

REPUBLIC OF KENYA



PARLIAMENT OF KENYA PARLIAMENTARY SERVICE COMMISSION (PSC)

PARLIAMENT BUILDINGS, PARLIAMENT ROAD

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TENDER DOCUMENT

TENDER NO: PJS/008/2019-2020

**FOR
STRUCTURED CABLING, TELEPHONE EQUIPMENT AND AUDIO-
VISUAL EQUIPMENT INSTALLATION FOR THE PROPOSED
REFURBISHMENT AND ADDITIONAL ALTERATIONS TO COUNTY
HOUSE BUILDING FOR THE PARLIAMENTARY SERVICE
COMMISSION**

TENDER SUBMISSION DEADLINE

FRIDAY, 22ND MAY 2020, AT 11.00AM

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SECTION I: INVITATION TO TENDER

M/S
P.O. Box
Nairobi
Tel.

RE: TENDER NO. PJS/008/2019-2020 STRUCTURED CABLING, TELEPHONE AND AUDIO-VISUAL EQUIPMENT INSTALLATION FOR THE PROPOSED REFURBISHMENT AND ADDITIONAL ALTERATIONS TO COUNTY HOUSE BUILDING FOR THE PARLIAMENTARY SERVICE COMMISSION

The Parliamentary Service Commission invites sealed tenders from eligible tenderers for the proposed refurbishment and additional alterations to County House Building. - Structured Cabling, Telephone and Audio-Visual Equipment Installation

Interested contractors must be registered in category **NCA4 and above** and appear in the current Building Contractors register.

Tenderers may obtain further information from the **Procurement Office on 2nd Floor, Protection House, Nairobi** or email through procurementpjs@parliament.go.ke or dg@parliament.go.ke. A complete set of the tender document may be downloaded free of charge from the **Commission's Website**; www.parliament.go.ke or IFMIS Portal; www.supplier.treasury.go.ke. Candidates may also pick the documents in CD form at the Procurement Office.

There shall be a **pre-bid meeting** on **Friday, 8th May, 2020, at 11.00 am** in the 2nd Floor Boardroom, Protection House, along Parliament Road, Nairobi.

Duly completed, serialized and paginated tender documents (original and copy) and a softcopy of the same are to be enclosed in plain sealed envelopes, marked with the **tender number, name and as prescribed under this Tender document** and be dropped in the **Tender Box** at the **Reception on 2nd Floor, Protection House, Nairobi** or be addressed to:

**Director General, Parliamentary Joint Services,
Parliamentary Service Commission,
Parliament Buildings,
P.O. Box 41842 00100,
NAIROBI, KENYA.**

so as to be received on or before **Friday, 22nd May, 2020 at 11.00 a.m.**

Tenders will be opened immediately thereafter in the presence of the Candidates who choose to attend or their appointed representatives, at **Protection House, 2nd floor boardroom**, Nairobi.

Tenders must be accompanied by a tender Security of **Kshs. 100,000.00** in form of a bank guarantee from a reputable bank recognized by the Central Bank of Kenya valid for 150 days from the date of tender opening, payable to Parliamentary Service Commission.

Prices quoted should be inclusive of all taxes and delivery costs, and must be in Kenya Shillings and shall remain valid for **120 days** from the closing date of the tender

**DIRECTOR GENERAL, JOINT SERVICES,
PARLIAMENTARY SERVICE COMMISSION**

SECTION II: INSTRUCTIONS TO TENDERERS

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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, authorised 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.
- 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.

APPENDIX TO INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS REFERENCE	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERERS
1.1	The employer is the Parliamentary Service Commission
1.7	Qualification criteria as set out in the tender evaluation criteria
1.8	N/A
1.9	Joint venture or individual tenderers only.
1.13	N/A
2.3	Or through email address; procurementpjs@parliament.go.ke and dg@parliament.go.ke
3.2.(e)	N/A
3.4	N/A
3.6	Validity period of 120 days
3.8	Tender surety shall be valid for 150 days from the date of tender opening.
3.12 (b)	N/A
3.14	One original and One copy
3.18	Bid security of Kshs. 100,000 from a reputable bank recognized by the Central Bank of Kenya
5.2	Alternative bids not allowed
5.7	N/A: PPAD 2015 Applies
5.9	N/A
5.12	N/A
6.5	Successful bidder to provide performance security of 5% of the contract sum prior to contract signing from reputable bank recognized by Central Bank of Kenya.
6.8	N/A
6.12	-The word “valuation” should read “variation” -Variation shall apply as prescribed by the Public Procurement and Asset Disposal Act, 2015
6.13	Shall be 60 days from the date of receipt of the request
8.0	Due diligence shall be conducted before award in accordance with the Public Procurement and Asset Disposal Act, 2015
9.0	Bidder shall be required to provide litigation history which may be subjected to due diligence to ascertain the possibility of negatively affecting performance.

TENDER EVALUATION CRITERIA

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

- i. Preliminary evaluation,
- ii. Technical Evaluation; and
- iii. Financial Evaluation,

1.1. PRELIMINARY EVALUATION

S/No	MANDATORY REQUIREMENTS(MR)
MR1	Valid Copy of certificate of incorporation/ Registration.
MR2	Valid Current Tax Compliance Certificate and PIN certificate - If Consortium, from each member of the consortium.
MR3	Valid National Construction Authority (NCA 5 and above) registration Certificate (Structured Cabling and Networking), Registered with Communication Authority of Kenya (CAK) or its equivalent, applicable to the scope of works. In the event of a joint venture, one of the partners will submit the NCA 5 and the CAK Registration.
MR4	Duly filled, signed and stamped tender questionnaire
MR5	Duly filled and signed Confidential business questionnaire
MR6	Duly filled and signed Anticorruption declaration
MR7	Submission of original and (1) copy of tender document.
MR8	The original and (1) copy of tender documents should be properly Tape Bound and paginated in the correct sequence and all pages must be initialed/signed/stamped. NB: Spiral Binding and use of Spring or Box Files will not be allowed and will result in automatic disqualification.
MR9	Valid Copy of Single Business permit – for the year 2020
MR10	The Tender Security of Kshs. 100,000 (One Hundred Thousand) valid for 150 days in form of Bank Guarantee from a reputable bank recognized by the Central Bank of Kenya.
MR11	Submission of valid CR12 form showing the list directors /shareholding (issued within the last 1 year) or National Identity Card for Sole Proprietor
MR12	Current annual contractors practicing license from National Construction Authority (NCA)
MR13	Dully filled and signed form of tender.
MR14	Provide proof of Power of attorney (of Tender Signatory)
MR 15	Details of any current litigation or arbitration proceedings in which the bidder is involved as one of the parties
MR 16	Letter of authority to seek references from the Tenderer's bankers.
MR 17	Submit a copy of certified Audited accounts for the last three (3) years (2016, 2017 and 2018 and 2019 if available).
MR 18	Non debarment form duly filled and signed.
MR 19	Foreign and international bidders shall provide a declaration that they source at least 40% of their supplies and labour from citizen contractors.

Bid Document submitted without ANY of the above-mentioned Mandatory documents shall be rejected by the Parliamentary Service Commission's Evaluation Committee and will therefore not proceed to the technical and financial Evaluation.

N.B

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

1.2 TECHNICAL EVALUATION

Award of points for the **Technical Evaluation** shall be as shown in Table 1 below: -

Table 1: Scores for the Technical Evaluation

Item	Description	Points Scored	Max. Points
1	Key Personnel (Attach evidence)		
	Project Manager of the firm <ul style="list-style-type: none"> Holder of degree or diploma in a relevant Construction/Engineering field ----- 5 marks Holder of certificate in relevant Construction/Engineering field ----- 3 marks Holder of trade test certificate in relevant Construction/Engineering field ----- 2 marks No relevant certificate ----- 0 marks 		5
	Site Agent with degree/diploma of the key personnel in relevant Construction/Engineering field <ul style="list-style-type: none"> With over 10 years' relevant experience----- 5 marks With over 5 years' relevant experience ----- 3 marks With under 5 years' relevant experience ----- 2 marks 		5
	2No. Foreman/Supervisor a certificate holder of key personnel in relevant Construction/Engineering field <ul style="list-style-type: none"> With over 10 years' relevant experience ----- 5marks (@ 2.5marks) With over 5 years' relevant experience ----- 3marks (@ 1.5marks) With under 5 years' relevant experience ----- 2marks (@ 1 marks) 		5
			15
2	Contract completed in the last five (5) years; a max of 5 No. projects (Attach evidence in form of completion certificates or letters of reference from client/ consultants.) <ul style="list-style-type: none"> Project of similar nature, complexity and magnitude of equal or higher value. ----- 5 marks each Project of similar nature and complexity but of lower magnitude than the one in consideration ----- 3 marks each No completed project of similar nature ---- 0 marks 		
			25

3	On-going projects (A max of 2 No. projects) (Attach evidence; Letters of Award/ Interim certificates/ Contracts) <ul style="list-style-type: none"> • Project of similar nature, complexity and magnitude ----- -- 5 marks each • Project of similar nature but of lower value than the one in consideration ----- 2.5 marks each No ongoing project of similar nature ----- 0 marks 			
			10	
4	Schedules of contractor's equipment (Attach evidence of proof of ownership or lease agreement or Logbooks) For each specific equipment required in the construction work being tendered for. (Maximum No. of equipment to be considered – 5 No.) (Hoist/Concrete Mixer/Steel & Aluminium Fabrication Equipment/Transport, etc) --- 2marks each			
			10	
5.	Evidence of Offices and Workshops; (Lease agreement/ titles)		5	
6.	Financial report Audited financial report (last three [3] years)- 2016-2018 <ul style="list-style-type: none"> • Average Annual Turnover greater or equal to Kshs 40 Million ----- ----- 15 Marks • Average Annual Turnover greater or equal to Kshs 20 Million ----- ----- 6 Marks • Average Annual Turnover below Kshs 20 Million ----- 4 Marks 			
			15	
7.	Evidence of financial resources (cash in hand, lines of credit, over draft facility etc.) <ul style="list-style-type: none"> • Has financial resources equal or above the cost of the project ----- ---- 20marks • Has financial resources below the cost of the project, but over 50% of the cost of the project ----- 15marks • Has financial resources below 50% of the cost of the project ----- ----- 5marks • Failure to attach evidence 0 Marks 			
			20	
	TOTAL		100	

Any bidder who scores 80 points and above in this Technical Evaluation shall be considered for further evaluation.

STAGE 3 - FINANCIAL EVALUATION

Only tenderer's who score 80% and above of the overall marks on the technical evaluation shall qualify for financial evaluation.

This will be carried out only for those tenders that have passed BOTH mandatory requirements and Technical evaluation. The client will;

1. Undertake price comparison and ranking of prices.
2. The prices shall be compared and checked for completeness including all local taxes

STAGE 4 – DUE DILIGENCE & RECOMMENDATION FOR AWARD

Particulars of post – qualification if applicable. **The Client may inspect the premises due diligence** to seek further clarification/confirmation if necessary, to confirm authenticity /compliance of any condition of the tender /qualifications of the tenderer in line with **Section 83 of the Public Procurement and Asset Disposal Act, 2015.**

The bidder shall not be awarded the contract if they fail to pass the compliance test. The second lowest bidder shall be considered for due diligence.

Award Criteria: ***The firm achieving the lowest evaluated price will be awarded the contract in line with Section 86 of the Public Procurement and Disposal Act, 2015***

Particulars of performance security ; 5% of contract sum

SECTION III

CONDITIONS OF CONTRACT

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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

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.

38.0 Alternative Dispute Resolution

38.1 Pursuant to clause 37 of these Conditions of Contract, it shall be a condition that no dispute shall be referred to arbitration unless and until the matter has been dealt with through Alternative Dispute Resolution (ADR) mechanism.

