REPUBLIC OF KENYA

MINISTRY OF FOREIGN & DIASPORA AFFAIRS

STATE DEPARTMENT FOR DIASPORA AFFAIRS

TENDER FOR THE PROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUILDING, UPPER HILL- NAIROBI

TENDER NO. MFA/SDDA/01/2022-2023

CLOSING DATE: **10th May, 2023**
CLOSING TIME: **10:00 AM**

W.P. ITEM NO. D1052 NB/NB/2202 JOB NO. 11169 A

PROJECT MANAGER
WORKS SECRETARY M.L.PW.
H&UD
P.O BOX 30743-00100
NAIROBI

ARCHITECT
CHIEF ARCHITECT
M.L.PW. H&UD
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CHIEF ENGINEER(ELECTRICAL)
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MECHANICAL ENGINEER
CHIEF ENGINEER (MECHANICAL). BS
M.L.PW. H&UD
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STRUCTURAL ENGINEER
CHIEF STRUCTURAL ENGINEER
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DESIGNER
CHIEF DESIGNER
M.L.PW. H&UD
P.O BOX 30743-00100
NAIROBI

MAY, 2023

STATE DEPARTMENT FOR DIASPORA AFFAIRS

THE PROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUILDING, UPPER HILL- NAIROBI

Supplied as part of the Contract for Proposed Office Partitioning and Interior Fit-Out Works at Old Mutual Building, Upper Hill -Nairobi

W.P. ITEM NO. D1052 NB/NB/2202 JOB NO. 11169 A

Issued by: -

Quantities and Contracts Section,
State Department for Public Works,
Ministry of Lands, Public Works, Housing &Urban Development.
P O Box 30743-00100, NAIROBI.

PRINCIPAL SECRETARY
STATE DEPT. FOR DIASPORA AFFAIRS.
Date: 2nd May, 2023

SPECIAL NOTES

The Contractor is required to check the numbers of the pages of these Bills of Quantities and should he find any missing or in duplicate or figures indistinct he must inform the Principal Secretary, State Department for Public Works), Head Office, Ngong Road, Nairobi at once and have the same rectified.

Should the Contractor be in doubt about the precise meaning of any item or figure for any reason whatsoever, he must inform the Principal Secretary, State Department for Public Works, Head Office in order that the correct meaning may be decided before the date for submission of tenders.

No liability will be admitted nor claim allowed in respect of errors in the Contractor's Tender due to mistakes in the Specifications which should have been rectified in the manner described above.

SIGNATURE PAGE AND NOTES

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REPUBLIC OF KENYA

STATE DEPARTMENT FOR DIASPORA AFFAIRS

PROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUILDING, UPPER HILL- NAIROBI

TENDER DOCUMENTS FOR PROCUREMENT OF SMALLWORKS

TENDER NO. MFA/SDDA/01/2022-2023

1) **NAME AND CONTACTADDRESSES OF PROCURING ENTITY**

STATE DEPARTMENT FOR DIASPORA AFFAIRS

P.O Box 30551-00100, Nairobi.

Email address : psdiaspora@mfa.go.ke

2) **Invitation to Tender (ITT) No.: -W.P. ITEM NO. D1052 NB/NB/2202 JOB NO. 11169A**

3) **Tender Name:** - THE PROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUILDING, UPPER HILL- NAIROBI

INVITATION TO TENDER

PROCURING ENTITY: STATE DEPARTMENT FOR DIASPORA AFFAIRS.

TENDER NO. MFA/SDDA/01/2022-2023 **TENDER DATE: 2ND MAY. 2023**

CONTRACT NAME AND DESCRIPTION: THE ROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUILDING, UPPER HILL- NAIROBI.

The State Department for Diaspora Affairs invites sealed tenders for the Proposed Office Partitioning and Interior Fit-Out at Old Mutual, Upper Hill, Nairobi.

1. Tendering will be conducted under open competitive method using a standardized tender document. Tendering is open to all Small and Medium Enterprises registered appropriately with NCA.

2. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours 0900 to 1500 hours at the address given below.

3. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of Kenya Shillings 1,000 in cash or Banker's Cheque and payable to the address given below.

4. Tender documents may be obtained and viewed electronically from the Website: www.mfa,go.ke/diaspora and www.ppra.go,ke. Tender documents obtained electronically will be free of charge. Tenderers who download the tender document must forward their particulars immediately to the address given below to facilitate any further clarification or addendum.

5. Tenders shall be quoted be in Kenya Shillings and shall include all taxes. Tenders shall remain valid for 120 days from the date of opening of tenders.

6. All Tenders must be accompanied by a tender Security of Kenya Shillings 1,600,000.00

7. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

8. Completed tenders must be delivered to the address below on or before 10th May, 2023 at 10.00am. Electronic Tenders will not be permitted.

9. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below.

10. Late tenders will be rejected.

11. The addresses referred to above are:

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

Name of Procuring Entity: STATE DEPARTMENT FOR DIASPORA AFFAIRS.

