



KIBABII UNIVERSITY
(Knowledge for Development)

Tel: 020-202860/0708-085934/0734831729
Fax: 056-30153
E-mail: enquiry@kibu.ac.ke
Website: <http://www.kibu.ac.ke>

P.O Box 1699– 50200
Bungoma
Kenya

THE STUDENT CENTRE AT KIBABII UNIVERSITY.

TENDER NO. KIBU/22/2020-21

SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

**SUPPLY, INSTALL, TEST AND COMMISSION ELECTRICAL WORKS AT THE
STUDENTS CENTRE AT KIBABII UNIVERSITY**

CLIENT:

The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200
Bungoma.

JULY, 2020

KIBABII UNIVERSITY STUDENTS CENTRE

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	3
SECTION I: INVITATION TO TENDER	4-5
SECTION II: INSTRUCTIONS TO TENDERERS	6 - 19
SECTION III: CONDITIONS OF CONTRACT	20- 44
SECTION IV: APPENDIX TO CONDITIONS OF CONTRACT	45- 47
SECTION V: SPECIFICATIONS	48 - 69
SECTION VI: DRAWINGS	70
SECTION VIII: STANDARD FORMS	71 – 94
SECTION IX: EVALUATION CRITERIA.....	95 -102
SECTION VII: BILLS OF QUANTITIES	103-140

INTRODUCTION

- 1.1 This standard tender document for procurement of works has been prepared for use by procuring entities in Kenya in the procurement of works (i.e. Buildings and associated Civil and Service Engineering Works).
- 1.2 The following guidelines should be observed when using the document:-
- (a) Specific details should be furnished in the Invitation to tender and in the special conditions of contract (where applicable). The tender document issued to tenderers should not have blank spaces or options.
 - (b) The instructions to tenderers and the General Conditions of Contract should remain unchanged. Any necessary amendments to these parts should be made through Appendix to instructions to tenderers and special conditions of contract respectively.
- 1.3
- a) Information contained in the invitation to tender shall conform to the data and information in the tender documents to enable prospective tenderers to decide whether or not to participate in the tender and shall indicate any important tender requirements
 - b) The invitation to tender shall be as an advertisement in accordance with the regulations or a letter of invitation addressed to tenderers who have been prequalified following a request for prequalification.
- 1.4 The cover of the document shall be modified to include:-
- I. Tender number.
 - II. Tender name.
 - III. Name of procuring entity.
 - IV. Delete name and address of PPOA.

SECTION I

INVITATION FOR TENDERS

Kibabii University invites eligible contractors to tender for the works as indicated and as per the requirements stated in the table below.

Tender Number	Tender Description	Class of Registration by NCA	Tender Security	Tender Closing Date
KIBU/22/2020-21	Supply, Install, Test and Commission Electrical Works at The Students Centre at Kibabii University	NCA 5 and above	2% of Tender Sum	21/8/2020

- 1 Interested eligible contractors may obtain complete set of tender documents by downloading form the Kibabii University website (www.kibu.ac.ke) or the PPIP portal free of charge. Contractors who download the tender documents shall immediately email their contact details and tender number to procurement@kibu.ac.ke
- 2 Completed Tender Documents are to be enclosed in plain sealed envelopes, marked with the **Tender. No. KIBU/22/2020-21 SUPPLY, INSTALL, TEST AND COMMISSION OF ELECTRICAL WORKS AT THE PROPOSED STUDENTS CENTRE AT KIBABII UNIVERSITY** shall be deposited in the Tender Box at the Administration B lock, Main Campus OR send by registered mail to be received on or before the tender closing time. Bulky tenders which do not fit the tender box shall be registered at the Administration Registry on the 3rd floor of Administration Block, all addressed to:

Vice Chancellor,
Kibabii University,
P.O Box 16699-50200
BUNGOMA

So as to be received on or before **Friday, 21st August, 2020 at 10.00am**

KIBABII UNIVERSITY STUDENTS CENTRE

Tenders will be opened immediately thereafter in the Auditorium C in the presence of bidders who choose to attend.

NOTE:

- i. Tenderer/bidders must serialize/number all the pages and copies of documents attached and indicate the documents submitted on their own attached table of contents.
- ii. All attachments shall be from the last page of this document, all paged in the order defined in the tender document.

SECTION II

INSTRUCTIONS TO TENDERERS

TABLE OF CONTENTS PAGE

CLAUSE		PAGE
1.	General	7
2.	Tender Documents	10
3.	Preparation of Tenders	11
4.	Submission of Tenders	14
5.	Tender Opening and Evaluation	15
6.	Award of Contract	17

INSTRUCTIONS TO TENDERERS.

1. General/Eligibility/Qualifications/Joint venture/Cost of tendering.

- 1.1 The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.
- 1.2 All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.
- 1.3 All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 1.4 In the event that pre-qualification of potential tenderers has been undertaken, only tenders from pre-qualified tenderers will be considered for award of Contract. These qualified tenderers should submit with their tenders any information updating their original pre-qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.
- 1.5 Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders , unless otherwise stated:
 - (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer:
 - (b) total monetary value of construction work performed for each of the last five years:
 - (c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually

committed; and names and addresses of clients who may be contacted for further information on these contracts;

- (d) Major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.
- (e) Qualifications and experience of key site management and technical personnel proposed for the Contract and an undertaking that they shall be available for the Contract.
- (f) Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;
- (g) Evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
- (h) Authority to seek references from the tenderer's bankers;
- (i) Information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and
- (j) Proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

1.6 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:

- (a) the tender shall include all the information listed in clause 1.5 above for each joint venture partner;
- (b) the tender shall be signed so as to be legally binding on all partners;
- (c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (d) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and
- (e) the execution of the entire Contract, including payment, shall be

done exclusively with the partner in charge.

- 1.7 To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria;
- (a) annual volume of construction work of at least 2.5 times the estimated annual cashflow for the Contract;
 - (b) experience as main contractor in the construction of at least
 - (c) two works of a nature and complexity equivalent to the Works over the last 10 years (to comply with this requirement, works cited should be at least 70 percent complete);
 - (d) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;
 - (e) a Contract manager with at least five years' experience in works of an equivalent nature and volume, including no less than three years as Manager; and
 - (f) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than 4 months of the estimated payment flow under this Contract.
- 1.8 The figures for each of the partners of a joint venture shall be added together to determine the tenderer's compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture's tender. Subcontractors' experience and resources will not be taken into account in determining the tenderer's compliance with the qualifying criteria, unless otherwise stated.
- 1.9 Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. A tenderer who submits or participates in more than one tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the tenderer's participation to be disqualified.
- 1.10 The tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible or liable for those costs.

- 1.11 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine 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.
- 1.12 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.
- 1.13 The price to be charged for the tender document shall not exceed Kshs.5,000/=
- 1.14 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.

2. Tender Documents

- 2.1 The complete set of tender documents comprises the documents listed below and any addenda issued in accordance with Clause 2.4.
 - (a) These Instructions to Tenderers
 - (b) Form of Tender and Qualification Information
 - (c) Conditions of Contract
 - (d) Appendix to Conditions of Contract
 - (e) Specifications
 - (f) Drawings
 - (g) Bills of Quantities
 - (h) Forms of Securities
- 2.2 The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer's risk and may result in rejection of his tender.
- 2.3 A prospective tenderer making an inquiry relating to the tender documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will only respond to requests for clarification received earlier than seven days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.

2.4 Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all tenderers. Prospective tenderers shall acknowledge receipt of each addendum in writing to the Employer.

7

2.5 To give prospective tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders, in accordance with Clause 4.2 here below.

3. Preparation of Tenders

3.1 All documents relating to the tender and any correspondence shall be in English language.

3.2 The tender submitted by the tenderer shall comprise the following:

(a) These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;

(b) Tender Security;

(c) Priced Bill of Quantities ;

(d) Qualification Information Form and Documents;

(e) Alternative offers where invited; and

(f) Any other materials required to be completed and submitted by the tenderers.

3.3 The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause relevant to the Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the tenderer.

- 3.4 The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract.
- 3.5 The unit rates and prices shall be in Kenya Shillings.
- 3.6 Tenders shall remain valid for a period of sixty (60) days from the date of submission. However in exceptional circumstances, the Employer may request that the tenderers extend the period of validity for a specified additional period. The request and the tenderers' responses shall be made in writing. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.
- 3.7 The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price.
- 3.8 The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.
- 3.9 Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as "Tenderer" all joint venture partners and list them in the following manner: a joint venture consisting of".....", ".....", and ".....".
- 3.10 The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.
- 3.11 The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Contract Agreement and furnished the required Performance Security.
- 3.12 The Tender Security may be forfeited
- (a) if the tenderer withdraws the tender after tender opening during the period of tender validity;

- (b) if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;
 - (c) in the case of a successful tenderer, if the tenderer fails within the specified time limit to
 - (i) sign the Agreement, or
- (ii) furnish the required Performance Security.

3.13 Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, tenderers wishing to offer technical alternatives to the requirements of the tendering documents must also submit a tender that complies with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. In addition to submitting the basic tender, the tenderer shall provide all information necessary for a complete evaluation of the alternative, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated tender conforming to the basic technical requirements shall be considered.