38.2 The person or persons to conduct the Alternative Resolution shall be agreed upon between the parties.

38.3 The Alternative Dispute Resolution shall involve Reconciliation, Mediation or Adjudication.

SECTION VI – APPENDIX TO CONDITIONS OF CONTRACT

THE PROJECT MANAGER IS Name: Address: Telephone: Facsimile:	
The name (and identification number) of the Contract PROPOSED REFURBISHMENTS, ADDITIONS & ALTERATIONS WORKS TO COUNTY HOUSE BUILDING FOR PARLIAMENTARY SERVICE COMMISSION The Works consist of: ELECTRICAL INSTALLATIONS WORKS TO THE PROPOSED REFURBISHMENTS, ADDITIONS & ALTERATIONS WORKS TO COUNTY HOUSE BUILDING FOR PARLIAMENTARY SERVICE COMMISSION TENDER No. <u>PJS/006/2019-2020</u>	
Other contractors, utilities etc to be engaged by the Employer on the site include those for the execution of; NONE	Clause 8.1
The Start Date shall be AGREED WITH THE CLIENT The Intended Completion Date for the whole of the Works shall be AGREED WITH THE CLIENT The Contractor shall submit a program for the Works within 14 days of delivery of the Letter of Acceptance.	Clause 10
The period between Program updates is 14 days. The amount to be withheld for late submission of an updated Program is WHOLE CERTIFICATE	Clause 13
The Site Possession Date shall be AGREED WITH THE CLIENT The Site is located at COUNTY HOUSE BUILDING along Red Cross Road, Nairobi	Clause 14
The Defects Liability period is 6 months .	Clause 20
Variations shall be in accordance with the Public Procurement and Asset Disposal Act (2015)	Clause 22
The payments shall be settled within 45 days from the date of receipt of the interim certificates by the Client	Clause 23.1
There shall be no payment on delayed payments	Clause 23.3
All payments shall be made in Kenya Shillings	Clause 23.6
There shall be no payment in advance	Clause 23.7
Not Applicable	Clause 25
The proportion of payments retained is 10 percent.	Clause 26
The liquidated damages for the whole of the Works is Kshs. 200,000.00 per week or part thereof	Clause 27.1
The Performance Security shall be five percent (5%) of the contract sum from a reputable bank recognised by the Central Bank of Kenya	Clause 28
The minimum insurance covers shall be;	Clause 30

<ol style="list-style-type: none"> 1. The minimum cover for insurance of the Works and of Plant and Materials in respect of the Contractor's liability is Contractors All Risk policy 2. The minimum cover for loss or damage to Equipment is NIL 3. Insurance to cover third party risks 4. The minimum for insurance of other property is KShs <u>1,000,000.00</u> 5. The minimum cover for personal injury or death insurance <ul style="list-style-type: none"> • For the Contractor's employees is AS PER LAWS APPLICABLE • And for other people is AS PER LAWS APPLICABLE 	
<p>The Completion Period for the Works is 12 MONTHS.</p> <p>The schedule of basic rates used in pricing by the Contractor is as attached [CONTRACTOR TO ATTACH].</p>	Clause 31
<p>Disputes to be settled as per the Arbitration Laws of Kenya</p> <p>Any dispute arising out of the contract that cannot be amicably resolved between the parties shall be referred by either party to the arbitration and a final decision by a panel of a person to be agreed between the parties. Failing agreement on the appointment of an Arbitrator, the Arbitrator shall be appointed by the chairperson of the Chartered Institute of Arbitrators –Kenya branch on the request of the applying party. The seat of arbitration shall be in Kenya.</p>	Clause 37.1

SECTION VI - DRAWINGS

Note 1. The drawing booklet including Site plans can be viewed at the Procurement Office, Protection House, 2nd Floor.

SECTION VI – STANDARD FORMS

- (i) Form of Invitation for Tenders
- (ii) Form of Tender
- (iii) Letter of Acceptance
- (iv) Form of Agreement
- (v) Form of Tender Security
- (vi) Performance Bank Guarantee
- (iv) Bank Guarantee for Advance Payment
- (v) Qualification Information
- (vi) Tender Questionnaire
- (xi) Confidential Business Questionnaire
- (vii) Statement of Foreign Currency Requirement
- (xi) Details of Sub-Contractors
- (viii) Request for Review Form
- (ix) Statement of Compliance Form

FORM OF INVITATION FOR TENDERS

_____ *[date]*

To: _____ *[name of Contractor]*

_____ *[address]*

Dear Sirs:

Reference: _____ *[Contract Name]*

You have been prequalified to tender for the above project.

We hereby invite you and other prequalified tenderers to submit a tender for the execution and completion of the above Contract.

A complete set of tender documents may be purchased by you from _____

_____ *[mailing address, cable/telex/facsimile numbers].*

Upon payment of a non-refundable fee of Kshs _____

All tenders must be accompanied by _____ number of copies of the same and a security in the form and amount specified in the tendering documents, and must be delivered to

_____ *[address and location]*

at or before _____ *(time and date)*. Tenders will be opened immediately thereafter, in the presence of tenderers' representatives who choose to attend.

Please confirm receipt of this letter immediately in writing by cable/facsimile or telex.

Yours faithfully,

_____ Authorized Signature

_____ *Name and Title*

FORM OF TENDER

TO: _____ [Name of Employer) _____ [Date]
_____ [Name of Contract]

Dear Sir,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of Kshs. _____ [Amount in figures] Kenya Shillings _____ [Amount in words]
2. _____ We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.
3. _____ We agree to abide by this tender until _____ [Insert date], and it shall remain binding upon us and may be accepted at any time before that date.
4. _____ Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ day of _____ 20_____

Signature _____ in the capacity of _____

duly authorized to sign tenders for and on behalf of
_____ [Name of Employer]
of _____ [Address of Employer]

Witness; Name _____

Address _____

Signature _____

Date _____

LETTER OF ACCEPTANCE**[letterhead paper of the Employer]**

_____ *[date]*

To: _____
[name of the Contractor]

[address of the Contractor]

Dear Sir,

This is to notify you that your Tender dated _____ for the execution of

[name of the Contract and identification number, as given in the Tender documents] for the
Contract Price of Kshs. _____ *[amount in figures]* [Kenya
Shillings _____ *(amount in words)*] in accordance with the
Instructions to Tenderers is hereby accepted.

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

Authorized Signature

Name and Title of Signatory

Attachment: Agreement

FORM OF AGREEMENT

THIS AGREEMENT, made the _____ day of _____ 20 _____
between _____ of [or whose registered office is situated
at] _____ (hereinafter called “the Employer”) of the one part
AND

_____ of [or whose registered office
is situated at] _____ (hereinafter called “the
Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes

(name and identification number of Contract)(hereinafter called “the Works”) located
at _____ [Place/location of the Works] and the Employer has accepted
the tender submitted by the Contractor for the execution and completion of such
Works and the remedying of any defects therein for the Contract Price of
Kshs _____ [Amount in figures], Kenya
Shillings _____ [Amount in words].

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this
Agreement, words and expressions shall have the same meanings as are respectively assigned
to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of
this Agreement i.e.
 - (i) Letter of Acceptance
 - (ii) Form of Tender
 - (iii) Conditions of Contract Part I
 - (iv) Conditions of Contract Part II 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 in conformity in all respects with the provisions of the Contract.

4. T
he Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first 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 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 for the construction of

.....
..... (name of Contract)

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 this Day of20.....

THE CONDITIONS of this obligation are:

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

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to 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: _____ (*Name of Employer*) _____ (*Date*)
_____ (*Address of Employer*)

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 _____

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ *[name of Employer]* _____ *(Date)*
_____ *[address of Employer]*

Gentlemen,

Ref: _____ *[name of Contract]*

In accordance with the provisions of the Conditions of Contract of the above-mentioned Contract, We, _____ *[name and Address of Contractor]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Contract in an amount of Kshs. _____ *[amount of Guarantee in figures]* Kenya Shillings _____ *[amount of Guarantee in words]*.

We, _____ *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding Kshs _____ *[amount of Guarantee in figures]* Kenya Shillings _____ *[amount of Guarantee in words]*, such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

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

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

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until

_____ *(name of Employer)* receives full payment of the same amount from the Contract.

Yours faithfully,

Signature and Seal _____

Name of the Bank or financial institution _____

Address

Date

Witness: Name:

Address: _____

Signature: _____

Date: _____

QUALIFICATION INFORMATION

1. Individual Tenderers or Individual Members of Joint Ventures

- 1.1 Constitution or legal status of tenderer (attach copy or Incorporation Certificate);

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

- 1.3 Work performed as Main Contractor on works of a similar nature and volume over the last five years. Also list details of work under way or committed, including expected completion date.

Project name	Name of client and contact person	Type of work performed and year of completion	Value of performed and Contract

- 1.4 Major items of Contractor's Equipment proposed for carrying out the Works. List all information requested below.

Item of Equipment	Description, Make and age (years)	Condition(new, good, poor) and number available	Owned, leased (from whom?), or to be purchased (from whom?)
_____ (etc.)	_____ _____ _____	_____ _____ _____	

- 1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data.

Position	Name	Years of experience (general)	Years of experience in proposed position
Project Manager			

(etc.)			

- 1.6 Financial reports for the last five years: balance sheets, profit and loss statements, auditor's reports, etc. List below and attach copies.

- 1.7 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of supportive documents.

- 1.8 Name, address and telephone, telex and facsimile numbers of banks that may provide reference if contacted by the Employer.

- 1.9 Statement of compliance with the requirements of Clause 1.2 of the Instructions to Tenderers.

- 1.10 Proposed program (work method and schedule) for the whole of the Works.

2Joint Ventures

- 2.4The information listed in 1.1 – 1.10 above shall be provided for each partner of the joint venture.

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

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

2.7 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.

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*)

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: K.
pound.....

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:

Private or public.....

State the nominal and issued capital of the Company-

Nominal Kshs.....

Issued Kshs.....

Give details of all directors as follows:

Name in full. Nationality. Citizenship Details*. Shares.

1.

2.....

3.....

4.....

Part 2(d) – Interest in the Firm:

Is there any person / persons in(Name of Employer) who has interest in this firm? Yes/No.....(Delete as necessary)

I certify that the information given above is correct.

.....
(Title)

.....
(Signature)

.....
(Date)

- Attach proof of citizenship

STATEMENT OF FOREIGN CURRENCY REQUIREMENTS(NOTAPPLICABLE)

(See Clause 23] of the Conditions of Contract)

In the event of our Tender for the execution of _____
_____ (name of Contract) being accepted, we would require in accordance with Clause 21 of the Conditions of Contract, which is attached hereto, the following percentage:

(Figures)..... (Words).....

of the Contract Sum, (Less Fluctuations) to be paid in foreign currency.

Currency in which foreign exchange element is required:

.....

Date: The Day of 20.....

Enter 0% (zero percent) if no payment will be made in foreign currency.

Maximum foreign currency requirement shall be _____ (percent) of the Contract Sum, less Fluctuations.

(Signature of Tenderer)

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

FORM RB 1

REPUBLIC OF KENYA PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

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

BETWEEN

..... APPLICANT

AND

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

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

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

ANTI-CORRUPTION DECLARATION COMMITMENT/ PLEDGE

(Sections 62, 65 and 66 of the PPAD Act, 2015)

I/We/Messrs.....

Of Street, Building, P O Box.....

.....

Contact/Phone/E mail.....

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

I/We.....

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

Tender/Tender No for or
in the subsequent performance of the contract if I/We am/are successful.

Authorized Signature.....

Name and Title of Signatory.....

NON-DEBARMENT STATEMENT FORM

I/We/Messrs..... of
.....Street/avenue,Building, P. O. Box.....Code, of (Town),
..... (Nationality), Phone: E-mail declare that I/We /Messrs
.....are not debarred from participating in public procurement by
the Public Procurement Oversight Authority pursuant to section 115 of the Public Procurement and
Disposal Act, 2005.

Dated thisday of 20.....

Authorized Signature.....Official Stamp

Name and Title of Signatory.....

SECTION VIII
SUB-CONTRACT PRELIMINARIES
AND
GENERAL CONDITIONS

SUB- CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

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SECTION VIII

SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1.01 Examination of Tender Documents

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

All tenderers shall be deemed to have carefully examined the following:

- a) Work detailed in the Specification and in the Contract Drawings.
- b) The Republic of Kenya Document "General Conditions of Contract for Electrical and Mechanical Works".
- c) Other documents to which reference is made.