A. **Address for clarification of tenders**)

Office and Tender Box located at:

The Principal Secretary,
State Department for Diaspora Affairs.
P.O Box 30551-00100,
Nairobi
Attn: Head, Supply Chain Management Services

316-Upper Hill Chambers -15th Floor, 2nd Ngong Avenue, Nairobi.

B. **Physical address for submission of tenders** (Physical/Courier Delivery)
Office and Tender Box located at:

316-Upper Hill Chambers -12th Floor, 2nd Ngong Avenue, Nairobi.

Addressed to:
The Principal Secretary,
State Department for Diaspora Affairs.
P.O Box 30551-00100,
Nairobi

C. **Address for Opening of Tenders**:

State Department for Diaspora Affairs
316-Upper Hill Chambers -15th Floor-Boardroom, 2nd Ngong Avenue, Nairobi.

Head, Supply Chain Management Services.

STATE DEPARTMENT FOR DIASPORA AFFAIRS

PART 1 - TENDERING PROCEDURES

SECTION I: INSTRUCTIONS TO TENDERERS

A General Provisions

1. Scope of Tender

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

2. Fraud and Corruption

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

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

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

2.4 Unfair Competitive Advantage -Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender being tendered for. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

3. Eligible Tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.7 or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives *(spouses, children, brothers, sisters and uncles and aunts)* are not eligible to participate in the tender. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. The maximum number of JV members shall be specified in the **TDS.**

3.2 Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.

3.3 A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:

a) Directly or indirectly controls, is controlled by or is under common control with another tenderer; or

b) Receives or has received any direct or indirect subsidy from another tenderer; or

c) Has the same legal representative as another tenderer; or

d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position

to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process; or

e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender; or

f) any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as Engineer for the Contract implementation; or

g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document or

h) Has a close business or family relationship with a professional staff of the Procuring Entity who:

i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or

ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.

3.4 A tenderer shall not be involved in corrupt, coercive, obstructive, collusive or fraudulent practice. A tenderer that is proven to have been involved any of these practices shall be automatically disqualified.

3.5 A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.8.A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub-consultants for any part of the Contract including related Services.

3.7 Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.

3.8 Tenderers that are state-owned enterprises or institutions may be eligible to compete and be awarded a Contract(s) only if they are accredited by PPRA to be (i) a legal public entity of the state Government and/or public administration, (ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.

3.9 A Firms and individuals may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits

any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

3.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided in for this purpose is be provided in *"SECTION III - EVALUATION AND QUALIFICATION CRITERIA, Item 9".*

3.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan Citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

3.12 The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.

3.13 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke

3.14 A Kenyan tenderer shall provide evidence of having fulfilled his/her tax obligations by producing a valid tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

4. Eligible Goods, Equipment, and Services

4.1 Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not eligible under ITT 3.9. At the Procuring Entity's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.

4.2 Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

5. Tenderer's Responsibilities

5.1 The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and the Procuring Entity will in no case be responsible or liable for those costs.

5.2 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.

5.3 The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity against

all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the inspection.

5.4 The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

B. Contents of Tender Documents

6. Sections of Tender Document

6.1 The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 8.

PART 1 Tendering Procedures
i) Section I - Instructions to Tenderers (ITT) ii)
Section II - Tender Data Sheet (TDS)
iii) Section III - Evaluation and Qualification Criteria
iv) Section IV - Tendering Forms

PART 2 Works Requirements i)
Section V - Drawings ii) Section VI -
Specifications iii) Section VII - Bills
of Quantities

PART 3 Conditions of Contract and Contract Forms
i) Section VIII - General Conditions of Contract
(GCC) ii) Section IX - Special Conditions of
Contract (SC) iii) Section X - Contract Forms

6.2 The Invitation to Tender Document (ITT) issued by the Procuring Entity is not part of the Contract documents.

6.3 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 8. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

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

7. Site Visit

7.1 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the Site of the Required Services and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for the Services. The costs of visiting the Site shall be at the Tenderer's own expense.

8. Pre-Tender Meeting

8.1 The Procuring Entity shall specify in the **TDS** if a pre-tender meeting will be held, when and where. The Procuring Entity shall also specify in the **TDS** if a pre-arranged pretender site visit will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

8.2 The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later than the period specified in the **TDS** before the meeting.

8.3 Minutes of the pre-Tender meeting and the pre-arranged pretender site visit of the site of the works, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.

8.4 The Procuring Entity shall also promptly publish anonym zed (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the works at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-tender meeting and the pre-arranged pretender site visit, shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9. Clarification and amendments of Tender Documents

9.1 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the

Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting and the pre-arranged pretender visit of the site of the works if provided for in accordance with ITT 8.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender Documents in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents appropriately following the procedure under ITT 8.4.

10. Amendment of Tendering Document

10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.

10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.

10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 25.2 below**.**

C. Preparation of Tenders

11. Cost of Tendering

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

12. Language of Tender

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

13. Documents Comprising the Tender

13.1 The Tender shall comprise the following:

a) Form of Tender prepared in accordance with ITT 14;
b) Schedules including priced Bill of Quantities, completed in accordance with ITT 14 and ITT 16;
c) Tender Security or Tender-Securing Declaration, in accordance with ITT 21.1;
d) Alternative Tender, if permissible, in accordance with ITT 15;
e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3;
f) Qualifications: documentary evidence in accordance with ITT 19establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
g) Conformity: a technical proposal in accordance with ITT 18;
h) Any other document required in the **TDS**.