3.14 The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender, and clearly marked "ORIGINAL". In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as "COPIES". In the event of discrepancy between them, the original shall prevail.

3.15 The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the tenderer, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialled by the person or persons signing the tender.

3.16 Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.

- 3.17 The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.
- 3.18 The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

4. Submission of Tenders

- 4.1 The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as “**ORIGINAL**” and “**COPIES**” as appropriate. The inner and outer envelopes shall:
- (a) be addressed to the Employer at the address provided in the invitation to tender;
 - (b) bear the name and identification number of the Contract as defined in the invitation to tender; and
 - (c) provide a warning not to open before the specified time and date for tender opening.
- 4.2 Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender. However, the Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Sub-Clause 2.5 in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline will then be subject to the new deadline.
- 4.3 Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.
- 4.4 Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer’s modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked “**MODIFICATION**” and “**WITHDRAWAL**”, as appropriate. No tender may be modified after the deadline for submission of tenders.
- 4.5 Withdrawal of a tender between the deadline for submission of tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.

- 4.6 Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

5. Tender Opening and Evaluation

- 5.1 The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenderers' and Employer's representatives who are present during the opening shall sign a register evidencing their attendance.
- 5.2 The tenderers' names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted), any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.
- 5.3 Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of Contract shall not be disclosed to tenderers or any other persons not officially concerned with such process until the award to the successful tenderer has been announced. Any effort by a tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.
- 5.4 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask any tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile but no change in the price or substance of the tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.
- 5.5 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined in Clause 1.7;(b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and

specifications of the tendering documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the tendering documents, the Employer's rights or the tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

- 5.6 If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.
- 5.7 Tenders determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows:
- (a) where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and
 - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case the adjustment will be made to the entry containing that error.
 - (c) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the main summary of the Bill of Quantities, the amount as stated in the Form of Tender shall prevail.
 - (d) The Error Correction Factor shall be computed by expressing the difference between the tender amount and the corrected tender sum as a percentage of the corrected Builder's Work (i.e. Corrected tender sum less P.C. and Provisional Sums)
 - (e) The Error Correction Factor shall be applied to all Builder's Work (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.
 - (f) the amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 3.11.

- 5.8 The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5.
- 5.9 In evaluating the tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:
- (a) making any correction for errors pursuant to clause 5.7;
 - (b) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Dayworks where priced competitively.
 - (c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and
 - (d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause 4.6
- 5.10 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in tender evaluation.
- 5.11 The tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Contract award may result in the rejection of the tender.
- 5.12 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

6. Award of Contract

- 6.1 Subject to Clause 6.2, the award of the Contract will be made to the tenderer whose tender has been determined to be substantially responsive to the tendering documents and who has offered the lowest evaluated tender price, provided that such tenderer has been determined to be (a) eligible in accordance with the provision of

Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8.

- 6.2 Notwithstanding clause 6.1 above, the Employer reserves the right to accept or reject any tender, and to cancel the tendering process and reject all tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for the action.
- 6.3 The tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Contract documents called the "Letter of Acceptance") will state the sum (hereinafter and in all Contract documents called the "Contract Price") that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract. At the same time the other tenderers shall be informed that their tenders have not been successful.
- The contract shall be formed on the parties signing the contract.
- 6.4 The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 days of receipt the successful tenderer will sign the Agreement and return it to the Employer.
- 6.5 Within 21 days after receipt of the Letter of Acceptance, the successful tenderer shall deliver to the Employer a Performance Security in the amount stipulated in the Appendix to Conditions of Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form
- 6.6 Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.
- 6.7 Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.
- 6.8 Preference where allowed in the evaluation of tenders shall not be allowed for contracts not exceeding one year (12 months)
- 6.9 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

- 6.10 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.
 - 6.11 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)
 - 6.12 Where contract price variation is allowed, the valuation shall not exceed 15% of the original contract price.
 - 6.13 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.
 - 6.14 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.
 - 6.15 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.
 - 6.16 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.
7. Corrupt and Fraudulent practices
- 7.1 The procuring entity requires that tenderers observe the highest standards of ethics during procurement process and execution of contracts. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

SECTION III
CONDITIONS OF CONTRACT

Table of Contents

1	Definitions	22
2	Interpretation.....	24
3	Language and Law	25
4	Project Manager’s Decisions.....	25
5	Delegation.....	25
6	Communications	25
7	Sub Contracting	25
8	Other Contractors	26
9	Personnel	26
10	Works.....	26
11	Safety and temporary works	26
12	Discoveries	27
13	Work Programme	27
14	Possession of site	27
15	Access to site	28
16	Instructions	28
17	Extension or Acceleration of completion date	28
18	Management Meetings	28
19	Early Warning	29
20	Defects	29
21	Bills of Quantities	29
22	Variations	30
23	Payment certificates, currency of payments and Advance Payments	31
24	Compensation events	33
25	Price Adjustment	35

26	Retention	36
27	Liquidated Damages.....	36
28	Securities	37
29	Day Works	37
30	Liability and Insurance	37
31	Completion and taking over	39
32	Final Account	39
33	Termination	39
34	Payment upon termination	40
35	Release from performance	41
36	Corrupt gifts and payments of commission	41
37	Settlement of Disputes	42

CONDITIONS OF CONTRACT

1. Definitions

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

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

“Compensation Events” are those defined in Clause 24 hereunder.

“The Completion Date” means the date of completion of the Works as certified by the Project Manager, in accordance with Clause 31.

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

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

“The Contractor’s Tender” is the completed tendering document submitted by the Contractor to the Employer.

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

“Days” are calendar days; **“Months”** are calendar months.

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

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

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

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

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

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

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

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

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

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

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

“Site” is the area defined as such in the Appendix to Condition of Contract.

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

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

“Start 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).

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

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

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

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as defined in the Appendix to Conditions of Contract.

2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.
- 2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).
- 2.3 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;
- (1) Agreement,
 - (2) Letter of Acceptance,
 - (3) Contractor’s Tender,
 - (4) Appendix to Conditions of Contract,
 - (5) Conditions of Contract,
 - (6) Specifications,
 - (7) Drawings,

- (8) Bill of Quantities,
- (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

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

3. Language and Law

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

4 Project Manager's Decisions

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

5 Delegation

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

6 Communications

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

7 Subcontracting

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

8 Other Contractors

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

9 Personnel

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

10 Works

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

11 Safety and Temporary Works

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

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

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

12. Discoveries

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

13. Work Program

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

The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the Contractor's obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

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

15. Access to Site

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

16. Instructions

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

17. Extension or Acceleration of Completion Date

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

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

18. Management Meetings

18.1 A Contract management meeting shall be held monthly and attended by the Project Manager and the Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project Manager shall record the minutes of management meetings and provide copies of the same to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

19. Early Warning

- 19.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work, increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
- 19.2 The Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instructions of the Project Manager.

20. Defects

- 20.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any Work that the Project Manager considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor, However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.
- 20.2 The Project Manager shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.
- 20.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Project Manager's notice. If the Contractor has not corrected a defect within the time specified in the Project Manager's notice, the Project Manager will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

21. Bills Of Quantities

- 21.1 The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the Work to be done by the

Contractor. The Contractor will be paid for the quantity of the Work done at the rate in the Bills of Quantities for each item.

- 21.2 If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contract price, the Project Manager shall adjust the rate to allow for the change.
- 21.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

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

- 22.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

- 23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.
- 23.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed, materials delivered on Site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from Site without the Project Manager's instructions except for use upon the Works.
- 23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.
- 23.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 23.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the

execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.7 In the event that an advance payment is granted, the following shall apply:-

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

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

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

Where:

R = the amount to be reimbursed

KIBABII UNIVERSITY STUDENTS CENTRE

- A = the amount of the advance which has been granted
- X¹ = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%.
- X¹¹ = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80% but not less than 20%.
- d) with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24. Compensation Events

24.1 The following issues shall constitute Compensation Events:

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

- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
 - (i) The effects on the Contractor of any of the Employer's risks.
 - (j) The Project Manager unreasonably delays issuing a Certificate of Completion.
 - (k) Other compensation events described in the Contract or determined by the Project Manager shall apply.
- 24.2 If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.
- 24.3 As soon as information demonstrating the effect of each compensation event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager will assume that the Contractor will react competently and promptly to the event.
- 24.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.
- 24.5 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.
- 24.6 The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

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

25. Price Adjustment

- 25.1 The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.
- 25.2 The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provisions in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Contract, if at any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.
- 25.3 Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;
- (i) The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
 - (ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.
 - (iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may

be granted as an extension of time under clause 17.0 of these Conditions.

- 25.4 The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the Works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
- 25.5 Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.
- 25.6 No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.
- 25.7 The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rates.

26. Retention

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

27. Liquidated Damages

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

due to the Contractor. Payment of liquidated damages shall not alter the Contractor's liabilities.

