.9	ADAPTORS (Simplex): Simplex LC Fiber Adaptors	No.	10		
3.10	LC CONNECTORS (Simplex): Simplex LC Fiber Connectors	No.	10		
3.11	FIBER TERMINATION: Fiber Polishing, Termination and Installation of each fiber core to all the accessories and to the to Patch Panel	No.	1		
3.12	FIBER CABLING: 4-core fiber optic cable (multimode) 62.5/12.5 micron. This runs in dual to each ICT Cabinet	LM	250		
	TOTAL FOR SUPPLY & INSTALLATION OF ITEMS C/F PAGE D3				

ITEM	Description	UNIT	QTY	RATE	TOTAL
4.0	SUMMARY PAGE				
4.1	TOTAL PRELIMINARIES				
4.2	TOTAL FOR SUPPLY & INSTALLATION OF ITEMS FOR ACCESS CONTROL SYSTEM				
4.3	TOTAL FOR SUPPLY & INSTALLATION OF ITEMS FOR CCTV SYSTEM				
4.4	ADD CONTIGENCY AMOUNT				200,000
TOTAL PRICE (CARRIED FORWARD TO FORM OF TENDER					

**PROPOSED KONZA TECHNOLIS DEVELOPMENT AUTHORITY AUDIO
VISUAL/CONFERCING SYSTEM INSTALLATION WORKS BILLS OF QUANTITIES**

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
	ALL PRICES TO BE IN KSHS				
1.0	<u>PRELIMINARIES AND GENERAL CONDITIONS</u>				
1.1	Provide bond as stated in the published conditions of sub-contract.	Sum	1		
1.2	Provide insurance as required in the sub contract conditions.	Sum	1		
1.3	Preparation of working drawings "As installed" record drawings	Sum	1		
1.4	Printing of paper copies of item 1.3 above.	Sum	1		
	<u>TOTAL PRELIMINARIES TO PRICE SUMMARY PAGE D9</u>				
	<u>QUOTE FOR THE SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF THE FOLLOWING ITEMS</u>				
	SCHEDULE NO. 1:				
	<i>Supply, Install, Test and Commission the Following:</i>				
1.01	Loud speakers, the unit shall be a 16 Watt ported loudspeaker utiling a single full range driver for installation on ceiling surfaces. The driver shall have a nominal rated impedance of 8 ohms and shall be wired in parallel with a line voltage matching transformer. The loudspeaker input will allow direct connection to either 70V, 100V or low impedance amplifiers. The loudspeaker will have a bandwidth of 90Hz to 16KHz and a maximum acoustic output of 96 dB-SPL @ 1 m at the loudspeakers rated power. The exposed cosmetic surfaces of the loudspeakers shall be paintable, and the acoustically transparent grille component shall be of power coated steel. As BOSE FreeSpace DS16F or as approved by engineer				
	i) Passive Loudspeaker ceiling mount.	4	No.		
	ii) Passive wall mounted	2	No.		
1.02	2 channel audio mixer/amplifier The unit shall have 4 mic/line inputs, two powered outputs for low or high impedance: 2 x 120W @ 4 ohms or 2 x 100W @ 70/100V, total harmonic distortion less than 0.5% at full rated power, signal to noise ratio higher than 75dB, frequenct response 40 Hz to 16KHz +/- 3dB, 240 VAC power supply	1	No.		
1.03	Digital Wireless Conference System comprised of the following components:				
	i) Chairman Microphone unit with voting and touch screen as Shure MXC640 or Approved Equivalent	2	No.		
	ii) Delegate Microphone unit with voting capability as Shure MXC630 or Approved Equivalent	18	No.		
	iii) Central control unit complete with power supply as Shure DIS-CCU-E or Approved Equivalent	1	No.		
	iv) 50cm Gooseneck Microphone as Shure MXC420DF	18	No.		
	v) Conference meeting management Software with display application and Software Enabled Voting as Shure SW6000	1	Item		
1.04	Table top unit mounted on the boardroom table complete with the following parameters;	2	No.		
	a) 1No. HDMI output				
	c)1No. Auxilliary sound cable integrated to VGA				
	d)1No. Clean power twin socket				
	e)1No. RJ45 port				
	Total C/F to Summary Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1.05	Recording software with up to 8 independent channels of digital audio using ASIO-based USB 2.0 capture devices or digigram cards, ability to securely restrict access to audio and meeting information, full event log and administrative reports to monitor activity on systems, customizable user profiles and roles to control user access and system usage. As VIQ Solutions ENCOMPASS or as approved by engineer	1	No.		
	Branded 20" LED touch screen PC, Intel Core i5 processor, 1024 x 768 display resolution (32 bit color or minimum), Windows 7 Professional, 1 GB RAM, 160GB 7200 rpm SATA hard drive, Soundblaster or compatible sound card, ASIO/Wave-based digital recording device or Digigram card.	1	No.		
1.06	Digital Audio mixer 2 XLR/TS microphone inputs, 2 line inputs, 2 line outputs, headphone output, level control for line and headphone outputs, USB port for interconnection to recording PC and power, ASIO 2 and WDM compatible. As M Audio Mobilepre or as approved by engineer	1	No.		
1.07	8 port HDMI Video Splitter	1	No.		
	Supply and install IP dome Camera to be integrated with system such that the camera automatically rotates and focusses on the speaker	1	No.		
	supply and install a 32 channel NVR recorder with MPEG4 compression technology and 320GB harddisk	1	No.		
1.08	65" Commercial Display Monitor complete with Wall Mount Accessories and as Huawei	4	No.		
1.09	Cabling between Equipment, Audio and Video Output Devices	1	Lot		
	Supply and install Branded Medium Duty UPS, with a rating of 2.0KVA, input voltage swing of 220 – 270V ac and output voltage of 220-240V ac, 50-60HZ auto-sensing output frequency. Complete with output overload protection, Input/output short circuit protection, Automatic voltage regulation, Mains isolation, User replaceable batteries, Static-automatic bypass and Maintenance bypass. its battery module should have a 25 minute backup time, 3 year lifetime, Sealed lead acid type, automatic periodic battery tests, Short recharge time (maximum 5 hours for 100% run time) and Protection against excessive discharge.	1	No		
1.10	Allow for system connection with other peripheral devices	1	item		
1.11	Allow for one year support and replacement of the equipment should it spoil.	1	item		
1.12	Training for the client users and officers from Public Works	1	Lot		
1.13	Any other necessary items	1	item		
1.14	Supply and install multimedia LCD PROJECTOR xga Resolution, 3200 Lumens for the meeting rooms	2	No		
1.15	Anti theft projector ceiling mount as approved by the client.	2	No		
Total C/F to Summary Page					

2.0 PRICE SUMMARY PAGE					
	DESCRIPTION	UNIT	QTY	RATE	TOTAL
2.1	Preliminary and general conditions				
2.2	Total caried over from summary Page D1				
2.3	Total caried over from summary Page D2				
2.4	Add contingency amount				500,000

TOTAL PRICE (CARRIED FORWARD TO FORM OF TENDER)					
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Total in Words Kshs-----

For and on behalf of :-----

Sub - Contractors Name :-----

Stamp : -----Designation : -----

Witness Name : -----Signature : -----

Date :-----

Official Stamp : -----

MAIN SUMMARY