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

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

1.02 Discrepancies

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

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

1.03 Conditions of Sub-Contract Agreement

The Sub-contractor shall be required to enter into a Sub-contract with the Main Contractor.

The Conditions of the Contract between the Main Contractor and the Sub-contractor as hereinafter defined shall be the latest edition of the Agreement and Schedule of Conditions of Kenya Association of Building and Civil Engineering Contractors as particularly modified and amended hereinafter.

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

1.04 **Payment**

Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Sub-contractor. All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site.

1.05 **Definition of Terms**

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

i) **Employer:** The term “**Employer**” shall mean
The Chairman, Parliamentary Service Commission,
P.O. Box 41842 - 00100 NAIROBI

ii) **Architect:** The Term “**Architect**” Shall Mean
Scope Design Systems
P.O Box 10591- 00100 - NAIROBI.

iii) **Project Manager:** The term **Project Manager** shall Mean:
To be appointed by the Client
Address: **P.O. Box**

iv) **Quantity Surveyor:** The term “**Quantity Surveyor**” shall mean
Amazon Consultants Ltd
P.O Box 1756-00100 - NAIROBI.

v) **Civil/Structural Engineers:** The term “**Civil/Structural Engineers**” shall mean
Horicon Engineering Solutions Ltd
P.O Box 161 – 00300 - NAIROBI.

vi) **Engineer:** The term “**Engineer**” shall mean
Rex Consultants Ltd
P.O Box 73878-00200- NAIROBI.

vii) **Main Contractor:** The term “**Main Contractor**” shall mean the firm or company appointed to carry out the Building Works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.

viii) **Sub-contractor:** The term “**Sub-contractor**” shall mean the persons or person, firm or Company whose tender for this work has been accepted, and who has entered into a contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.

viii) **Sub-contract Works:** The term “**Sub-contract Works**” shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this Sub-contract and whether the same may be on site or not.

- ix) **Contract Drawings:** The term “**Contract Drawings**” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- x) **Working Drawings:** The term “**Working Drawings**” shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.
- xi) **Record Drawings:** The term “**Record Drawings**” shall mean those drawings required to be prepared by the Sub-contractor showing “as installed” and other records for the Sub-contract Works.

xii) Abbreviations:

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

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

1.06 Site Location

The site of the Sub-contract Works is situated at **Parliament Square –Nairobi CBD.**

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

1.07 **Duration of Sub-Contract**

The Sub-Contractor shall be required to phase his work in accordance with the Main contractor's programme (or its revision). The programme is to be agreed with the Main contractor.

1.08 **Scope of Sub-Contract Works**

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

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

1.09 **Extent of the Sub-contractor's Duties**

At the commencement of the works, the Sub-contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the Sub-contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the Sub-contractor from supplying the specified materials and equipment in time.

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

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

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

1.10 **Execution of the Works**

The works shall be carried out strictly in accordance with:

- a) All relevant Kenya Bureau of Standards Specifications.

- b) All relevant British Standard Specifications and Codes of Practice (hereinafter referred to as B.S. and C.P. respectively).
- c) This Specification.
- d) The Contract Drawings.
- e) The Bye-laws of the Local Authority.
- f) The Architect's and/or Engineer's Instructions.

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

1.11 **Validity of Tender**

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

1.12 **Firm – Price Sub-contract**

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

1.13 **Variation**

No alteration to the Sub-contract Works shall be carried out until receipt by the Sub-contractor of written instructions from the Project Manager.

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

Where the Architect requires additional work to be performed, the Sub-contractor, if he considers it necessary, will give notice within seven (7) days to the Main Contractor of the length of time he (the Sub-contractor) requires over and above that allotted for completion of the Sub-contract.

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

1.14 **Prime Cost and Provisional Sums**

A specialist Sub-contractor may be nominated by the Architect to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Sub-contract documents.

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

The whole or any part of these sums utilised by the Sub-contractor shall be deducted from the value of the Sub-contract price when calculating the final account.

1.15 **Bond**

The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Main Contractor for an amount equal to 7½ % of the Sub-contract amount as Clause 31 of the Main Contract.

1.16 **Government Legislation and Regulations**

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

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

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

1.17 **Import Duty and Value Added Tax**

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

1.18 **Insurance Company Fees**

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

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

1.19 **Provision of Services by the Main Contractor**

In accordance with Clause 1.08 of this Specification the Main Contractor shall make the following facilities available to the Sub-contractor:

- a) Attendance on the Sub-contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise.
- b) The provision of temporary water, lighting and power: All these services utilised shall be paid for by the Main Contractor. The Sub-contractor shall, however, allow for additional connections/extensions required for his purposes.
- c) Fixing of anchorage and pipe supports in the shuttering, except that all anchorage shall be supplied by the Sub-contractor who shall also supply the Main Contractor with fully dimensioned drawings detailing the exact locations.
- d)
 - i) Provision of scaffolding, cranes, etc. but only in so far as it is required for the Main Contract Works. It shall be the Sub-contractor's responsibility to liaise with the Main Contractor to ensure that there is maximum co-operation with other Sub-contractors in the use of scaffolding, cranes, etc.
 - ii) Any specialist scaffolding, cranes, etc. by the Sub-contractor for his own exclusive use shall be paid for by the Sub-contractor.

1.20 **Suppliers**

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

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

1.21 **Samples and Materials Generally**

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

1.22 **Administrative Procedure and Contractual Responsibility**

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

1.23 **Bills of Quantities**

The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Sub-contract.

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

1.24 **Sub-contractor's Office in Kenya**

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

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

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

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

1.25 **Builder's Work**

All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.

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

Any purpose made fixing brackets shall not constitute builder's work and shall be provided and installed by the Sub-contractor unless stated hereinafter to the contrary.

1.26 **Structural Provision for the Works**

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

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

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

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

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

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

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

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

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

1.28 Checking of Work

The Sub-contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Sub-contract agreement and equipment supplied under other contracts before it is put into operation. Details of operation, working pressures, temperatures, voltages, phases, power rating, etc., shall be confirmed to others and confirmation received before the system is first operated.

1.29 Setting to Work and Regulating System

The Sub-contractor shall carry out such tests of the Sub-contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary.

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

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

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

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

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

1.30 **Identification of Plant Components**

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

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

1.31 **Contract Drawings**

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

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

1.32 **Working Drawings**

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

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

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

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

Working Drawings to be prepared by the Sub-contractor shall include but not be restricted to the following:

- a) Any drawings required by the Main Contractor, or Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.
- b) General Arrangement Drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.
- c) Schematic Layout Drawings of services and of control equipment.
- d) Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.

- e) Complete circuit drawings of the equipment, together with associated circuit description.
- f) Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

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

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

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

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

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

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

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

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

They shall include but not restricted to the following drawings or information:

- a) Working Drawings amended as necessary but titled "Record Drawings" and certified as a true record of the "As Installed" Sub-contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.

- b) Fully dimensioned drawings of all plant and apparatus.
- c) General arrangement drawings of equipment, other areas containing plant forming part of the Sub-contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.
- d) Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.
- e) Relay adjustment charts and manuals.
- f) Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
- g) System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- h) Grading Charts.
- i) Valve schedules and locations suitability cross-referenced.
- j) Wiring and piping diagrams of plant and apparatus.
- k) Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.
- l) Operating Instruction

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

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

The Sub-contractor shall supply for fixing in sub-stations, switch-rooms, boiler houses, plant rooms, pump houses, the office of the Maintenance Engineer and other places, suitable valve and instructions charts, schematic diagrams of instrumentation and of the electrical reticulation as may be requested by the Engineer providing that the charts, diagrams, etc., relate to installations forming part of the Sub-contract Works. All such charts and diagrams shall be of suitable plastic material on a stiff backing and must be approved by the Engineer before final printing.

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

- a) The Marked-up Drawings during the execution of the Sub-contract Works or
- b) The Record Drawings, etc., within one month of the Section or Practical Completion

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

1.34 **Maintenance Manual**

Upon Practical Completion of the Sub-contract Works, the Sub-contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-contract Works.

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

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

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

- a) System Description.
- b) Plant
- c) Valve Operation
- d) Switch Operation
- e) Procedure of Fault Finding
- f) Emergency Procedures
- g) Lubrication Requirements
- h) Maintenance and Servicing Periods and Procedures
- i) Colour Coding Legend for all Services

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

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

1.35 **Hand-over**

The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub-contract Works shall be coincident with the handing over of the Main Contract Works.

The procedure to be followed will be as follows:

- a) On the completion of the Sub-contract Works to the satisfaction of the Engineer and the Employer, the Sub-contractor shall request the Engineer, at site to arrange for handing over.
- b) The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.
- c) The Sub-contractor shall arrange with the Engineer and Employer for a complete demonstration of each and every service to be carried out and for instruction to be given to the relevant operation staff and other representatives of the Employer.
- d) In the presence of the Employer and the Engineer, Hand-over will take place, subject to Agreement of the Hand-over Certificates and associated check lists.

1.36 **Painting**

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

1.37 **Spares**

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

1.38 **Testing and Inspection – Manufactured Plant**

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

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

The Sub-contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.

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

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

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

1.39 **Testing and Inspection -Installation**

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

1.40 **Labour Camps**

The Sub-contractor shall provide the necessary temporary workshop and mess-room in position to be approved by the Architect.

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

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

1.41 **Storage of Materials**

Space for storage will be provided by the Main contractor but the sub-contractor will be responsible for provision of any lock-up sheds or stores required.

Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Project manager.

1.42 **Initial Maintenance**

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

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

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

1.43 **Maintenance and Servicing After Completion of the Initial Maintenance**

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

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

The sub-contractor shall submit with his tender for the works, where called upon a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance

and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.44 **Trade Names**

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

1.45 **Water and Electricity for the Works**

These will be made available by the Main Contractor. The Sub-contractor shall be liable for the cost of any water or electric current used and for any installation provided especially for their own use by the Main Contractor.

1.46 **Protection**

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

1.47 **Defects After Completion**

The defects liability period will be 6 months from the date of completion of the Main Contract as certified by the Engineer.

1.48 **Damages for Delay**

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

1.49 **Clear Away on Completion**

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

1.50 **Final Account**

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

- Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.
- Statement B - detailing all the variation orders issued on the contract.
- Statement C - Summarising statement A and B giving the net grand total due to the Contractor for the execution of the Contract.

1.51 **Fair Wages**

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

- a) The sub-contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where work is carried out.
- b) In the absence of any rates of wages, hours or conditions of labour so established the sub-contractor shall pay rates and observe hours and conditions of labour are not less favourable than the general level of wages, hours and conditions observed by other employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar.

1.52 **Supervision**

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

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

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

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

1.53 Test Certificates

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

1.54 Labour

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

1.55 Discount to the Main Contractor

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

1.56 Guarantee

The whole of the work will be guaranteed for a period of 6 months from the date of the Engineer's certification of completion and under such guarantee the Sub-contractor shall remedy at his expense all defects in materials and apparatus due to faulty design, construction or workmanship which may develop in that period.

1.57 Direct Contracts

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

1.58 Attendance Upon the Tradesmen etc

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

1.59 Trade Unions

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

1.60 Local and other Authorities notices and fees

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

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

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

1.61 Assignment or subletting

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

1.62 Partial Completion

If the Government shall take over any part or parts works, apparatus, equipment etc. then within seven days from the date on which the Government shall have taken possession of the relevant part, the Project Manager shall issue a Certificate stating his estimate of the approximate total value of the works which shall be the total value of that part and practical completion of the relevant part shall be deemed to have occurred, and the Defects Liability Period in respect of the relevant part be deemed to have commenced on the date Government shall have taken possession thereof.

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

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

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

1.63 Temporary Works

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

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

1.64 Patent Rights

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

1.65 Mobilization and Demobilization

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

1.66 Extended Preliminaries

Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the proportion of the Contract works remaining as at that time of extension. Where called upon in the Appendix to these Preliminaries the Contractor shall insert his percentage per month for extended preliminaries that shall form basis for compensation.