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

28. Securities

28.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya Shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Dayworks

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

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

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

30. Liability and Insurance

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

- (a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or

- (ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.
- 30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer's risk except loss or damage due to;
- (a) a defect which existed on or before the Completion Date.
 - (b) an event occurring before the Completion Date, which was not itself the Employer's risk
 - (c) the activities of the Contractor on the Site after the Completion Date.
- 30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Contractor's risks.
- The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;
- (a) loss of or damage to the Works, Plant, and Materials;
 - (b) loss of or damage to Equipment;
 - (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
 - (d) personal injury or death.
- 30.4 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.
- 30.5 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

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

31. Completion and taking over

31.1 Upon deciding that the Works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the Works. The Employer shall take over the Site and the Works within seven [7] days of the Project Manager's issuing a Certificate of Completion.

32. Final Account

32.1 The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate. The Employer shall pay the Contractor the amount due in the Final Certificate within 60 days.

33. Termination

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

- (a) the Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorised by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
- (c) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.
- (e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Contractor does not maintain a security, which is required.

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

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

33.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible. The Project Manager shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials, goods, equipment and temporary buildings on Site.

34. Payment Upon Termination

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

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

34.3 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the

Works and use all materials on the Site, plant, equipment and temporary works.

- 34.4 The Contractor shall, during the execution or after the completion of the Works under this clause remove from the Site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor. Until after completion of the Works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

35. Release from Performance

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

36. Corrupt gifts and payments of commission

The Contractor shall not;

- (a) Offer or give or agree to give to any person in the service of the

Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.

- (b) Enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

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 Regulations issued under The Exchequer and Audit Act Cap 412 of the Laws of Kenya.

37. Settlement Of Disputes

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

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

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

37.2 The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled to or the measurement and valuation referred to

in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

- 37.3 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 37.4 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 37.5 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:
- 37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.
- 37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
- 37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- 37.5.4 Any dispute or difference arising in respect of war risks or war damage.
- 37.6 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 Employer and the Contractor agree otherwise in writing.
- 37.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 37.8 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no

such certificate, opinion, decision requirement or notice had been given.

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

Percentage of certified value retained: **10%**
 Limit of certified value retained : **5%**
 Period between program updates is: **7 days**

The amount to be withheld for late submission of an updated program is **1% of certified amount to be paid to the contractor.**

The Price Adjustment clause **SHALL NOT** apply

Advance payment **SHALL NOT be** granted

The rate of exchange for calculation of foreign currency payment is – **Not applicable**

The schedule of basic rates used in pricing by the contractor is as attached (contractor to attach).

Other contractors, utilities etc to be engaged by the employer on the site include those for the execution of:

- 1.....
- 2.....
- 3.....
- 4.....

The minimum insurance covers shall be:

1. Minimum cover for insurance of the works, plant and material in respect of the contractor’s faulty design is.....
2. The minimum cover for loss or damage to equipment is.....
3. The minimum for insurance of other property is.....
4. The minimum cover for personal injury or death insurance
 - For the contractor’s employee is.....
 - And for other people is.....

The following events shall also be compensation events:

1. Nil
2. Nil
3. Nil
4. Nil

SECTION V

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

- 2.1 General
- 2.2 Standard of Materials
- 2.3 Workmanship
- 2.4 Procurement of Materials
- 2.5 Shop Drawings
- 2.6 Record Drawings
- 2.7 Regulations and Standards
- 2.8 Setting out Works
- 2.9 Position of Electrical Plant and Apparatus
- 2.10 M.C.B Distribution Panels and Consumer Units
- 2.11 Fused Switchgear and Isolators
- 2.12 Conduits and Conduit Runs
- 2.13 Conduit Boxes and Accessories
- 2.14 Labels
- 2.15 Earthing
- 2.16 Cables and Flexible Cords
- 2.17 Armoured PVC Insulated and Sheathed Cables
- 2.18 Cable Supports; Markers and Tiles
- 2.19 PVC Insulated Cables
- 2.20 Heat Resisting Cables
- 2.21 Flexible Cords
- 2.22 Cable Ends and phase Colours

- 2.23 Cable Insulation Colours
- 2.24 Sub-circuit Wiring
- 2.25 Space Factor
- 2.26 Insulation
- 2.27 Lighting Switches
- 2.28 Sockets and Switched sockets
- 2.29 Fused Spur Boxes
- 2.30 Cooker Outlets
- 2.31 Connectors
- 2.32 Lamp holders
- 2.33 Lamps
- 2.34 lighting Fittings Street lighting Lanterns
- 2.35 Position of Points and Switches
- 2.36 Street/Security Lighting Columns
- 2.37 Timing Control Switch
- 2.38 Wiring System for Street Lighting
- 2.39 Metal control Pillar
- 2.40 Current Operated Earth leakage circuit breaker
- 2.41 MV Switchboard
- 2.42 Steel Conduits and Steel Trunking
- 2.43 Testing on Site

2.1 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.

2.2 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 sub-contractor shall adhere.

Should the Sub-contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the Sub-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 Sub-contractor. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

2.3 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 Sub-contractors 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.

2.4 Procurement of Materials

The sub-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.

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

2.5 Shop Drawings

Before manufacture or Fabrication is commenced the sub-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 sub-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.

2.6 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.

2.7 Regulations and Standards

All work executed by the Sub-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.

2.8 Setting Out Work

The sub-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.

2.9 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.

2.10 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.

2.11 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.

2.12 Conduits and Conduit Runs

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

All conduit 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.

2.13 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.

2.14 LABELS

Labels fitted to switches and fuseboards;-

- (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.

2.15 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.

2.16 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 with the details stated in the "Cable Braid and insulation Colours" Clause.

2.17 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.

Where cables rise from floor level to switchgear etc., they shall be protected by P.V.C. conduit, to a height of 600mm from finished floor level, whether the cable is run on the surface or recessed into the wall.

2.18 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 cables hooks or clamps, or 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 black-straps 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.

2.19 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.

2.20 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.

2.21 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).

2.22 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.

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

2.24 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.

1.5mm² for all lighting circuits indicated on the drawing.

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

- (i) 2.5mm² for one, two or three 5Amp sockets wired in parallel.
- (ii) 2.5mm² for one 15Amp socket.
- (iii) 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.

2.25 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.

2.26 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.

2.27 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

2.28 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

2.29 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

2.30 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

2.31 Connectors

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.

2.32 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.

2.33 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.

2.34 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 the 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.

2.35 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.

2.36 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.

2.37 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.

2.38 Wiring System For Streetlighting

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.

2.39 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.

2.40 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.

2.41 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. 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, sectionalised 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.

2.42 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 enamelled tubing and galvanising 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 bend 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, galvanised 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.

2.43 Testing On Site

The Sub-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.

- (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 Sub-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 Sub-contractor at his own expense.

- (e) The Sub-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.

The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary. The Sub-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.

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 Sub-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.

SECTION VI – DRAWINGS

Drawings shall be issued once the contract agreement has been signed.

SECTION VII – STANDARD FORM

1. Form of tender.....	72
2. Form of Agreement.....	74
3. Form of Tender Security.....	76
4. Performance Bank Guarantee.....	77
5. Qualification Information.....	78
6. Tender Questionnaire.....	89
7. Confidential Business Questionnaire.....	90
9. Details of Sub-Contractors.....	92
10. Notification of award.....	93
11. Public procurement administrative review board...	94

FORM OF TENDER

To: The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200
Bungoma.

Dear Sir,

Supply, Install, Test and Commission Electrical Works at the Students Centre at Kibabii University.

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

Kshs.....*[Amount in figures]*

Kenya Shillings.....

.....

.....*[Amount in words]*

We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer’s notice to commence, and to complete the whole of the Works comprised in the Contract within a period of Fifty Two (52) Weeks.

We agree to abide by this tender for a period of 120 days from the date of tender opening and shall remain binding upon us and may be accepted at any time before that date.

Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall not constitute a binding Contract between us.

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

Dated this day of20.....

Signature Name;

in the capacity of

duly authorized to sign tenders for and on behalf of:

.....[Name of Tenderer]

of.....[Address of Tenderer]

PIN No.

VAT CERTIFICATE No.

Witness: Name

Address

Signature

FORM OF AGREEMENT

THIS AGREEMENT is made theday of
Between (hereafter called “the Employer”) of the one part and of **P.O. BOX** (hereafter referred to as “the Contractor”) of other part.

WHEREAS the Employer is desirous that the Contractor executes(hereinafter called “the Works”) located in the, and the Employer has accepted the tender submitted by the Contractor for the execution and completion of such works and the remedying of any defects therein for the fixed Contract Price of Kshs..... (Kenya Shillings)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 2. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
- 2. The following documents shall be deemed to form and shall be read and construed as part of this agreement i.e.
 - i. Letter of Notification of Award
 - ii. Letter of Acceptance
 - iii. Form of Tender
 - iv. Conditions of Contract and Appendix to Conditions of Contract.
 - v. Specifications
 - vi. Drawings
 - vii. Priced Bills of Quantities.
- 3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works and remedy any defects therein conformity to the provisions of the contract.
- 4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of defects therein, the Contract price or such other sums as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties herein have caused this Agreement to be executed the day and year first before written.

The common seal of.....
Was hereunto affixed in the presence of.....



Signed sealed, and delivered by the said.....

Binding signature of Employer.....

Binding signature of the Contractor.....

In the presence of

(i) Name

Address.....

Signature.....

(ii) Name.....

Address.....

Signature.....

FORM OF TENDER SECURITY

WHEREAS(hereinafter called “the Tenderer”) has submitted his tender dated **To Supply, Install, Test and Commission Electrical Works at the Students Centre at Kibabii University.** KNOW ALL PEOPLE by these presents that WE Having our registered office at (hereinafter called “the Bank”), are bound unto (hereinafter called “the Employer”) in the sum of Kshs..... for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank thisDay of20

THE CONDITIONS of this obligation are:

If after tender opening the Tenderer withdraws his tender during the period of tender validity specified in the instructions to Tenderers

Or

If the Tenderer, having been notified of the acceptance of his tender by the Employer during the period of tender validity: fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required, or fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by his is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including Thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the said date.

.....
(Date)

.....
(Signature of the Bank)

.....
(Witness)

.....
(Seal)

PERFORMANCE BANK GUARANTEE

To: The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200,
Bungoma.

Dear Sir,

WHEREAS(hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. dated to execute (hereinafter called “the Works”);

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of:

Kshs. (*amount of Guarantee in figures*)

Kenya Shillings (*amount of Guarantee in words*),

and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings

..... (*amount of Guarantee in words*)

as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

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

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank

Address



Date

QUALIFICATION INFORMATION

1. Individual Tenderers or Individual Members of Joint Ventures

1.1 LEGAL STATUS OF TENDERER

Constitution or legal status of tenderer (attach copy of Incorporation Certificate or registration of business);

Place of registration: _____

Principal place of business _____

Power of attorney of signatory of tender _____

1.2 TOTAL ANNUAL VOLUME OF CONSTRUCTION WORK PERFORMED IN THE LAST FIVE YEARS

YEAR	VOLUME	
	Currency	Value
2019		
2018		
2017		
2016		
2015		

1.3 CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature (Electrical Works), complexity and volume over the last 5 years. (Copies of Completion Certificates and contacts of Project Manager **MUST** be attached)

PROJECT NAME	NAME OF CLIENT AND PROJECT MANAGER	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

.....
Title

.....
Signature

.....
Date

1.4 SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.(Copies of Notification of Award and or Contract Agreements and name and contact of the Project Manager **MUST** be attached)

PROJECT NAME	NAME OF CLIENT AND PROJECT MANAGER	CONTRACT SUM (KSHS)	% COMPLETION	START AND COMPLETION DATE OF PROJECT

I certify that the above works are currently being carried out by ourselves.

.....
Title

.....
Signature

.....
Date

**1.5 SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT
PROPOSED FOR CARRYING OUT THE WORKS**

Details of contractor's equipment to be used in carrying out the works. (Attach copies of Log books, Lease agreements or and other Valid documentary evidence)

ITEM OR EQUIPMENT	DESCRIPTION, MAKE AND AGE	CONDITION i.e. New, Good, Poor (provide picture where applicable)	OWNERSHIP i.e. owned or leased (provide evidence)

1.6 KEY PERSONNEL

Qualifications and experience of key personnel Proposed for administration and execution of the Contract. (Attach CV, copies of letter of engagement to the bidding company and copies of Academic and Professional certificates which **MUST** be signed by owners of the certificates in blue ink with telephone contact for them to be valid)

(Note: The persons herein indicated shall be subject to approval by the Project Manager to administer the project.)

POSITION	NAME	HIGHEST ACADEMIC AND PROFESSIONAL QUALIFICATION	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

I certify that the above information is correct.

.....
Title

.....
Signature

.....
Date

1.7 FINANCIAL REPORTS FOR THE LAST THREE YEARS (2017, 2018 and 2019)

(Balance sheets, Profits and Loss Statements, Auditor's reports, etc.

List below and attach copies)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

1.8 EVIDENCE OF ACCESS TO FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS.

(Cash in Hand, Lines of credit, etc. List below and attach copies of supportive documents.)

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.

1.9 NAME, ADDRESS AND TELEPHONE, EMAILS OF BANKS
(This should be for banks that may provide reference if contacted by the Employer)

NAME	ADDRESS	TELEPHONE	EMAIL

1.10 STATEMENT OF COMPLIANCE

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

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

**1.11 PROPOSED PROGRAM (WORK METHOD AND SCHEDULE)
FOR THE WHOLE OF THE WORKS.**

1.12 JOINT VENTURES

The information listed in 1.1 – 1.10 above shall be provided for each partner of the joint venture.

The information required in 1.11 above shall be provided for the joint venture.

Attach the power of attorney of the signatory(ies) of the tender authorizing signature of the tender on behalf of the joint venture

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

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

1.13 TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of tenderer

.....

2. Full address of tenderer to which tender correspondence is to be sent (unless an agent has been appointed below)

.....

3. Telephone number (s) of tenderer

.....

4. Telex address of tenderer

.....

5. Name of tenderer's representative to be contacted on matters of the tender during the tender period

.....

6. Details of tenderer's nominated agent (if any) to receive tender notices. This is essential if the tenderer does not have his registered address in Kenya (name, address, telephone, telex)

.....

.....

Signature of Tenderer

Make copy and deliver to: _____ (*Name of Employer*)

1.14 CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2 (c) and 2 (d) whichever applies to your type of business.

You are advised that it is a serious offence to give false information on this Form.

Part 1 – General

Business Name

Location of business premises; Country/Town.....

Plot No..... Street/Road

Postal Address..... Tel No.....

Nature of Business.....

Current Trade Licence No..... Expiring date.....

Maximum value of business which you can handle at any time:
Kshs.....

Name of your bankers.....

Branch.....

Part 2 (a) – Sole Proprietor

Your name in full..... Age.....

Nationality..... Country of Origin.....

*Citizenship details

Part 2 (b) – Partnership

Give details of partners as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details</i>	<i>Shares</i>
1.....				
2.....				
3.....				

Part 2(c) – Registered Company:

1.15 DETAILS OF SUB-CONTRACTORS

If the Tenderer wishes to sublet any portions of the Works under any heading, he must give below details of the sub-contractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the tender.

- (1) Portion of Works to be sublet:
- [i] Full name of Sub-contractor
and address of head office:
-
- (ii) Sub-contractor's experience
of similar works carried out
in the last 3 years with
Contract value:
-
- (2) Portion of Works to sublet:
- (i) Full name of sub-contractor
and address of head office:
-
- (ii) Sub-contractor's experience
of similar works carried out
in the last 3 years with
contract value:
-

[Signature of Tenderer)

Date

LETTER OF NOTIFICATION OF AWARD

Address of Procuring Entity

To: _____

RE: Tender No. _____

Tender Name _____

This is to notify that the contract/s stated below under the above mentioned tender have been awarded to you.

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

(FULL PARTICULARS) _____

SIGNED FOR ACCOUNTING OFFICER

REPUBLIC OF KENYA
PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

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

BETWEEN

.....APPLICANT

AND

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

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

REQUEST FOR REVIEW

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

- 1.
- 2.
- etc.

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

- 1.
- 2.
- etc

SIGNED(Applicant)

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

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on
day of20.....

SIGNED
Board Secretary



SECTION VIII:

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 3 stages, namely:

1. Preliminary Evaluation
2. Technical Evaluation
3. Financial Evaluation.

1. PRELIMINARY EVALUATION

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 shall be the following:

- 1) Category of Registration with National Construction Authority in Electrical Works.
- 2) Current valid license issued by the National Construction Authority for Electrical works.
- 3) Certificate of incorporation of company or registration of Business in the Republic of Kenya.
- 4) Single Business Permit with relevant County Government where the tenderers head office resides.
- 5) Current Valid Tax Compliance Certificate issued by Kenya Revenue Authority.
- 6) Provision of Valid bid security.
- 7) Dully filled Form of Tender.

The Employer may seek further clarification/confirmation if necessary to confirm authenticity/compliance of the information given as requested above.

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

2. TECHNICAL EVALUATION

The tender document shall be evaluated based on the Instruction to Tenderers which states as follows:

In accordance with 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 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 in this section shall be as shown below;

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
1) Statement of Compliance -----	1
2) Tender Questionnaire - -----	2
3) Confidential Business Questionnaire -----	2
4) Key personnel - -----	24
5) Corrected tender sum and the tender sum difference-----	7
6) Contract Completed in the last Five (5) years - -----	15
7) Schedules of on-going projects -----	12
8) Schedules of contractors equipment -----	6
9) Audited Financial Report for the last 3 years-----	9
10) Evidence of Financial Resources -----	11
11) Name, Address and Telephone of Banks-----	1
12) Litigation History-----	2
13) Sanctity of the tender document -----	3
14) Arrangement of attached documents in prescribed order-----	5
TOTAL	100