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

1.67 Supervision by Engineer and Site Meetings

A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all

the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.

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

1.68 Amendment to Scope of Contract Works

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

No claims shall be entertained on account of variation to scope of works either to increase the works (pre-financing) or reduction of works (loss of profit-see clause 1.69)

1.69 Contractor Obligation and Employers Obligation

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

1.70 APPENDIX TO SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1. ADD TO CLAUSE 1.40

There is no labour camp.

2. MODIFY CLAUSE 1.66

Percentage of extended preliminaries shall be inserted in Bill No.1 page H/5 of section H. However, this amount of the extended preliminaries **SHALL NOT** exceed the Liquidated and Ascertained Damages indicated on page **B-23** of Section B of this tender document

3. ADD TO CLAUSE 1.17

Prices quoted shall include **16% VAT and 3% withholding tax** including all other taxes applicable at the time of tender.

In accordance with Government policy, the **16% VAT and 3% withholding tax** shall be deducted from all payments made to the sub-contractor, and the same shall subsequently be forwarded to the Kenya Revenue Authority (KRA).

4. OMIT CLAUSE 1.12

SECTION IX
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 Lampholders
- 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 Licences must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licences 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 trip free 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: Ivory 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 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 fuse boards;-

- (i) Shall be Ivory 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
Pvc 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 blackstraps shall also be used for securing cables in vertical ducts.

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

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

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

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

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

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

2.19 PVC INSULATED CABLES

Shall be of non-braided type as CMA reference 6491 x 600/1000/1000 volt grade cables, or equal and 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>
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1.) Main and Sub-Main

a) Phase	Red	Red
b) Neutral	Black	Black

2). Sub-Circuits

<i>Single Phase</i>		
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

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 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 15mm. 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.

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The electrical sub-contractor shall comply with the following:-

1. Government Electrical Specifications No. 1 and No. 2.
2. All requirements of Kenya Power and Lighting Company Limited, IEE wiring regulations and Communications Commission of Kenya (CCK).

SECTION X
SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE

SECTION XI

PARTICULAR SPECIFICATIONS

OF

MATERIALS AND WORKS

PARTICULAR SPECIFICATIONS FOR STRUCTURED CABLING WORKS

1. DESCRIPTION OF SITE

The site of the Proposed Refurbishment of the Senate Chambers and Creation of Offices for Senate and National Assembly Officials is at the Parliament grounds, Nairobi.

2. SCOPE OF WORKS

- a) Provide a **detailed proposed technical solution for the structured cabling** in each of the floors of the proposed building.
- b) Supply, install, test and commission a structured cabling system so proposed in the proposed building in accordance with the specifications.
- c) Configure and set up the structured cabling system to be used on the LAN
- d) Provide the test results, warranty certificate, reports and as installed drawings

3. AIM OF THE PROJECT

- a) To implement a CAT 6 structured Cabling in compliance with TIA/EIA 568B and IEEE regulations for LANs at the proposed building.
- b) To supply standard active components, configure and set them up to be used on the LANs.

4. REGULATIONS TO GOVERN THE LAN SETUP

Materials, products and installations must comply with the mandatory provisions of all applicable industrial standards viz ISO/IEC, CCK, ATM CENELEC 11801, ANSI/ EIA/TIA 56, Latest IEEE regulations, KBS, Electric Power Act and rules made there under:

5. EXISTING INFRASTRUCTURE

The contractor shall not interfere with the existing infrastructure and in case of such interference the contractor shall make good to the approval/ satisfaction of the project manager at his cost.

6. CABLING

- a) All cables must pass through conduits or trunking.
- b) All cables and connectors shall be labeled.
- c) No distortion due to kinks, sharp bends or excessive hauling tension shall be allowed.
- d) Cables shall be run in a manner eliminating any possibility of strain on the cable itself or on the terminations.
- e) Cables shall have no joints or splices.
- f) Cables shall be kept at a minimum distance of 150mm from items liable to become hot or cold.
- g) Bending radii shall be not less than eight times the overall cable diameter.
- h) The manufacturers hauling tension shall not be exceeded.
- i) All cable ties and fixings shall be tightened to support the cable loom without distortion of the cable sheath.
- j) The fibre optic cable shall be multi mode opt speed and with graded index, and of nominal size 62.5/125 micron.
- k) Fibre optic cable shall have a core/cladding diameter on nominal 850nm and 1300nm optical wavelength.
- l) The fibre Soptic cable shall be 8-core.
- m) The enhanced UTP 4 pair shall be of cat 6 grade and exceed ANSI/TIA/EIA-568-Aj and ISO/IEC 11001 standards. Cat 6 structured cabling shall be used throughout the entire installation.

7. PATCH PANELS

- a) Shall conform to ANSI/TIA/EIA-568A and rack mounted.
- b) Shall be equipped with RJ45 contacts of Cat 6 sockets with capacity of 12, 24 or 48 ports.
- c) Shall be earthed.
- d) Fibre optic patch panels shall be configured to the number of strands terminated at each location.
- e) Fibre Optic patching shall be done from the cabinet housing optic boxes/ panels as well as the optic electronic equipment.
- f) Fibre Optic patch panel shall have a sliding tray.
- g) Except for patch cords used to connect NICs to the RJ45 sockets, all patch cords shall be labeled at each extremity with PVC support and intelligible marking. For other components the label shall be of stiff plastic PVC type.

8. NETWORK CONTROL EQUIPMENT

- a) Active devices used at the LAN edge shall have 12, 24 or 48 ports for connection to the horizontal cabling.
- b) Active devices shall be rack mounted.
- c) Active devices for horizontal cabling shall support autosensing 10/100mbps and backbase cabling at 1000mbps.
- d) Active devices used at aggregation layer of LAN shall support IP routing.
- e) Active devices used at the LAN edge must be stackable and shall attach to the backbone cabling at 1000mbps.
- f) Where more than one active device is required to satisfactorily serve the floor data outlet distribution requirements they shall be stacked using interface operating at the backbone speed.

9. EQUIPMENT CABINETS

- a) The main cabinet shall be at least 42U.
- b) All cabinets for active devices shall conform to ANSI/TIA/EIA-568A specifications with forced cooling.
- c) Cabinets shall have adequate room for additional components typically 3U free space.

10. LABELING

- a) Horizontal and backbone cables shall be labeled at each end. The cable or its label shall be marked with its identifier.
- b) A unique identifier shall be marked on each faceplate to identify it as connecting hardware.
- c) Each port on the face plate shall be labeled with its identifier.
- d) A unique identifier shall be marked on each piece of connecting hardware to identify it as a connecting hardware.
- e) Each port on the connecting hardware shall be labeled with its identifier.
- f) A unique identifier shall be marked on each **port** on the connecting faceplate to identify it as a connecting hardware.

11 DRAWINGS

Working drawings shall be supplied to the PM for approval showing the location of identifiers for all Horizontal cabling routes and Terminations, Backbone Routing and Terminations, Data Outlets/ Connectors and Active components etc.

12. RECORDS

All records shall be created and turned over to the PM at the completion of work. The format shall be computer based and both soft and hard copies shall be part of the As-built package with minimum requirements including:

- a) Cable records complete with identifiers, cable type, and length, termination position at ends, manufacturer and part number.
- b) Connecting hardware records complete with identifier, type of hardware and position.
- c) Connecting hardware positions complete with identifiers, type of position and cable identifier attached to it.

13. REPORTS

All reports shall be generated from the computer based programme used to create the records above. These reports shall include but not limited to:

- a) Cable reports
- b) Cross connect reports
- c) Connecting hardware reports

14. TESTING

General

Testing of entire cabling system as per ANSI/TIA/EIA-568B for Cat 6 Ethernet cables shall be performed prior to system handover.

Fibre Optic Testing

Testing of fibre optic shall be as per IEEE 802.32 and ANSI/TIA/EIA-568B for 1000 Base-LX/ 1000 Base-SX

15. WARRANTY

The cabling installation shall carry a warranty of at least 15 years and the contractor shall issue the PM with certificate from the cable manufacturer upon completion. The cost of the certification if any shall have been included in the prices. You have to specify in both technical and financial proposals the duration the issuance of the certificate will take after completion and commissioning of the installation.

16. NETWORK CABINETS

- a) Floor/ Block cabinets shall be metallic with front clear glass at least 22U and of good finish and conveniently accessible by technical personnel for maintenance.
- b) Main cabinet in the network centre to be at least 42U or equivalent and easily accessible during maintenance.

- c) Power to the cabinets shall be switched off from within the cabinets. Proper power socket cables to be supplied with the cabinets.
- d) All cabinets to conform to ANSI/TIA/EIA-568B with forced cooling and their location shall be determined on site.
- e) Support small form factor pluggable (SFP) and industry leading density up to 240 of IEEE 8033 for 1000 Base-SX ports per system.

17. ETHERNET FLOOR EDGE SWITCHES

- a) Each floor edge switch connecting to the backbone must include at least two ports of 1000 Base X Gigabit Ethernet with GBIC support, QOS, Multiple queues with weighted round robin (WRR) scheduling and layer 3 switching and routing of IP, IPX and IP multicast traffic.
- b) Each switch in the set up should give 10/100/1000 MBPS to the desktop.
- c) There should be adequate switches to cater for the total number of data points.
- d) The switches connecting as a backbone shall have additional 1000Base X port that shall be connected as a backup and shall be configured for automatic load balancing.

18 MAIN ETHERNET BACKBONE SWITCH

The following are the minimum requirements for the core switch:

- a) The Backbone switch should provide minimum (10/100/1000 ports) of 36 ports of IEEE802.3 1000 Base X.
- b) The minimum switching capacity of 150 GBPS (fabric) and 45 million packets per second.
- c) Be able to run industrial standard IP multi cast at wire speed.
- d) Non blocking integrated layer 2/3/4 switching performance.
- e) Multi layer IOS software services with IP routing, advanced QOS, traffic management and comprehensive security.
- f) Shall be rack mounted in standard rack/cabinets.
- g) Shall have a redundant power supply for each edge switch connecting to the backbone.
- h) Shall support security features.

19 METAL TRUNKING

All metal trunking used shall be spray painted to approval and shall be fabricated from mild steel not less than 18swg (gauge) and have three compartments.

20. NETWORK SERVERS

MAIN SERVER

There shall be two Data servers operating in dual redundancy mode.

The data servers will link all the data points covered by the network. The server will be based at Server room or other office, as may be directed by the Electrical Engineer. The specification of the server unit is as follows:

- a) Operating system – windows based and capable of supporting other non-windows software platforms
- b) Processor: Pentium 4, 3.0 GHZ with at least 520K L2 cache
- c) SDRAM (memory): 4GB Dual channel
- d) HDD Capacity: (135GB x4) = 540 GB
- e) HDD speed: At least 5400 rpm
- f) RAID technology: 4 port RAID level 5 support
- g) Bus speed: 1600MHZ
- h) Network Ports: 2No. Integrated 10/100/1000 Electrical Ports for UTP cables
- i) Backup tape drives: 2No. Tape drives
- j) Screen: 17" TFT Screen
- k) USB mouse and keyboard.

21 NETWORK MANAGEMENT SYSTEM

In the centralized environment offering online access all data will be held in two or more databases. As such the management policy is necessary to help in optimizing the performance of the LAN so as to have it running smoothly and efficiently with minimum or no downtime. The design shall address the following areas:

i) Fault Management

There shall be fault management tools providing an audit trail, or historical overview of the network error, and alarm characteristics to assist in faster resolution of the problems. Features in the software to include network performance, traffic analysis and troubleshooting to port level, graphical representations, network error analysis etc.

ii) Security Management

There shall be security management tools to enable the network manager to restrict access to various resources of the network.

iii) Performance Management

There shall be performance management tools that produce real time and historical statistical information about the networks operation and utilization. This shall help in future planning as well as identifying segment that may pose potential problems.

The network management shall be installed at the end of the installation of the cabling system. The personnel to manage the network shall be taken through a certification training of the same.

The software shall facilitate management from any work station on the network.