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

Item	Description	Point Scored	Max. Point
i	Statement of Compliance Signed and stamped ----- 1 Partially filled or not filled----- 0		1
ii	Tender Questionnaire Form Completely filled -----2 Partially filled or not filled -----0		2
iii	Confidential Business Questionnaire Form. Completely filled ----- 2 Partially filled or not filled----- 0		2
iv	Key Personnel to be engaged on the project (Attach CV and copies of Academic and Professional certificates which all MUST be signed and contacts indicated in BLUE INK by the owners of the certificates to be Valid under this criteria)		24
	At least 1No. Director of the firm who is; <ul style="list-style-type: none"> ○ Holder of degree in Electrical or Electromechanical Engineering ----- 4 ○ Ditto with Diploma-----3 ○ Ditto with certificate----- 1 ○ No relevant qualification ----- 0 		4
	At least 1 No. staff with degree in Electrical or Electromechanical Engineering; <ul style="list-style-type: none"> ○ With over 10 years relevant experience -----4 ○ With over 5 years relevant experience ----- 3 ○ With under 5 years relevant experience -----1 		4
	At least 2 No. key personnel with Diploma in Electrical or Electromechanical Engineering <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 		8
	At least 2 No. key personnel with Certificate in Water Engineering or plumbing or pipe fitting or building construction <ul style="list-style-type: none"> ○ With over 10 years relevant experience----- 4 ○ With over 5 years of relevant experience----- 3 ○ With under than 5 years' experience-----1 		8

Item	Description	Point Scored	Max. Point
v	<p>Calculated difference between the corrected tender sum and the tender sum on form of tender</p> <p>Difference below Kshs. 1,000-----7</p> <p>Difference between Kshs. 10,000 to 50,000-----4</p> <p>Difference between Kshs. 50,000 to 100,000----- 1</p> <p>Difference above Kshs. 100,000----- 0</p>		7
vi	<p>At least 3No. Contracts completed in the last five (5) years (2016-2020). Completion Certificates for each project MUST be attached for the project to be considered Valid under this criteria.</p> <ul style="list-style-type: none"> o Project of Electrical works worth more than Kshs.15 Million---5 o Project of Electrical works worth between Kshs.15 Million and Kshs. 7Million----- 4 o Project of Electrical works worth between Kshs. 7 Million and Kshs. 3Million -----3 o Projects of Electrical works less than Kshs. 3 Million----- 1 		15
vii	<p>At least 3 No. On-going projects. Notification of award or Contract Agreement of each project MUST be attached for the project to Valid under this criteria.</p> <ul style="list-style-type: none"> o Project of Electrical works worth more than Kshs.10 Million----4 o Project of Electrical works worth between Kshs. 10 Million and Kshs. 4 Million ----- 3 o Project of Electrical works worth between Kshs. 4 Million and Kshs. 2 Million -----2 o Projects of Electrical works less than Kshs. 2 Million ----- 1 		12
viii	<p>Schedules of contractors equipment and transport (proof of ownership by the company or Director MUST be attached.</p> <ul style="list-style-type: none"> o Pick Truck: ----- 1 o At least 2No. Voltmetre: -----2 o At least 1No. Multifunction insulation tester: -----2 o At least 1 No. Concrete Drill: ----- 1 		6
ix	<p>Annual audited financial reports or Bank statements of January to December indicating annual turnover for the years 2017, 2018 & 2019 (copies of audited reports or Bank statements MUST be attached)</p> <ul style="list-style-type: none"> o At least one of the annual turnover greater than 20 Million -- 9 o At least one of the annual turnover less than Kshs. 20 Million but greater than Kshs. 10Million ----- 7 o At one of the annual turnover less than Kshs. 10 Million but greater than Kshs. 5 Million -----5 o Annual turnover below 5 Million ----- 3 		9

Item	Description	Point Scored	Max. Point
x	<p>Evidence of financial resources (evidence of cash in hand, lines of credit, overdraft facility MUST be provided) Cash in hand shall mean cash deposit turnover for the last 6 months evidenced from tenderer's bank statements from 1st January 2020 to 30th June 2020)</p> <p>Valid credit lines- letter by the tenderer's bank to support him for a sum of cash for purposes of executing the contract.</p> <p>Cash in hand of over 10Million ----- 8 Cash in hand of less than 10Million but more than 4Million----- 6 Cash in hand of less than 4Million but more than 2Million-----4 Cash in hand of less than 2Million-----2</p> <p>Credit lines of more than 10Million-----3 Credit lines of less than 10Million but more than 4Million-----2 Credit lines of less than 4Million -----1</p>		11
xi	<p>Name, address and telephone of Contractors banks</p> <p>o Provided-----1 o Not provided----- 0</p>		1
xii	<p>Litigation History</p> <p>o Full disclosure -----2 o Not fully disclosure----- 0</p>		2
xiii	<p>Sanctity of tender documents</p> <p>o Having the document intact (not tampered with in any way and all pages serialized -----3 o Having mutilated or modified the tender document or not serialized some or all pages in tender document-----0</p>		3
xiv	<p>Arrangement of attached documents in prescribed order</p> <p>Arrangement as per required order-----5 Arrangement not as per required order-----0</p>		5
	TOTAL TECHNICAL SCORE		100

Any bidder who scores 65 points and above shall be considered for financial evaluation.

Any bidder scoring 64 points or less shall be disqualified at this point and SHALL NOT proceed for further evaluation.

1. FINANCIAL EVALUATION

The evaluation shall be in two sections

1. Arithmetic evaluation.
2. Tender sum comparisons

1. Preliminary examinations.

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

The parameter to be considered under this section shall be arithmetic errors.

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

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

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

Discount if any shall be treated as an error in pursuant to Instructions to tenderers.

1. Tender Sum Comparisons.

Item	Description
1	The tender sums shall be ranked from the lowest tender sum to the highest tender sum where the bidders with the lowest being ranked No.1

CONCLUSION

The tenderers shall be ranked from No.1 being the tenderer with the lowest tender sum.

RECOMMENDATION.

The evaluation committee shall carry out due diligence to establish authenticity of documents submitted for the tenderer ranked No.1. If the evaluation committee establishes that the information given was authentic then shall recommend the bidder for award of tender. But if some information provided by the said bidder cannot be authenticated then the evaluation committee shall disqualify the bidder

and proceed to carry out due diligence for the second lowest ranked bidder to authenticate the information submitted in his tender documents. If the committee finds that the information given in document are authentic then shall recommend the tenderer for award of tender, but if the information cannot be authenticated then the evaluation committee shall recommend the tender to be re-advertised.

PRESCRIBED ORDER OF ARRANGEMENT OF ATTACHED DOCUMENTS

- 1) Copy of NCA Registration certificate.
- 2) Copy of NCA practicing License.
- 3) Copy of Certificate of incorporation of company or registration of Business.
- 4) Copy of Single Business Permit.
- 5) Copy of Tax Compliance Certificate.
- 6) Bid security.
- 7) Key personnel documents.
- 8) Completed contract documents.
- 9) Ongoing project contracts.
- 10) Schedule of equipment documents.
- 11) Copies of Audited accounts and bank statements.
- 12) Copy of 6 month bank account statements.
- 13) Copies of Letters of credit from bankers.

SECTION E: **BILL OF QUANTITIES**

PREAMBLE AND NOTES TO BILLS OF QUANTITIES

1. These Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the conditions of Contract, Standard and Special Specification and Drawings.

2. The quantities set forth in the Bills of Quantities are believed to represent the character of the work to be carried out. There is no guarantee to the Contractor that he will be required to carry out the quantities of work indicated under any one particular item or group of items in the Bills of Quantities, though on the Contract as a whole the quantities are believed to represent the overall value of the work to be carried out.

3. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed and the Engineer will measure the whole of the works executed in accordance with the Contract.

4. The prices and rates inserted in the bills of quantities are to be the full inclusive costs of the works described under the items, complete in place and in accordance with the Specification and Drawings including costs and expenses which may be required in and for the construction of the works described, together with any temporary works and installations which may be necessary and all general risks, liabilities and obligations set forth or implied in the Documents on which the Contract is based.

5. The brief description of the items given in the Bills of Quantities are purely for the purpose of identification and in no way modify or supersede the detailed descriptions given in the Conditions of the Contract, Specifications

or Drawings and Special Specification for the full directions and descriptions of work and materials.

6. A price or rate is to be inserted, in ink against each item in the Bills of Quantities, whether quantities are stated or not, and if the Tenderer includes the cost of a particular item elsewhere in his rates or prices, he shall insert in the word “nil” against both the rate and extension of that particular item. Should the Tenderer omit to price an item, then it will be assumed that he has included the cost of the item elsewhere in his rates or prices.
7. No alteration shall be made to the Bills of Quantities and no extra item shall be inserted. The Tenderer shall satisfy himself that the Contract Sum arrived at by pricing the quantities and items given is sufficient compensation for constructing and maintaining the whole of the works in accordance with the Contract Documents.
8. For the purpose of payment by Interim Certificate of “Lump Sum” items the Engineer may assess the portion of the work completed on the “Lump Sum” items and allow for payment the portion of the “Lump Sum” he deems fair and reasonable. The total of all portions allowed shall not exceed the “Lump Sum”. All interim payments shall be subject to the retention stipulated in the Contract Documents.
9. During construction the unit rate established for an item in one Bill of Quantities may be used as a basis for establishing a unit rate for similar work in another Bill of Quantities which contains no unit rate for the said item.
10. The Contractor will be provided by Employer with all that land occupied by the Permanent Works including the specified working width for pipe laying and the costs of compensation and entry upon land will be paid from Provisional Sums.

11. It shall be the responsibility of the Contractor to arrange for the removal of, or alteration to, services where necessitated by the Works. Incurred costs being paid by the Employer.
12. Quantities for site clearance stripping and spreading shall be based on the horizontal projection of the area cleared or stripped.
13. The rates for excavation items shall include inter alia for setting aside spoil for reuse in the Works or disposing to approved tips, except where otherwise provided for in the Bills of quantities.
14. Generally, the excavation items are based on volume for structures and on linear measurement for certain pipelines. One or more items may cover the works. The rates shall include as appropriate for:-
 - a) Breaking through surfaces; handling different classes of material separately: excavation beyond the net plan area of the foundations for working space and for battering or timbering etc
 - b) Timbering
 - c) Dealing with water
 - d) Backfilling as specified
 - e) Disposal of surplus spoil

Measurement of the volume in pipe trench will be measured from ground level to the invert of the trench. Measurement for other excavations will be to the size which is required to accommodate the permanent work. A tenderer shall accordingly allow in his prices for any amount of extra excavation which may be necessary for working space to complete the work to the satisfaction of the Engineer.

Items are included for “Extra for Rock” on a volume basis. The rates shall include for Breaking out and any other additional costs and the items shall

apply to work encountered within measured excavation. Different classifications may be billed separately. Rock shall be measured as a volume calculated from the thickness encountered within the plan area of a mass excavation, within the plan dimensions of a structure, or within the notional width of a trench. Timbering left in excavations shall only be measured for payment where it is specified or ordered by the Engineer.

15. When the site of any particular item of Works has been sufficiently cleared of trees, undergrowth etc. and before any excavation or filling has been carried out, the Contractor shall carry out survey under the supervision of Engineer's Representative to take, record and agree adequate ground levels. The data so obtained shall be used as a basis for the computation of excavation and filling.
16. The volume of fill will be measured net to the finished levels as shown on the drawings or as amended by the Engineer.
17. All reinforcement will be paid for on the basis of its computed weight except for reinforcement that will be paid for on the basis of the area placed. The unit rates inserted in the Bills of Quantities shall include for all necessary cutting, bending and fixing, and all additional bars which may be required as spacer supports and lacings and also for all soft iron tying wires, fixing clips of approved pattern and manufacture and chairs. The cost of all temporary works including clips, chairs etc. shall be included in the rates for the reinforcing steel.
The weight for reinforcing bars shall include for all hooked or bent ends as per the bending schedule. Rates for fabric reinforcement or other reinforcement shall include for all laps, cuttings to size, bending and waste.
18. The rates for concrete shall include for making and testing preliminary test cubes, for making works test cubes and forwarding them to

the Testing Engineer, forming the concrete to the slopes and falls shown on the drawings and any additional concrete used in excess of the net requirements. The rates shall also include for forming construction joints, for protection, for curing, for the rubbing down of exposed surfaces of concrete after removal of formwork and for floating or brushing of other exposed surfaces where this is required.

19. The rates for precast concrete paving shall include for all cutting, bending, jointing and laying to falls.
20. The rates for precast concrete edging and kerbs shall include for formwork, concrete bed and backing, all cutting, bedding, jointing and laying to falls.
21. The rates for formwork shall include for fillets and chamfers up to 50mm wide on the spay, coating to prevent adherence of concrete and the provision of temporary openings to facilitate inspection and cleaning. Rates shall also be inclusive of all necessary box outs and cut outs for holes up to 1 square metre.

The rates for forming rebates in concrete walls etc shall include for forming pockets for the fish tail fixing cleats where required. Deductions from formwork quantities will be made for openings more than 1 square metre in area.

22. Formwork for upper surfaces inclined at 15 degrees or less to the horizontal is not measured and the cost of any such formwork used will be deemed to be included in the relevant concrete item rate.
23. Wrought formwork where specified will be measured to 150mm below final ground level.

Abbreviations

E.O	-	Extra Over
Avg	-	Average
Max	-	Maximum
Min	-	Minimum
n.e.	-	Not Exceeding
mm	-	Millimeters
lm	-	Linear Metres
sm	-	Square Metres
cm	-	Cubic Metres
Ha	-	Hectares
No	-	Number
Drg.	-	Drawing
Kg	-	Kilogram
H.T.	-	High Tensile
M.S.	-	Mild Steel
B.L	-	Bitumen Lined
C.I.	-	Cast Iron
D.I.	-	Ductile Iron
UPVC	-	Unplasticised Polyvinyl Chloride
G.I.	-	Galvanized Iron
G.M.S.	-	Galvanized Mild Steel
P.E.H.	-	Palothyene
Hr.	-	Hour

31.The rates for metal work shall include for bolts, nuts, washers and rawl bolts, fixing as Specified or in accordance with the manufactures instructions and rectifying as specified any parts of the painted, coated or galvanized surface that may be damaged either before or after erection.

32. The rate for fixing penstocks and flap valves etc. shall include for bedding and grouting, testing for water tightness, greasing all working parts and leaving in good working order: where the item includes supply, the rates shall also include for supplying drawings for approval before manufacture is commenced.

Sewers, Drains and Pipelines

The rates for pipes, pipe work specials shall include for supply of all materials, setting of concrete blocks and hardwood wedges where specified, provide any temporary support that may be necessary, preparing ends of pipes for jointing and all labour in jointing, protection to detachable joints, cleaning pipelines and rectifying as specified any damage to surface coating. The rates shall also include for all cutting of pipes consequent upon structures, specials and fittings being construction in the designated positions.

33. The rates for concrete surround, bed and haunching to pipes, concrete in anchor blocks to pipes, and to gulley pots shall include for all formwork required and for any additional concrete the Contractor may place for his own convenience or by reason of the method or carrying out the work.

Prime Cost Items

34. Attendance on nominated Sub-Contractors shall include for all or any of the following as appropriate; labour, materials and plant required for taking delivery, carting, storing, hoisting and builders work entailed in fixing, erecting and installing as specified or in accordance with the manufactures instructions and all overheads and profits.

35. When, in the opinion of the Engineer, it is reasonable to expect the Contractor to price the attendance item it will be so included in the Bills of

Quantities in all other cases it will form the subject of a Provisional Sum to be expended on a Day works basis.

36. Profit shall include for establishment charges, profit and any other costs not included in the attendance item.

The rates for the supply for any mechanical and electrical equipment shall include for witnessed works as directed by the Engineer.

- a) *Provide* –shall mean all costs to cover purchase of materials in good condition, services for transaction with supplier, supervision, and transport to site or works all charges for rental, consumptions, overheads and profits throughout the Contract. It shall also include for all maintenance, insurance, handling and storage whenever applicable.
- b) *Excavate for*- shall mean handling of any material from its incumbent position intended for specified work shown in the drawings or directed by the Engineer and backfilling and compacting part of material after laying of pipes, and cart away remaining to tips to be provided by the Contractor. The cost for this work shall include all survey, supervision, labour, tools machinery, protection of work, pumping, insurances and overheads and profits.
- c) *Laying*'- shall cover all work necessary for placing an object or materials to true line and level and level specified in a drawing or as directed by the Engineer.
- d) *Jointing*'- shall mean process of fixing specified material, pipes, fittings and specials together using appropriate tools, materials, labour and machinery. It should cover for all work necessary to provide matching of

opposite parts in size, shape, and position indicated and clamps, settings and holders to hold firmly.

e) *Testing*'-shall mean provision of all materials, apparatus, labour, machinery, charges for the media or chemical to be used and their transport, repair of object to be tested if required, re-testing, excavation of any part for visual inspection, erection of any type all until the object has been certified as having passed the required test satisfactorily.

f) *Install*'-shall include for all work requirements stipulated for "laying and jointing"

38. Government Taxes

- a) Tenderers to include in their rates for 16% V.A.T., all duties and other statutory taxes as no claim on the same shall be allowed.
- b) Tenderers should note that the Employer will deduct 3% of the contract being withholding tax and will be remitted directly to the commissioner of Income Tax.

39. Pricing of Preliminaries Items.

Prices will be inserted against item of preliminaries in the contractor's Bills of Quantities and specification. 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.