22. TECHNICAL PROPOSAL

The tenderer shall provide a workable, cost effective and elaborate technical solution (proposal) to realize the installation. The proposal shall include but not limited to the following:

- a) Detailed schematic design for each floor in each building, showing the components and their description/identification and connectivity.
- b) The interconnectivity of all the floors and the buildings showing edge switches, core switch etc.
- c) Proposal for network management.
- d) Detailed work plans for the project, listing tasks, activities, and datelines, persons / team assigned lead responsibilities for the project activities and tasks.

Please note that any tender without a technical proposal shall be considered non-responsive and will therefore be disqualified.

23 DESIGN GUIDELINES

These guidelines are simply meant to assist the tenderer in preparation of the Proposal/solutions. The proposal is purely tenderer's. These guidelines only spell out the minimum requirements to be met.

These are three distinct floors in the main building and three in county hall involved in this project. All the floors shall have a complete system linking the edge switches to the core switch. Each of these floors shall have distribution points for both voice and data. All the voice points shall be eventually linked to the PABX which shall provide the voice switching.

24. LIST OF EXPECTED DATA AND TELEPHONE POINTS PER FLOOR

The proposed solution should be capable of supporting, but not limited to, all the data and voice points per floor as detailed in the bills of quantities.

PARTICULAR AND TECHNICAL SPECIFICATIONS FOR PABX

	CLAUSE	DESCRIPTION
	PART 1	
1.00		Particular specifications
1.01		Description of the site
1.02		Description of the project
1.03		Climatic conditions
1.04		Bond for EPABX with provisional type approval
1.05		Regulations
1.06		Position of Services and Equipment
1.07		Setting to work and Regulating Systems
1.08		Identification of plant Components
1.09		Working with drawings
1.10		Record Drawings
1.11		Tests
1.12		Quality materials
1.13		Training
1.14		Equipment guarantee
1.15		Patent rights
	PART 2 (EPABX)	
2.00		Technical Specification for EPABX
2.01		Scope of the Work
2.02		Minimum requirements
2.03		Equipment finish
2.04		Interference suppression
2.05		Door keys
2.06		Equipment Hardware
2.07		Equipment Software
2.08		System features
2.09		Barring and route restriction
2.10		Class of service
2.11		Attendant console
2.12		Telephone instruments
2.13		Numbering system
2.14		Exchange lines
2.15		Tie lines
2.16		System Maintenance
2.17		Power supply
2.18		List of main requirements for the EPABX
2.19		Other requirements for the EPABX
2.20		Digital enhanced cordless Telephony (Dect.)
2.21		Items to be stated by the Tenderer.
2.22		Statement of compliance

PART 1

1.00 PARTICULAR SPECIFICATIONS FOR EPABX

1.01 DESCRIPTION OF THE SITE

The site of the proposed works is located at **Parliament Square, Nairobi.**

1.02 DESCRIPTION OF THE PROJECT.

The works comprise the following:

1. The supply, installation testing and commissioning of all accessories to integrate the county house building to existing EPABX at Parliament Grounds.

1.03 CLIMATIC CONDITIONS

Mean Maximum Temperatures 33°C

Mean Minimum Temperature 18°C

Range of Relative humidity 39% - 97%

Salt in the atmosphere – 0.02%

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

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

1.04 BOND FOR EPABX's WITH PROVISIONAL TYPE APPROVAL

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

1.05 REGULATIONS

The contractor shall, in the execution and completion of the works in the detailed design for which he is

responsible comply with the provisions of the following as necessary and relevant:

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

1.06 POSITION OF SERVICES AND EQUIPMENT

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

The contractor shall ascertain on site that his work will not foil other services or furniture and all services

through the ducts must be readily accessible for maintenance and arranged to allow maximum access along the ducts. Any work which has to be redone due to negligence in this respect will be the contractor's responsibility.

1.07 SETTING TO WORK AND REGULATING SYSTEMS

The contractor shall carry out such tests of the contract works as are required by KBS Standard Specifications

and Codes of Practice, I.E.E Regulations or equal and approved codes, or the competent Authority.

No testing or commissioning shall be under taken except in the presence of and to the satisfaction of the P.M.

unless approved otherwise by him (contractor's own preliminary and proving tests are exempted).

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

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

1.08 IDENTIFICATION OF PLANT AN COMPONENTS

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

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

1.09 WORKING DRAWINGS

The contractor shall prepare such working Drawings as may be necessary. The working Drawings shall be completed in such detailed not only that the contract works can be executed on site but also that the P.M can approve the contractor's designs and intentions in execution of the contract works.

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

1.10 RECORD DRAWINGS

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

Record Drawing shall include but are not restricted to the following drawings or information:-

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

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

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

1.11 TESTS

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

1.12 QUALITY OF MATERIALS

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

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

1.13. TRAINING

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

1.14 EQUIPMENT GUARANTEE

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

1.15 PATENT RIGHTS

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

PART 2

2.00 TECHNICAL SPECIFICATIONS

2.01 SCOPE OF THE WORK

The contractor shall supply, deliver, unloaded, test, commission, guarantee and be liable for defects, and be responsible for the initial maintenance, all as specified herein, of EPABX. The EPABX will be entirely Electronic, ISDN native, VOIP ready and equipped and with time multiplexing architecture. The system shall be capable of connecting to the local area network (LAN) in place.

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

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

2.02 MINIMUM REQUIREMENTS

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

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

2.03 EQUIPMENT FINISH

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

2.04 INTERFERENCE SUPPRESSION

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

2.05 DOOR KEYS

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

2.06 EQUIPMENT HARDWARE

The tenderer shall quote for a multimedia applications digital EPABX with;

- Industry appliance servers or “in-the-skin processing”
- Native Ethernet connectivity on all CPUs
- Modular hardware
- TDM or IP switching
- Power supply
- Auxiliary power supply
- Incoming/outgoing interaction management (voice, IM, presence)
- Business communication services
- Conferencing and Collaboration
- Call by name, call by skill
- Call logging
- Notifications (missed calls, new voice messages)
- One-number services
- Visual mailbox
- Desktop integration (Microsoft Outlook/Microsoft Office Communicator® , IBM® Lotus Notes®/IBM Lotus® Sametime®)
- Multi-language

2.07 EQUIPMENT SOFTWARE

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

- System features
- Operator features
- Standard telephone features
- Executive telephone features
- System administration features
- Digital Network features
- Data features
- Special applications features
- Client/server
- Chorus MIX micro kernel operating system
- Linux LILO/GRUB-compliant
- Red Hat® Linux® and Linux Kernel 2.4.17

2.08 SYSTEM FEATURES

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

- Direct inward dialing
- Direct outward dialing
- Dial pulse signaling
- DTMF to dial pulse conversion (Tone to pulse conversion)
- VOIP equipped
- Direct Trunk access
- Class of Service

- Flexible assignment of printer ports
- Flexible numbering of extensions
- Flexible tone plan
- Group Hunting
- Multiple operator console
- Flexible music on hold
- Tandem trunks
- Tie trunks
- Extension features eg call forwarding, Busy override, conference, (up to 8 conferences) camp on etc.
- Centralized or distributed system
- Communication server and database duplication
- Main-standby seamless communications fail-over
- Passive communication server watchdog: central or remote
- Single server: 1,500 IP users/500 TDM users
- 3 servers in a single network
- Fully networked servers, 5,000 IP/TDM users with single image

2.09 BARRING AND ROUTE RESTRICTION

It shall be possible at will to bar any extension from access to the public exchange network. Selective route Restriction equipment is required on all both way and outgoing exchange lines to prevent any or all extensions from reaching certain areas of the public telephone network including all areas outside the borders of the Republic. The equipment shall prevent a user, after receiving main exchange dial tone, dialing any number of pre-selected 4 digit codes. It shall be possible to change such pre-selected codes easily and at will without the addition of further equipment, but a security system must prevent this being done by unauthorized persons. It shall not be possible to defeat this equipment from an extension by non-standard dialing, switch hook flashing, enquiry or transfer use, tie line transfer, switch follow on calls after an outside caller has disconnected, or in any other way except that which may be used especially for extensions entitled to full access.

It shall not be possible for an extension to receive public exchange dial tone without the route restriction devices being in circuit.

A follow-on call trap is required on the exchange lines, and this must not prevent the operator from flashing the main exchange.

It shall not be possible for an extension to originate a new outside call following the disconnection of an established call until the public exchange and local subscribers auto equipment has released, and the route restriction and barring equipment has been reset and re-connected to the circuit.

Camp-on-busy, Trunk offer, "call back" and automatic transfer facilities must not de-activate the barring and route restriction circuit.

The exchange should be suitable for the future addition of direct dialing-in facilities, ring back when free absent extension transfer.

2.10 CLASS OF SERVICE

It is required to group subscribers at will into and/or more of the following categories;

- **Full Access**

Those permitted incoming calls, tie line calls, internal calls, and outside access to exchange lines and STD but not to the international codes.

- **Trunk Route Restriction**

Those permitted incoming call, tie line calls, internal calls, and outside access to local codes permitted by the trunk barring equipment.

- **Trunk Barred**

Those permitted incoming call, tie line calls, internal calls, and outside access via the operator.

- **Restricted Access**

Those permitted incoming calls and internal calls only.

- **Barred Access**

Those permitted tie line and internal calls only.

It should not be possible to transfer an exchange line from category (i) extension or from the switchboard to a category (ii) extension without activating the route restriction equipment to prevent the barred extension dialing, unauthorized codes. It shall not be possible to transfer an exchange line to a category (iv) or (v) extension.

There shall be a means of re-allocating subscriber access to the various EPABX facilities which shall be promoted by a security systems that will prevent unauthorized alterations.

The contractor will be responsible for programming the EPABX to incorporate the clients initial wishes regarding extension access to facilities, and for reprogramming it to incorporate such changes as the client wishes to make up to the end of the guarantee period. He will also be responsible for training such staff as the employer shall nominate to undertake reprogramming.

2.11 ATTENDANT CONSOLE

One or more operator attendant consoles as indicated in the list of main requirements shall be supplied, together with two operators' handsets and two operators lightweight headsets per position. They shall be fitted with suitable lightweight plugs and jacks.

Each console shall be equipped with all necessary facilities for controlling, connecting and monitoring the progress of calls and shall display alarms as necessary.