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

No	DESCRIPTION	UNIT	RATE (Ksh)
1	(a) 1.5mm sq. x 3 core PVC insulated flexible copper cable	m	
	(b) 2.5mm sq. x 3 core PVC insulated flexible copper cable	m	
	(c) 2.5mm sq. x 4 core PVC insulated flexible copper cable	m	
	(d) 4.0mm sq. x 3 core PVC insulated flexible copper cable	m	
	(e) 4.0mm sq. x 4 core PVC insulated flexible copper cable	m	
	(f) 6.0mm sq. x 3 core PVC insulated flexible copper cable	m	
	(g) 6.0mm sq. x 4 core PVC insulated flexible copper cable	m	
2	(a) 6 mm sq. x 2 core PVC/SWA/PVC cable.	m	
	(b) 10mm sq. x 2 core PVC/SWA/PVC cable.	m	
	(c) 6 mm sq. x 3 core PVC/SWA/PVC cable.	m	
	(d) 10mm sq. x 3 core PVC/SWA/PVC cable.	m	
	(e) 16mm sq. x 3 core PVC/SWA/PVC cable.	m	
3	(a) 200mm diameter H/G pitch fibre duct	m	
	(b) 250mm diameter H/G pitch fibre duct	m	
4	240V AC x 4 Way extension socket, with each way switched on/off independently and pilot lamp c/w surge protection facility.	No	
5	(a) 160A TPN MCCB as Merlin Gerin	No	
	(b) 200A TPN MCCB as Merlin Gerin	No	
	(c) 250A TPN MCCB as Merlin Gerin	No	
	(d) 300A TPN MCCB as Merlin Gerin	No	
6	(a) 4 way Consumer Unit as CRABTREE	No	
	(b) 6 way Consumer Unit as CRABTREE	No	
	(c) 8 way Consumer Unit as CRABTREE	No	
	(d) 10 way Consumer Unit as CRABTREE	No	
	(e) 20 Way TP Distribution Board as CRABTREE	No	
7	(a) 32A TPN switchfuse as MEM	No	
	(b) 63A TPN switchfuse as MEM	No	
	(c) 100A TPN switchfuse as MEM	No	
	(d) 200A TPN switchfuse as MEM	No	
8	(a) 20A TP Isolator as MEM	No	
	(b) 32A TP Isolator as MEM	No	

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

- 1.0 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.
- 2.0 The filling of this schedule forms part of Technical Evaluation of the tenders, and bidders shall therefore be required to indicate the type/make and country of origin of all the materials and equipments they intend to offer to the employer in this schedule.
- 3.0 Any bid returned with unfilled Technical Schedule shall be considered technically non-responsive; and the bidder shall automatically be disqualified.

BILL OF QUANTITIES

**BILL OF QUANTITIES FOR ELECTRICAL WORKS AT THE STUDENTS CENTRE
AT KIBABII UNIVERSITY**

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Schedule 1: Preliminaries				
	Sub contractors store		Item		
A	Firm price clause				
B	Government legislation		Item		
C	Mobilization and demobilization		Item		
D	Working drawings		Item		
E	Supervision by the Engineer and site meetings		Item		150,000
F	Stationary for supervising engineer				50,000
G	Attendance to item E and F above				
	Carried to Collection Summary				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Schedule 2: Electrical Installations				
	Ground floor				
	Supply, install, test and commission the following;				
1	Lighting points wired in 3x1.5mm ² single core PVC insulated copper cables drawn in 20mm Ø concealed H/G PVC conduit and all accessories excluding switches for:				
	(a) One way switching	57	No		
	(b) Two way switching	29	No		
2	10A Ivory type plate switch as M.K. range or approved equivalent:				
	(a) 1 Gang 1 Way	45	No		
	(b) 1 Gang 2 Way	10	No		
	(c) 1 Gang 2 Way intermediate	6	No		
3	Lighting fittings complete with tubes, bulbs and all accessories as follows:				
	(a) 1200mmx18W single batten LED Tubelight fitting as THORN or approved equivalent (Type 2).	22	No		
	(b) 600mmx10W single batten LED Tube light fitting as THORN or approved equivalent (Type 6).	10	No		
	(c) Semi recessed weatherproof bulkhead fitting c/w polycarbonate base and diffuser 15W LED bulb as SAPHIRE (Type B)	6	No		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
3	Ground floor				
	(d) Polycarbonate laminate, self-contained 8W LED IP65 indoor non-maintained emergency lighting, minimum 3hrs duration including integral control gear as THORN (Type E)	2	No		
	(e) Screwneck spherical fitting complete with 10W LED bulb as PHILLIPS or approved equivalent (Type S).	4	No.		
	(f) Circular superclub CD fitting with polycarbonate body, white trim opal diffuser & integral control gear for 15W LED lamps as Thorn. (Type C)	2	No		
	(g) 10Wx225mmØ circular LED Panel light fitting , Semi recessed/ Surface for Passage/Hallways as THORN.(Type H)	20	No.		
	(h) 1200mmx20W single batten LED tube light fitting c/w tube and waterproof prismatic diffuser as THORN or approved equivalent (type WP)	12	No.		
	(i) 20W LED bollard (Type BL)	5	No		
	(j) 50W LED floodlight (Type FL)	2	No.		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Ground floor				
4	13A Ring mains circuit power points comprising switched socket outlet wired in 2.5mm ² single core PVC insulated copper cables drawn in concealed 25mm Ø H/G PVC conduit and all accessories.	1	No.		
	(a) 13A Single switched socket outlet as CRABTREE and all accessories.	10	No.		
	(b) 13A Twin switched socket outlet as CRABTREE and all accessories.	22	No.		
5	Cooker circuit wired in 3x6.0mm ² SC PVC insulated copper cables drawn in concealed 32mm Ø H/G PVC conduits.	1	No.		
6	45A DP cooker control unit with neon pilot light and an auxiliary 13A socket outlet as CRABTREE, cooker connector unit and final connection to cooker with 2 metres x 6.0mm ² flexible and sheathed twin + earth cable.	1	No.		
7	16 way SPN Consumer Unit complete with 100A integral isolator as SAPHIRE or approved equivalent.	1	No.		
	Carried to Electrical Installation Collections				

4 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Ground floor				
8	MCB's to be installed in the above Consumer Unit as follows:-				
	(i) 5A SP MCB	4	No.		
	(ii) 10A SP MCB.	2	No.		
	(iii) 30A SP MCB.	4	No.		
	(iv) 50A SP MCB.	1	No.		
	(v) 60A SP MCB	1	No.		
	(vi) Single blanking plates	4	No.		
9	2x16.0mm ² + 1x10.0mm ² single core PVCII copper submains cables drawn in 50mmØ concealed H/G PVC conduit from Cable loop in box to Cu A on ground floor.	20	M		
10	Standard cable loop box in galvanized metal complete with cut outs, LUCY connector and 80A cartridge fuse.	1	Lot		
11	25.0mm ² x 2 core XLPE/SWA/PVC armoured copper feeder cable complete with cable glands and cable lugs from existing mains distribution board to cable- loop in box	50	M		
12	100A SP MCB for outgoing circuit at the main distribution board.	1	No.		
13	Trenching, laying, filling with concrete “HATARI” cable tiles and backfilling in soft ground	30	M		
14	150mm Ø H/G pitch fibre duct across civil works for service cable.	10	M		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Ground floor				
15	Cable markers at points of change of cable course.	5	No.		
16	PME comprising 25mm Ø x 1500mm long steel cored copper clad earth electrode, 6.0mm ² single core earth lead, earth clamp and all accessories including an inspection pit with removable concrete cover all to the requirements of KPLC.	1	Lot		
17	T/V outlet point (at 1800mm AFFL) wired in 75Ω; RG6 coaxial cable, drawn in 20mm Ø H/G concealed PVC conduit, including aerial on rooftop and TV outlet plate as MK range.	1	No.		
18	Two loop intelligent addressable 2 loop Fire Alarm Control Panel, Surface Mounted, complete with alarm buzzer and 72 Hour Battery Back-up and battery charger as Menvier Catalogue DF series or approved equivalent.	1	Lot		
19	Outlet for 2 Loop Fire alarm control panel wired in 3x2.5mm ² single core fire-resistant cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories including 5A fused unswitched connection unit with neon light.	1	Lot		
20	Outlet for fire alarm manual/Automatic call point wired in 3x2.5mm ² "firetuff" cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories.	37	Lot		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
21	<p>Ground floor</p> <p>Fire alarm and detection accessories as follows:</p> <p>(a) Fire alarm breakglass as MENVIER Cat No. MBG 914.</p> <p>(b) Fire alarm bell as MENVIER Cat No. MBM 248.</p> <p>(c) Point ionization Smoke detector as MENVIER</p> <p>(d) Heat detector as MENVIER</p> <p>(e) Ultra-Slim white aluminum bodied single sided EXIT SIGN with arrow facing down on engraved fire retardant acrylic sign blade, for surface mounting. As OMS, VEWA or equal and approved. Type EXIT</p>	9	No.		
		9	No.		
		16	No.		
		3	No.		
		1	No.		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	First Floor				
	Supply, install, test and commission the following;				
1	Lighting points wired in 1.5mm 2 single core PVC insulated copper cables drawn in 20mm Ø concealed H/G PVC conduit and all accessories excluding switches for:- (a) One way switching (b) Two way switching	14 35	No. No.		
2	10A Ivory type plate switch as M.K. range or approved equivalent:- (a) 1 Gang 1 Way (b) 1 Gang 2 Way (c) 2 Gang 2 Way	6 13 3	No. No. No.		
3	Lighting fittings complete with tubes, bulbs and all accessories as follows:- (a) 1200mmx20W single batten LED Tubelight fitting as THORN or approved equivalent (Type 2). (b) 10Wx225mmØ circular LED Panel light fitting , Semi recessed/Surface for Passages/Hallways as THORN.(Type H) (c) Polycarbonate luminaire, self-contained 8W LED, IP65 indoor for non-maintained emergency lighting, minimum 3hrs duration including integral control gear as THORN. (Type E)	33 11 5	No. No. No.		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	First floor				
4	(a) 13A Ring mains circuit power points comprising switched socket outlet wired in 2.5mm ² single core PVC insulated copper cables drawn in concealed 25mm Ø H/G PVC conduit and all accessories.	20	No.		
5	13A twin switched socket outlet as CRABTREE and all accessories.				
	(c) 13A Twin switched socket outlet as CRABTREE and all accessories.	20	No.		
6	6 way SPN Consumer Unit complete with 100A integral isolator as SAPHIRE or approved equivalent.	1	No.		
7	MCB's to be installed in the above Consumer Unit as follows:-				
	(a) 10 A SP MCB	2	No.		
	(b) 30A SP MCB.	2	No.		
	(c) 60A SP MCB.	1	No.		
	(d) Single blanking plates.	2	No.		
8	2x6.0mm ² + 1x4.0mm ² ECC submains cable drawn in 32mmØ concealed H/G PVC conduit from Cable-loop-in box to Cu A on ground floor.	6	M		
9	PME comprising 25mm Ø x 1500mm long steel cored copper clad earth electrode, 6.0mm ² single core earth lead, earth clamp and all accessories including an inspection pit with removable concrete cover all to the requirements of KPLC.	1	Lot		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	First floor				
10	T/V outlet point (at 1800mm AFFL) wired in 75Ω; RG6 coaxial cable, drawn in 20mm Ø H/G concealed PVC conduit, including aerial on rooftop and TV outlet plate as MK range.	5	No.		
11	Outlet for fire alarm manual/Automatic call point wired in 3x2.5mm ² "firtuff" cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories.	10	Lot		
12	Fire alarm and detection accessories as follows:				
	(a) Fire alarm breakglass as MENVIER Cat No. MBG 914.	4	No.		
	(b) Fire alarm bell as MENVIER Cat No. MBM 248.	4	No.		
	(c) Point ionization Smoke detector as MENVIER	2	No.		
	(d) Ultra-Slim white aluminum bodied single sided EXIT SIGN with arrow facing down on engraved fire retardant acrylic sign blade, for surface mounting. As OMS, VEWA or equal and approved	3	No.		
	Carried to Electrical Installation Collections				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Electrical Installations Collection Collection from page 2 Collection from page 3 Collection from page 4 Collection from page 5 Collection from page 6 Collection from page 7 Collection from page 8 Collection from page 9 Collection from page 10				
	Carried to Collection Summary				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Schedule 3: Lightning Protection System				
	Supply, install, test and commission the following:-				
	Air Termination 1				
1	600mm long x 15mmØ multiple point pure copper air terminal with spikes as Furse Cat. No. RA 600 mounted on bracket.	5	No.		
2	Copper air terminal base as Furse Cat. No. SD 105.	5	No.		
3	Copper junction clamps for tape.	5	No.		
4	25mm x 3mm turned copper tape as Furse Cat. No. TC 230.	60	No.		
5	Copper ridge saddle as Furse Cat. No. CD 115.	20	No.		
6	Direct Coupling tape clip as Furse Cat. No. CP 210.	10	No.		
7	Copper rod-to-tape coupling.	5	No.		
8	Bondex waterproof paste	4	Kg.		
	Carried To Lightning Protection System Collection.				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Lightening protection system				
9	Down Conductors 9 25mm x 3mm turned copper tape as Furse Cat. No. TC 230.	100	M		
10	Direct Coupling tape clip as Furse Cat. No. CP 210.	10	No.		
11	Oblong test/junction clamp as Furse Cat. No. CN 105.	5	No.		
12	38mmØ HG PVC conduits for the down conductors above.	15	M		
	Earth Termination				
13	16mmØ x 1500mm long solid copper earth rod as Furse Cat. No. RC 020, complete with driving stud and spike.	5	No.		
14	Earth rod-to-tape clamp type A.	5	No.		
15	Concrete inspection earth pit/chamber, 300mmx300mm masonry type c/w removable cover Cat. No. PT 005 with 5 hole earth bar as Furse Cat. No. PT 006.	5	No.		
	Carried To Lightening Protection System Collection.				