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

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

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

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

In addition the attendant should have the following services;

- Abbreviated dialing
- Activation/deactivation of DND
- Add-on module
- Alarm indication
- Attendant groups
- Automatic answer
- Attendant specialization options (individual or group)
- Busy lamp field
- Call-by-name in all communication situations
- Call charge request (carrier-dependent)
- Centralized or distributed attendant in network
- Call queuing with indication
- Call routing depending on class of traffic, DID, company or called service (entity)
- Call waiting with indication
- Called party resources
- Call pick-up
- Charging recall service (carrier dependent)
- Chained call
- Choice of system status
- Conference
- Creation, cancellation and modification of abbreviated number with name
- Creation, cancellation and modification of subscribers (name, rights and more)
- Discrete call offer
- Discrete call offer by mini-text messages on busy/free
- Reflexes telephone
- DTMF over dialing
- Large busy lamp field
- Flexible attendant routing time-out overflow based on caller waiting time
- Headset capability

- Hold individual or multiple
- Create/delete directory items
- Internal call name/number displayed
- ISDN VIP monitoring
- Last number redial
- Line reservation
- Malicious call identification
- Manual reservation mode
- Mini-text messages
- Multi-tenant services
- Override on directory number
- Paging
- Password
- Personal call
- Priority call (internal/external)
- Receipt and read charging units and costs (carrier-dependent)
- Record online on associated entity
- Status of calls routed to operator
- Store and number redial
- Synchronized multinode routing (entity)
- Time and date display
- Transfer with/without announcement
- Trunk allotting with barring
- VIP telephone monitoring

2.12 COMMUNICATION SERVICES

- Speed dialing
- Account code charging
- Appointment reminder
- Associate (definition, modification by user)
- Automatic call-back on busy trunk/bundle/network link
- Automatic call-back on free/busy extension
- Broker's call
- Call forwarding unconditional on busy/no reply to extension, hunt group, voice mail, operator, paging, etc.
- Call pick-up
- Call waiting indication
- Calling line identification restriction for internal calls
- Camp on busy telephone/hunting group/voice mail
- Conditional external forwarding (busy or no reply)
- Call waiting
- Controlled private call by PIN code and password (optional)
- Distinctive ringing according to hierarchical levels
- Do not disturb
- General night service
- Hunting group (fix head, cyclic, longest idle time, parallel)
- Immediate forwarding
- Individual hold
- Individual directory
- Internal/external music on hold
- Internal/external inquiry call
- Intrusion
- Last internal/external number redial

- Local and external call
- Moving service
- Multiline appearance (MLA)
- Multiline selective forwarding
- Multiple conference calls
- Multiple call protection

2.13 MULTI-USER SERVICES

- Speed dial numbers per entity
- Calling line identification
- Integrated auto attendant services per entity
- Calling line identification presentation (CLIP) per entity
- Greeting message per entity
- Music on hold per entity
- Night service per entity
- Over-dialing
- Personal code modification
- Priority call
- Store and redial external number
- Substitution
- Three-party conference
- Transfer in conversation on free/ busy telephone
- 29-party, meet-me conference
- Voice prompts on/off per telephone
- Voice message deposit on forwarded telephone
- Call-waiting pickup

2.14 ADVANCED COMMUNICATION SERVICES

- Calling line identification presentation/ restriction (CLIP/CLIR)
- Digit-by-digit dialing mode
- End-block dialing (digit correction possible)
- ISDN, H.323 or SIP identification (CLIP) converted into name
- ISDN mini-text messages (carrier-dependent)
- Malicious call identification
- Storage of unanswered calls with date, time and callback
- Sub-addressing

2.15 ATTENDANT POSITIONS

- PC-based IP attendant
- Multifunctional keyboard

2.16 INTEGRATED GREETING

- Integrated automated attendant
- Personal automated assistant with context-sensitive greeting
- Synchronized greeting message

2.17 VOICE AND FAX MAIL

- Automated attendant
- Call transfer
- Direct reply on receipt message
- Extended recording and playback control function
- Fax broadcast, on demand, overflow, store and forward
- General distribution lists
- Greeting message according to user status
- Immediate or supervised transfers

- Message acknowledgment
- Message attributes: urgent, normal, private
- Message notification via light, display, dialing tone, voice prompt, outgoing
- Multilanguage
- Multi-user password
- Networking protocols: IMAP4, VPIM, Octelnet and Amis
- Private distribution lists
- Record online
- Shared mailbox: home, guest, and assistant mailbox
- User-friendly interface on IP phones via softkeys
- Types of queues: waiting, help and dissuasion
- Virtual pilot
- Intelligent routing
- Outbound call management
- Direct agent call management
- Remaining wait time announcement
- Integration with outbound campaign management
- Native integration with interactive voice response (IVR)

2.18 VOICE GUIDANCE

- External voice guides
- Synchronized internal voices guides
- Storage from audio station or IP phones

2.19 SUPERVISION AND STATISTICS

- Alarm handling
- Call level information
- Customizable alarms
- Customizable reports
- Detailed communication reports
- Reports based on communication events
- Discrete call listening for supervisor
- Microsoft Excel-based statistics and reporting
- Export of communication reports (ASCII files)
- Free sitting supervisor position
- Full Windows user interface
- Native Windows management look and feel
- Predefined reports
- Real-time service level per pilot
- Real-time statistics
- Statistics compilation and archive (FTP)
- Wallboard display control

2.20 VOICE ANNOUNCEMENT

- Agent tutorial voice guides
- Routing voice announcement updates
- Redirection, closing, opening announcements
- Recording from audio station or telephone

2.21 MOBILITY INFRASTRUCTURE WI-FI

Wi-Fi infrastructure – OmniAccess wireless LAN access points and WLAN controllers

Wireless standards

- IEEE 802.11a/b/g
- IEEE 802.11i

2.22 RADIO FREQUENCY RANGE

- 2.4 GHz to 2.4835 GHz (“b” and “g”)
 - ▮ 5.150 ~ 5.250 GHz (low band)
 - ▮ 5.250 ~ 5.350 GHz (mid band)
 - ▮ 5.470 ~ 5.725 GHz (Europe)
 - ▮ 5.725 ~ 5.825/5.850 GHz (high band)

2.23 AUTOMATED RADIO COVERAGE

- Up to 32 SSIDs per access point
- Dynamic RF management for AP channel power and channel optimal setting
- Self-healing around failed access points

2.24 WIRELESS SECURITY

- WEP, WPA, WPA-PSK, WPA2 and WPA2-PSK
- Integrated stateful firewall
- Rogue access point detection and containment
- Wireless IDS/IPS

2.25 QUALITY OF SERVICE

- Standardized
 - ▮ Over-the-air QoS: 802.11e
 - WMM (EDCA)
 - ▮ 802.11e Power Save (U-APSD)
 - ▮ 802.11e Traffic Specification (TSPEC)
- SRP mode
- Connection Admission Control with graceful load balancing
- 802.1p DiffServ marking

2.26 CALL PERSISTENCY

- Proxy mobile IP for Layer 3 handover
- Fast handover – WPA2 opportunistic key caching
- Voice-aware scanning
- Voice-aware 802.1x re-authentication

2.27 TELEPHONY PROTOCOL DECODE

- SpectraLink Radio Protocol (SRP)

2.28 VOICE OVER IP

- G.711 A-law and μ -law digital voice compression algorithm
- Compression algorithm: G.723.1A, G.729.AB
- Compression rate: 6.4 kb/s/8 kb/s
- Automatic compression algorithm allocation
- Dynamic jitter buffer
- Echo cancellation: 64 ms/128 ms with voice signal analysis and signal quality enhancement
- Packet loss concealment (PLC)
- VAD: silence suppression and comfort noise generation
- Packet framing: 20 ms, 30 ms and 40 ms
- Call admission control to IP domains
- DTMF Q23 codes interpreted, coded and regenerated (robust DTMF relay, RFC 2833 or out-of-band)
- Generic signal qualification and modem transport
- Anti-saturation mechanism; backward and forward automatic gain control
- Embedded signal quality diagnostic tool • QoS: TOS or DiffServ tagging, 802.1 p/Q

2.29 FAX

- G3, super G3 fall-back
- Automatic fax detection

2.30 SERVICE CONTINUITY

- Backup signaling link on media gateway
- Passive communication server

2.31 H.323, SIP FOR IP CONNECTIVITY

- Analog and digital channel associated signaling protocols
- ABCVPN for networking over ISDN/PSTN network (signaling on IP network)

2.32 TELEPHONE FEATURES

- 3-party conference
- 6-party casual conference
- 14-party meet-me conference
- 29-party conference
- Automatic call back on busy private link
- Basic call
- Broker call
- Call back on busy links
- Call back on free or busy extensions
- Call by name
- Call deflection
- Call offer
- Call waiting indication
- Camp on
- Conditional forwarding (forwarding on no reply, forwarding on busy)
- Data communication
- DISA
- Distinctive ringing based on hierarchies

- Do not disturb
- Entity routing for multi-company/ department configuration
- Hold
- Individual call pickup
- Inquiry call
- Intercom call
- Intrusion
- ISDN supplementary services
- Number and name identification
- Reading of personal charging pulse meters
- Retransmission of last number dialed
- Substitution
- Text mini-messaging
- Transfer
- Transparency in decade and Q 23 dialing
- Unconditional forwarding

2.33 DISTRIBUTED GROUPWARE FEATURES

- Associate in network
- Conditional forwarding to associate
- Hunting group of subscriber
- Immediate forwarding to associate
- Manager/assistant filtering team
- Object supervision: free, partially busy, totally busy, ringing
- Supervision of trunk, bundle, subscriber

2.34 NETWORK MANAGEMENT

- Management from attendant
- CLI local management
- Centralized or distributed management from external applications
- Topology map
- Configuration
- Alarm management
- Call accounting
- Directory
- Traffic analysis
- Security
- Graphical user interface
- Remote management
- Alarm domains and alarm centralization
- Audit mechanism
- Broadcast of configuration data
- Remote maintenance access
- Remote software downloading

2.35 QSIG – BASIC CALL

- Calling line identification
- Connecting line identification
- Data calls bearer
- Malicious call identification
- Sub-address

2.36 QSIG – GENERIC FUNCTION PROTOCOL

- QSIG – Supplementary services
- Advice of charge
- Call completion on no reply
- Call completion to busy subscriber
- Call forwarding – busy
- Call forwarding – no reply
- Call forwarding – unconditional
- Calling/connected line identification restriction
- Calling/connected name identification restriction
- Calling line identification presentation
- Calling name identification presentation
- Call transfer
- Call offer
- Connected line identification presentation
- Connected name identification presentation
- Generic functional procedures
- Message waiting indication
- Path replacement

2.37 DPNSS

- Call back when free (call completion on busy phone)
- Call forwarding
- Call offer
- Call waiting
- Centralized night service
- Conference
- Do not disturb
- Hold
- Inquiry call
- Intrusion
- Loop avoidance
- Route optimization
- Transfer

2.38 TELEPHONE INSTRUMENTS

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

(a) Executive Telephone Instruments

The **Executive Telephone** instruments shall have but not limited to the following operating characteristics:-

- Standard telephone facilities
- Abbreviated dialing
- Automatic ring back indication
- Calling number display
- Calls indication
- Call waiting display
- Do-not disturb indication
- Extension status indication
- Hands free
- Individual speed dialing

(b) Standard Telephone Instruments

The ordinary telephone instruments shall be of push button type. They shall at least have the following operating characteristics:-

- Standard telephone facilities
- On hook dialing
- Repeat last Number
- Ringing level and tune selection
- Store and redial.

2.39 NUMBER SYSTEM

The number scheme will be:-

Level O Access to PABX Telephone Operator

- “ 9 “ to the main exchange
- “ 8 Night service
- “ 7 spare for future tie line access
- “ 6 Tie line access
- “ 5 spare for extensions
- “ 4 Extensions
- “ 3 Extensions
- “ 2 Extensions
- “ 1 Spare for special facilities.

2.40 EXCHANGE LINES

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

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

2.41 TIE LINES

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

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

2.16 SYSTEM MAINTENANCE

- **Test Equipment and Tools**

A PABX routine test set and a set of maintenance tools are to be supplied. The tools are to be listed in schedule D.

- **Maintenance Features**

The PABX shall have the following system maintenance features:-

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

Maintenance diagnostic software programs shall be provided which can be run as required whilst the PABX is in normal service.

- **Maintenance and Operating Manuals**

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

They will include but not limited to:-

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

2.17 POWER SUPPLY

Rectifier

The PABX shall be fed through 48V DC rectifier a DC –DC converter fed from 240V A.C. 50Hz power supply. The rectifier will be equipped with the following devices:-

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

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

- **Battery**

A stationery 4 x 12v 75AH battery is required to supply power during peak hours and mains supply failures and to provide smoothing for DC output from the rectifier.

The battery shall be “Maintenance Free” and shall have sufficient capacity when fully charged to supply power to the PABX in the event of mains supply failure for minimum of 8 hours. The minimum DC output shall be 48V DC = 10% and its life expectancy shall be 20 years. Automotive or Traction battery will not be accepted.

- **Voltage stabilizer**

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

- **Earthing**

An independent telecommunication earth shall be provided for the E.P.A.B.X and the MDF. The earth lead cable shall not be less than 6mm² and shall terminate to copper earth electrode(s) in a concrete manhole (300mm x 300mm) with a suitable concrete cover. The earth resistance shall not be more than 4 ohms.

2.18 LIST OF MAIN REQUIREMENTS FOR PROPOSED E.P.A.B.X.

FACILITY	INITIALLY EQUIPED	ULTIMATE SIZE
No. of Extensions: Digital	100	300
IP	10	100
No. of Analogue Trunk lines	24	48
(ISDN PRI E1, 30 channels.	1	1
GSM lines	4	6
No. of tie lines	12	12
No. of Operator's Consoles	5	8
No. of Operator's Head sets	5	8
No. of Operators' hand sets	5	8

2.19 OTHER REQUIREMENTS

The E.P.A.B.X. shall:

1. Have a duplicated CPU each with its own power supply unit
2. have remote maintenance interface MDF and lightning protection.
3. be of compact modular design with sub-lines pre-wired and easily removable
4. have at least 50% power failure trunk transfer facility
5. be able to support both digital and analogue circuits
6. have a UPS of at least 8 hrs autonomy
7. have direct inward system access facilities and data communication services.
8. be equipped with flexible music on hold
9. be ISDN ready and equipped
10. be able to connect to the existing government tie line network[both ways] and adopt the five numbering plan used
11. be equipped with station Hunt groups facility.
12. be complete with a maintenance terminal facility .

13. have call forwarding automatic call transfer, three party conference among other standard features.
14. be equipped with mains power supply Anti-surge, over-voltage and under-voltage protection devices and lightning protectors for all cards.
15. have facility for selection for night service/special night answer point.
16. have on screen fault indication facility.
17. have computer-telephone inter-face for digital instruments capability.
18. be ready to accommodate either or all E1 and ISDN cards which include but are not limited to BRA ,PRA BPRA and LIOx.
19. be **type approved by the CCK**. The tenderer must indicate the type approval reference for the various parts that constitute the equipment, copies of type approvals must be attached.
20. be **compatible** for connection to Telkom Kenya Telecommunication network.
19. IP ready and equipped
20. be readily equipped to connect to LAN

2.19 TELEPHONE MANAGEMENT SYSTEM

Scope of Works

The works to be carried out comprise supply, installation, testing and commissioning of the following:

- a) Telephone call management software
- b) 1 No. Desktop computer
- c) 1 No. Medium duty laser printer
- d) 1No. Medium duty UPS

Technical Specifications

Call Management Software

System Capabilities

The software system shall be able to perform the following:

1. Telephone calls tracking
2. Telephone calls costing/billing
3. Telephone calls budgeting
4. The software system shall be fully window based and run as a background task
5. All telephone call costs shall be computed basing on the prevailing service provider's rates, or shall be customized for employer's own use.

6. The software system shall have the capability of automatically barring and unbarring exchange lines and level 9 lines that shall go beyond their budget allocation and automatically reinstate them on budget re-allocation.

It shall also have the capability of automatically barring and unbarring roaming PINS that shall go beyond their budget allocation and automatically reinstate them on budget re-allocation.

7. The software system shall be able to allocate password to the users.

Reports Generated

The call management software shall be able to generate the following:-

1. Dates of calls
2. Duration of calls
3. Extension numbers where calls originate
4. Approximate cost of trunk calls
5. Time of calls
6. Detailed report on call transfers
7. Details of exchange lines used
8. Details of extension lines used
9. Detailed report of most frequently called numbers
10. Detailed report of longest calls for selected duration
11. Detailed report of mobile calls by extensions
12. Detail of most expensive calls within selected time
13. Graphical presentation of reports.

2. Desktop Computer Specifications

ITEM	DESCRIPTION	MINIMUM REQUIREMENTS	BIDDER'S SPECIFICATIONS
A	GENERAL SPECIFICATIONS		
1	Make	BRANDED	
2	Model		
3	Country of Origin		
4	Manufacturer's brochure and specifications	Must be supplied	
B	TECHNICAL SPECIFICATIONS		
5	Processor	Intel Pentium IV 3.0 GHZ	
6	System Memory	Standard 1024MB SDRAM, upgradeable to 2048MB	
7	Disk cache	Integrated 256KB L2 cache	
8	Storage sub system	160 GB HDD	
		48XCD –ROM and CD-Writer	
		1.44MB 3.5" FDD	
9	Display/Graphics	17" colour TFT	
10	Keyboard	USB Enhanced keyboard	
11	Pointing device	USB compatible optical mouse	
12	I/O interface	<ul style="list-style-type: none"> ❖ 1xPS/2 – compatible keyboard ❖ 1xPS/2 – compatible mouse port ❖ 2x9 Pin Serial Ports ❖ 1x25 Pin parallel port ❖ 2xUSB Ports ❖ 1xRJ45 jack for ethernet ❖ 1xexternal VGA port ❖ Fire wire 	
13	Audio System	<ul style="list-style-type: none"> ❖ PCI 3D audio/video cards ❖ TV/FM cards ❖ External Amplified speakers 	
14	Communication Interface	<ul style="list-style-type: none"> ❖ 10/100/1000 Mbs fast ethernet, RJ 45 jack ❖ 56K ITU V.90 data/fax modern, wake-on-ring ready 	
15	Operating System Pre-load	Ms Windows XP Pro 2003 (or latest version)	
16	Application Software, pre-installed, registered and CDs supplied	MS OFFICE XP PRO 2003 (or latest version)	
17	Power sub- system	220-240V ac, 50HZ	

C	WARRANTY	One year parts replacement warranty	
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3. Medium Duty Laser Printer Specifications

ITEM	DESCRIPTION	MINIMUM REQUIREMENTS	BIDDER'S SPECIFICATIONS
A	GENERAL SPECIFICATIONS		
1	Make	BRANDED	
2	Model		
3	Type	Desktop	
4	Country of Origin		
5	Manufacturer's brochure and specification	Must be supplied	
B	TECHNICAL SPECIFICATIONS		
6	Resolution	1200x1200 dpi	
7	Printing speed	19 ppm	
8	Duplex function	Standard	
9	Memory	16 MB expandable to 72 MB	
10	Languages	Enhanced HP PCL, postscript	
11	Maximum Media size	A4 paper	
12	Media types	Plain paper, envelopes, transparencies, labels, postcards	
13	Media input capacity	250 sheet input cassette	
14	Connectivity	❖ IEEE – 1284 compliant bi-directional parallel port ❖ 2.0 compliant USB port	
15	Duty cycle	60,000 pages per month	
16	Operating system support	All MS windows/ Open Source	
17	C P U	Power PC 405/200 MHZ	
18	Power Supply	240V ac, 50HZ	
C	WARRANTY	One year parts replacement warranty	

4. Medium Duty UPS Specifications

ITEM	DESCRIPTION	MINIMUM REQUIREMENTS	BIDDER'S SPECIFICATIONS
A	GENERAL SPECIFICATIONS		
1	Make	BRANDED	
2	Model		
3	Country of Origin		
4	Manufacturer's brochure and specification	Must be supplied	
B	TECHNICAL SPECIFICATIONS		
5	Rating	4.5KVA	
6	Input voltage swing	100 – 240V ac	
7	Output voltage	220-240V ac	
8	Output frequency	50-60HZ auto-sensing	
9	Protection	❖ Output overload ❖ Input/output short circuit	
10	Communication Interface	Serial port communication support	
11	Design	❖ Automatic voltage regulation ❖ Mains isolation ❖ User replaceable batteries ❖ Static-automatic bypass ❖ Maintenance bypass	
12	Battery Module	❖ 25 minute backup time ❖ 3 year lifetime ❖ Sealed lead acid type preferred ❖ Automatic periodic battery tests ❖ Short recharge time (maximum 5 hours for 100% run time) ❖ Protection against excessive discharge	

2.20 BROCHURES AND TECHNICAL LITERATURE

Tenderers **Must** enclose together with their submitted bids brochures detailing technical Literature and specifications of the EPABX, standby battery and the telephone call management system. The brochures shall be used to evaluate the suitability of EPABX, standby battery and the telephone call management system. **Any bid submitted without the brochures shall be considered technically non-responsive, and shall subsequently be disqualified.**

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, who can be perceived as an inducement to win this tender.

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

SECTION XII

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit 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.
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 manufacture's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of quality of article or quality of material required .Alternative brands of equal and approved quality will be accepted.

SCHEDULE OF UNIT RATES
(Must be completed by the Tenderer)

ITEM	DESCRIPTION	QTY/UNIT	RATE (KSHS)
	Supply and install;		
1.	Tie line card (bidder to indicate the No. of circuits.....)	1No.	
2.	GSM module (bidder to indicate the No. of lines.....)	1No.	
3.	Operator handset	1No.	
4.	Operator headset	1No.	
5.	Operator console	1No.	
6.	Digital Extension card (bidder to indicate the No. of circuits.....)	1No.	
7.	Analog Extension card (bidder to indicate the No. of circuits.....)	1No.	
8.	IP extension card	1No.	
9	Trunk card (bidder to indicate the No. of circuits.....)	1No.	
10.	ISDN system car	1No.	
11.	Telephone line jack RJ 11	1No	
12.	ISDN (PRI) EI unit/modem of 30 channels.	1No.	
13	Executive telephone instrument (DTMF)	1No.	
14	Standard telephone instrument (DTMF)	1No.	
15	Executive IP telephone Instrument	1No	
16.	50mm by 50mm metal trunking	1M.	
17	Twin RJ11 Face plate telephone outlet complete with an installation metal plate of 65mm width	1No.	
18	10 pair PVC telephone cable	1M	
19.	20 pair PVC telephone cable	1M	
20	40 pair PVC telephone cable	1M	
21	50 pair PVC telephone cable	1M	
22	100 pair PVC telephone cable	1M	
23.	50 PAIR Krone dis case	1No	
24	20 pair Krone discase	1No	
25	Krone module unit	1No	

26	Line cord fitted with RJ 11 Connectors 5M	1No	
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SECTION XIII
BILLS OF QUANTITIES

BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS

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

The Bills of Quantities are divided generally into three sections:

Preliminaries – Bill No.1

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

Installation Items – Other Bills

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

The unit of measurements and observations are as per those described in clause 1.0 5 of the section C.

Summary

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

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

SPECIAL NOTES TO BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the Contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes **(including 16% VAT and 3% withholding tax)**.

In accordance with Government policy, the 16% VAT and 3% Withholding Tax **shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA)**.

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part thereof.
4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the Contractor shall adhere. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.
6. Tenderers must enclose, together with their submitted tenders, manufacturer's brochures detailing technical literature and specifications of the generator set that they intend to offer. Where the brochure contains different models and sizes of PABXs and active data switches the bidders MUST clearly mark out the model they intend to offer by using a 'mark pen'.

The brochures are to be used to ascertain the suitability of the structured cabling and PABX accessories being offered by the bidders, and bidders not complying with this requirement may be considered non-responsive and may be disqualified from technical evaluation.