13 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Lightening Protection System				
16	Bonding Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning units, window frames, cladding, metal roof etc. and the main earth for the building.	18	M		
17	1 Item 17 Surge diverter as FURSE ESP 415 or approved equivalent, c/w purpose made enclosure with viewing window 1	17	No.		
	Carried To Lightening Protection System Collection				
	Lightening Protection Collection Collection from page 12 Collection from page 13 Collection from page above				
	Carried to Collection Summary				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Element 4: Structured Cabling (LAN) Installations				
	Ground floor				
	HORIZONTAL CABLING				
1	Dual Data module (face plate complete with keystones) as Siemon	9	No.		
2	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (4 Rolls)	1220	M		
3	Installation of Indoor internet POE Wireless access point as UNIFI and all accessories.	6	Lot		
4	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	18	No.		
5	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	18	No.		
6	Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed to achieve a satisfactory LAN-Network)	24	Lot		
7	Terminations (both ends), Labelling, Testing, customized programming and commissioning all UTP Cables including certification.	48	No.		
8	Installation & Integration of Wimax CPE (internet connectivity).	1	No.		
9	WAN Router	1	No.		
10	24 Port 1UH Cat 6 UTP Patch Panel	2	No.		
	Carried to Structured Cabling (LAN) Installations Collection				

15 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Structured Cabling (LAN) Installations				
11	BACKBONE CABLING 8 core multimode outdoor FIBRE optic cable 50/125mm for ISP (provisional)	120	M		
12	6 core multimode FIBRE optic cable 50/125mm	5	M		
13	24 core rack mount FIBRE patch panel	2	No.		
14	Fiber connectors SC	24	No.		
15	Fiber patch cords SC, 3m	24	Lot		
16	Fiber Adapter	24	Lot		
	CABINETS				
17	42U purpose made Cabinet to house the Network switch, Hub/ patch panel, CCTV-NVR and UPS complete with glass door, fans and power distribution unit (PDU).	1	No.		
18	1UH Cable Manager/Organizer	3	No.		
	Carried to Structured Cabling (LAN) Installations Collection				

16 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Structured Cabling (LAN) Installations				
	ACTIVE COMPONENTS				
19	24 Port UTP rack mount/manageable Backbone core POE switch as CISCO; c/w power supply unit, virtual supervisor engine with 10Gigabit Ethernet uplinks CISCO catalyst 4510R + E series modular switch, chasis cable management system, high speed fan tray, rack and all accessories	1	No.		
20	3KVA UPS as APC manufacture.	1	No.		
21	Network management system (dedicated) c/w user friendly software for centralised configuration, maintenance and diagnosis as specified	1	Lot		
22	GSM FCT's c/w installation & Integration.	2	No.		
23	1000 Base X port	1	No.		
24	Telecommunications Earthing & Lightning arrester modules	1	Lot		
25	Additional items/Accessories to complete the installation. -State below	1	Lot		
	Carried to Structured Cabling (LAN) Installations Collections				

17 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Structured Cabling (LAN) Installations				
	First floor				
	HORIZONTAL CABLING				
1	Dual Data module (face plate complete with keystones) as Siemon	2	No.		
2	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (2 Rolls)	610	M		
3	Installation of Indoor internet POE Wireless access point as UNIFI and all accessories.	7	No.		
4	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	4	No.		
5	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	4	No.		
6	No 4 6 Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed to achieve a satisfactory LAN-Network)	11	Lot		
7	Terminations (both ends), Labelling, Testing, customized programming and commissioning all UTP Cables including certification.	14	No.		
8	24 Port 1UH Cat 6 UTP Patch Panel	1	No.		
	Carried to Structured Cabling (LAN) Installations Collections				

18 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Structured Cabling (LAN) Installations				
	First floor				
	BACKBONE CABLING				
9	6 core multimode FIBRE optic cable 50/125mm	5	M		
10	24 core rack mount FIBRE patch panel	1	No.		
11	Fiber connectors SC	11	No.		
12	Fiber patch cords SC, 3m	11	Lot		
13	Fiber Adapter	11	Lot		
	CABINETS				
14	22U purpose made Cabinet to house the Network switch, Hub/ patch panel and UPS complete with glass door, fans and power distribution unit (PDU).	1	No.		
15	1UH Cable Manager/Organiser	2	No.		
	ACTIVE COMPONENTS				
16	24 Port UTP rack mount/manageable POE core switch as CISCO2960X	1	No.		
17	2KVA UPS as APC manufacture.	1	No.		
18	Additional items/Accessories to complete the installation.	1	Lot		
	Carried to Structured Cabling (LAN) Installations Collections				

19 of 22

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Electrical Installations Collection Collection from page 15 Collection from page 16 Collection from page 17 Collection from page 18 Collection from page 19				
	Carried To Collection Summary				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
COLLECTION SUMMARY					
A	Total carried forward from schedule 1- Preliminary items.				
B	Total carried forward from schedule 2 –Electrical Installations.				
C	Total carried forward from schedule 3 – Lightning Protection Systems.				
D	Total carried forward from schedule 4- Structured Cabling (LAN) Installations				
E	Allow for liaison with and attendance to KPLC Ltd.				50,000
F	Allow for preparation of 3 No. Sets of "AS INSTALLED DRAWINGS".				30,000
Total Carried to Bill of Quantities Summary					

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	BILLS OF QUANTITIES SUMMARY				
	Grand summary				
	Contingence Sums				500,000
	Total Carried to Form of Tender				
	Signed:				
	Address:				
				
				
	Date:				
	Witness:				
	Name:				
	Address:				
				
	Date:				