BILL NO. 1 – SUB-CONTRACT PRELIMINARIES (Refer to Section C of this Tender Document)

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
1	Discrepancies clause 1.02				
2	Conditions of contract Agreement clause 1.03				
3	Payments clause 1.04				
4	Site location clause 1.06				
5	Scope of Contract Works clause 1.08				
6	Extent of the Contractor's Duties clause 1.09				
7	Firm price contract clause 1.12				
8	Variation clause 1.13				
9	Prime cost and provisional sum clause 3.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond clause 1.15				
11	Government Legislation and Regulations clause 1.16				
12	Import Duty and Value Added Tax clause 1.17 (Note this clause applies for materials supplied only)				
13	Insurance company Fees clause 1.18				
14	Provision of services by the Main contractor clause 1.19				
15	Samples and Materials Generally clause 1.21				
SUB-TOTAL CARRIED TO PAGE 195					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
18	Contractor's Office in Kenya clause 1.24				
19	Builder's Work clause 1.25				
20	Setting to work and Regulating system clause 1.29				
21	Identification of plant components clause 1.30				
22	Working Drawings clause 1.32				
23	Record Drawings (As Installed) and Instructions clause 1.33				
24	Maintenance Manual clause 1.34				
25	Hand over clause 1.35				
26	Painting clause 1.36				
27	Testing and Inspection – manufactured plant clause 1.38				
28	Testing and Inspection – Installation clause 3.39				
29	Storage of Materials clause 1.41				
30	Initial Maintenance clause 1.42				
SUB-TOTAL CARRIED TO PAGE 195					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
31	Local and other Authorities notices and fees clause 1.60				
32	Temporary Works clause 1.63				
33	Patent Rights clause 1.64				
34	Mobilization and Demobilization Clause 1.65				
35	Supervision by engineer and site meetings clause 1.67				
36	Allow for profit and Attendance for the above (item 35)				
37	Amendment to Scope of Contract Works Clause 1.68				
38	Contractor Obligation and Employers Obligation clause 1.69				
Sub-total from above					
Sub-total B/F from Page					
Sub-total B/F from Page					
TOTAL CARRIED FORWARD TO PRICE SUMMARY PAGE					

Bidders MUST either insert percentage or indicate as NIL for the following clauses:

- (1). Attendance Upon Tradesmen, etc. **(Insert percentage only)** clause 1.58 of section C

.....%

- (2). Extended Preliminaries **(Insert percentage only)** Clause 1.66 of section C

.....%

SECTION 2.0 – TELEPHONE INSTRUMENTS & ACCESSORIES

[illegible]

SECTION 3.0 – STRUCTURED CABLING WORKS

Item	Description	Qty	Unit	Rate	Kshs.	Cts.
	Supply, Install, Test and Commission the following items:					
	HORIZONTAL CABLING					
3.1	Cat 6E UTP 4-pair cable	12600	Lm.			
3.2	3M, RJ45-RJ45 patch cords factory terminated	105	No.			
3.3	3M, RJ45- RJ11 patch cord factory terminated	105	No.			
3.4	1M, RJ45-RJ45 patch cord factory terminated	210	No.			
3.5	RJ45 Cat 6E UTP (Dual)Data Outlets complete with faceplate	105	No.			
3.6	IDC (Insulation displacement connectors) – RJ45 1m patch cord jacks	105	No.			
	BACKBONE CABLING					
3.7	1000Base X 8-Core Fibre Optic Cable	60	Lm.			
3.8	Fibre Optic Patch Leads	24	No.			
3.9	24 port voice patch panel	7	No.			
3.10	24 port data patch panel	7	No.			
3.11	IDC Voice Termination kit	7	No.			
3.12	50 pair pvc telephone cable	40	M			
3.13	50 pair Krone Discase	7	No.			
	CABINETS					
3.14	9U Wall mounted cabinet with low noise (low Db) fans and power outlet sockets.	7	No.			
3.15	42U cabinet low noise (low DB) fans and power outlet sockets	1	No.			
3.16	Cable Mangers	Item	Item			
	ACTIVE COMPONENTS					
3.17	24 port Edge Switch as Cisco 3750- E or an equal and approved equipment	6	No.			
3.18	2U, 240V, 50Hz 1000V A, APC smart Un- Interrupted power supply (UPS) with USB and serial port or an equal and approved equivalent	1	No.			
3.19	Earthing the entire system to engineer's approval	Lot.	Lot.			
3.20	48 Core Switch as cisco 6504-E or equal and approved equivalent as specified specification of the tender document	No.	1			
3.21	Any other items that may be necessary as per your proposal.	Sum				
	TOTAL FOR COUNTY HOUSE CARRIED FORWARD TO SUMMARY PAGE -	SUM				

SECTION 3.0 – STRUCTURED CABLING WORKS

[illegible]

SECTION 4.0**TITLE: AUDIO VISUAL SYSTEM**

Item	Description	Unit	Qty	Rate	Kshs.	Cts.
4.1	Extron DXP 44 HDMI Visual Matrix Switcher	No.	1			
4.2	Extron DMP 128C. 12x8 DSP Audio Matrix Switcher with Echo Cancellation	No.	1			
4.3	Extron DTP HDMI 4K 230 Rx. HDMI Twisted Pair Extender	No.	6			
4.4	Extron XTP DTP 24. Shielded Twisted Pair Cable for XTP Systems and DTP Series Products	No.	2			
4.5	Extron Share Link 200 Wireless Collaboration Gateway	No.	1			
4.6	Extron IPL 250 IP Link Control Processor	No.	1			
4.7	Extron TLP 350MV 3.5" Wall Mount Touch Link, Touch panel.	No.	1			
4.8	Hover cum ultra 8 document cameras with 8m resolution	No.	1			
4.9	Canon Vixia HF MH Camcorder	No.	1			
4.10	High resolution H3 LED LCD Full HD 3D Projector with HDMI, VGA, & WB play points	No.	5			
4.11	Extron portable & Collapsible projection screen 100 inch white color	No.	5			
4.12	Shure Handheld & Lapel Wireless Microphone	No.	2			
4.13	Audac Standalone Speakers	No.	2			
4.14	Work DCA1. 120 Watts x 2 Channel Amplifier	No.	1			
4.15	Oxygen Free Speaker Cable (Roll)	Lm	60			
4.16	Workstation CSV 640 Column Podium	No.	1			
4.17	Clips & Accessories	Item				
4.18	Labor	Item				
4.19	Any other items necessary to complete the system installation satisfactorily (state).	Sum				
	TOTAL FOR AUDIO VISUAL SYSTEM CARRIED FORWARD SUMMARY PAGE - COUNTY HOUSE	SUM				

SECTION 5.0**TITLE: MAIN SUMMARY PAGE**

Item	Description	Kshs.
	Proposed Refurbishment, Additions & Alterations to County House Building for Parliamentary Service Commission. <u>Structured Cabling, Telephone Equipment & Audio-Visual Equipment Installation (Supply & Installation)</u> <u>MAIN SUMMARY</u> Item	
5.1	Preliminaries B/F from page H/5	
5.2	Total for Telephone Equipment B/F from page H/6	
5.3	Total for Structured Cabling B/F from page H/8	
5.4	Total for Audio Visual B/F from page H/9	
5.5	Add Contingency Sum	500,000.00
	TOTAL CARRIED FORWARD TO FORM OF TENDER	

--	--	--

SECTION XIV
TECHNICAL SCHEDULE
OF
ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

- 1.0 The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders
- 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.**

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED
(To be Completed by the Tenderer as a Mandatory Requirement)

ITEM	DESCRIPTION	TYPE/MAKE	COUNTRY OF ORIGIN
1.0	Executive digital telephone instrument		
2.0	Standard digital telephone instrument		
3.0	Executive IP telephone instrument		
4.0	Operator console		
5.0	Back-up batteries		
6.0	Voltage stabilizer		
7.0	Modem for the ISDN / PRI		
8.0	Core Switch		
9.0	Edge switches		
10	CAT 6 Cables		
11	Patch panels		
12	Discase		
13	Fiber optic Cable		
14	Telephone Cable		
15	Cable Managers		
16	UPS		
17	Data Cabinets		

SECTION XV

STANDARD FORMS

CONTENTS OF SECTION XV

TITLE	PAGE
1. Performance Bank Guarantee.....	J/1
2. Tender Questionnaire.....	J/2
3. Confidential Business Questionnaire.....	J/3–J/4
4. Key Personnel.....	J/5
5. Schedule of Contracts completed in the last eight (8) years.....	J/6
6. Schedule of on-going projects.....	J/7
7. Schedule of major items of contractor’s equipment	J/8
8. Audited Financial reports for the last three (3) years	J/9
9. Evidence of Financial Resources.	J/10
10. Bidders Bank Information.....	J/11
11. Draft Program of Works	J/12
12. Details of Litigation or Arbitrations	J/13
13. Guarantee of spare parts	J/14
7. Manufacturers authorization form-----	J/15
8. Local Dealers authorization form-----	J/16

NOTE:

- 1.0** Tenderers must duly fill these Standard Forms as a mandatory requirement.
- 2.0** Any tender returned with **unfilled Standard Forms** shall be considered **non-responsive and shall automatically be disqualified.**

PERFORMANCE BANK GUARANTEE

To: The Chairman, Parliamentary Service Commission.
P. O. Box 41842
NAIROBI.

Dear Sir,

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

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised 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

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of Tenderer:
.....
2. Full address of Tenderer to which tender correspondence is to be sent (unless an agent has been appointed below):
.....
3. Telephone number (s) of Tenderer:
.....
4. Telex/Fax Address of Tenderer:
.....
5. Name of Tenderer's representative to be contacted on matters of the tender during the tender period:
.....
6. Details of Tenderer's nominated agent (if any) to receive tender notices. This is essential if the Tenderer does not have his registered address in Kenya (name, address, telephone, telex):
.....
.....

Signature of Tenderer

CONFIDENTIAL BUSINESS QUESTIONNAIRE

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

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

Part 1 – General

Business Name

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

Plot No..... Street/Road

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

Nature of Business.....

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

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

Kenya Shillings.....

Name of your bankers.....

Branch.....

Part 2 (a) – Sole Proprietor

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

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

Citizenship details

Part 2 (b) – Partnership

Give details of partners as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details</i>	<i>Shares</i>
1.
2.
3.
4.

Part 2(c) – Registered Company

Private or Public

State the nominal and issued capita of the company:

Nominal KShs.

Issued KShs.

Give details of all directors as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details* Shares</i>
1.
2.
3.
4.

Part 2(d) Interest in the Firm:

Is there any person/persons in the employment of the Government of Kenya WHO has interest in this firm? Yes/No (Delete as necessary)

I certify that the above information is correct.

.....

Title

.....

Signature

.....

Date

* Attach proof of citizenship

KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

POSITION	NAME	YEARS OF EXPERIEN CE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

I certify that the above information is correct.

.....

Title

.....

Signature

.....

Date

CONTRACTS COMPLETED IN THE LAST EIGHT (8) YEARS

Work performed on works of a similar nature, complexity and volume over the last 8 years.

<i>PROJECT NAME</i>	<i>NAME OF CLIENT</i>	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

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

.....
Title

.....
Signature

.....
Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.

<i>PROJECT NAME</i>	<i>NAME OF CLIENT</i>	<i>CONTRACT SUM</i>	<i>% COMPLETE</i>	<i>COMPLETION DATE</i>

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

.....
Title

.....
Signature

.....
Date

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

ITEM OF EQUIPMENT	DESCRIPTION, MAKE AND AGE (Years)	CONDITION (New, good, poor) and number available	OWNED, LEASED (From whom?), or to be purchased (From whom?)

AUDITED FINANCIAL REPORTS FOR THE LAST FIVE YEARS

EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS
(Cash in Hand, Lines of credit, e.t.c. List below and attach copies of supportive documents.)

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

BIDDER'S BANK INFORMATION

(This information is mandatory and should be for banks to provide reference if contacted by employer)

NAME OF BANK	BANK BRANCH	ACCOUNT NAME	ADDRESS	TELEPHONE

DRAFT PROGRAM OF WORKS IN THE FORM OF A BAR CHART

**DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS IN WHICH THE
TENDERER IS INVOLVED AS ONE OF THE PARTIES**

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

MANUFACTURER'S AUTHORIZATION FORM

To: _____ (*Name of Procuring entity*)

WHEREAS
(*Name of Manufacturer*)

who are established and reputable *Manufacturers* of
.....
(*Name and model of lift*)

having factories at
(*Address of factory*)

do hereby authorize
(*Name and address of Tenderer*)

to submit a tender and subsequently negotiate and sign the Contract with you against
Tender No. (*Reference of the tender*)..... for the supply and
installation of the above lifts manufactured by us.

We hereby extend our full guarantee and warranty as per the General Conditions of
Contract for the lifts offered for supply by the above firm against this Invitation for
Tenders

(*Signature for and on behalf of manufacturer*).

Note: This letter must be on the letterhead of the *manufacturer* and should be signed by a
competent person.

LOCAL DEALERS AUTHORIZATION FORM

To: _____ (Name of Procuring entity)

WHEREAS
(Name of local lift dealer)

who are established and reputable dealership of

.....

(Name and model of lift)

having businesses at

.....

(Address of premises)

do hereby authorize

(Name and address of Tenderer)

to submit a tender and subsequently negotiate and sign the Contract with you against Tender No. *(Reference of the tender)* for the supply and installation of the above lift beginning and ending

We hereby extend our full guarantee and warranty as per the General Conditions of Contract for the lifts offered for supply by the above firm against this Invitation for Tenders

(Signature for and on behalf of lift dealer).

Note: This letter must be on the letterhead of the dealer and should be signed by a competent person.