13.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender,

together with a copy of the proposed Agreement. The Tenderer shall chronologically serialize pages of all tender documents submitted.

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

14. Form of Tender and Schedules

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

15. Alternative Tenders

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

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

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

16. Tender Prices and Discounts

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

16.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.

16.3 The price to be quoted in the Form of Tender, in accordance with ITT 14.1, shall be the total price of the Tender, including any discounts offered.

16.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 14.1.

16.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.

16.6 Where tenders are being invited for individual lots (contracts)or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 16.4, provided the Tenders for all lots (contracts) are opened at the same time.

16.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

17. Currencies of Tender and Payment

17.1 Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings. A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya shall device own ways of getting foreign currency to meet those expenditures.

18. Documents Comprising the Technical Proposal

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

19. Documents Establishing the Eligibility and Qualifications of the Tenderer

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

19.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.

19.3 A margin of preference will not be allowed. Preference and reservations will be allowed, individually or in joint ventures. Applying for eligibility for Preference and reservations shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

19.4 Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.

19.5 The purpose of the information described in ITT 19.4 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a

justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.

19.6 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.3. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

19.7 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.

19.8 If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.

19.9 If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of

interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

i) if the procurement process is still ongoing, the tenderer will be disqualified from the procurement process, ii) if the contract has been awarded to that tenderer, the contract award will be set aside,

iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

19.10 If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 6.7 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tenderer.

20. Period of Validity of Tenders

20.1 Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 24). A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 21.1, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 20.3.

20.3 If the award is delayed by a period exceeding the number of days to be specified in the **TDS** days beyond the expiry of the initial tender validity period, the Contract price shall be determined as follows**:**

a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified in the **TDS**;

b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

21. Tender Security

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

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

a) an unconditional Bank Guarantee issued by reputable commercial bank); or

b) an irrevocable letter of credit;

c) a Banker's cheque issued by a reputable commercial bank; or

d) another security specified **in the TDS**,

21.3 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 20.2.

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

21.5 If a Tender Security is specified pursuant to ITT 21.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the **TDS**. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined nonresponsive or a bidder declines to extend tender validity period.

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

21.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:

e) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or

f) if the successful Tenderer fails to:

i) sign the Contract in accordance with ITT 50; or

ii) furnish a Performance Security and if required in the **TDS**, and any other documents required in the **TDS**.

21.8 Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA that PPRA debars the Tenderer from participating in public procurement as provided in the law.

21.9 The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT 4.1 and ITT 11.2.

21.10 A tenderer shall not issue a tender security to guarantee itself.

22. Format and Signing of Tender

22.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 13 and clearly mark it “ORIGINAL.” Alternative Tenders, if permitted in accordance with ITT 15, shall be clearly marked “ALTERNATIVE.” In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **TDS** and clearly mark them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

22.2 Tenderers shall mark as “CONFIDENTIAL” all information in their Tenders which is confidential to their

business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

22.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the **TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

22.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

22.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. Submission and Opening of Tenders

23. Sealing and Marking of Tenders

23.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

a) in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11; and

b) in an envelope or package or container marked "COPIES", all required copies of the Tender; and

c) if alternative Tenders are permitted in accordance with ITT 15, and if relevant:

i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE TENDER", the alternative Tender; and

ii) in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

a) bear the name and address of the Procuring Entity.

b) bear the name and address of the Tenderer; and

c) bear the name and Reference number of the Tender.

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

24. Deadline for Submission of Tenders

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

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

25. Late Tenders

25.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 24. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

26. Withdrawal, Substitution, and Modification of Tenders

26.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 22.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

a) prepared and submitted in accordance with ITT 22 and ITT 23 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and

b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 24.

26.2 Tenders requested to be withdrawn in accordance with ITT 26.1 shall be returned unopened to the Tenderers.

26.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

27. Tender Opening

27.1 Except in the cases specified in ITT 23 and ITT 26.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified in the **TDS**, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 24.1, shall be as specified in the **TDS**.

27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal

and is read out at Tender opening.

27.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.

27.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.

27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.

27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of the Procuring Entity to sign shall be specified in the **TDS**.

27.7 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 25.1).

27.8 The Procuring **Entity shall prepare minutes of the Tender Opening that shall include, as a minimum:**

a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;

b) the Tender Price, per lot (contract) if applicable, including any discounts;
c) any alternative Tenders;
d) the presence or absence of a Tender Security, if one was required.
e) number of pages of each tender document submitted.

27.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

E. Evaluation and Comparison of Tenders

28. Confidentiality

28.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 46.

28.2 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.

28.3 Notwithstanding ITT 28.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any **matter related to the tendering process, it shall do so in writing.**

29. Clarification of Tenders

29.1 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the tenderers, the Procuring Entity may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the tenders, in accordance with ITT 33.

29.2 If a tenderer does not provide clarifications of its tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

30. Deviations, Reservations, and Omissions

30.1 During the evaluation of tenders, the following definitions apply:
a) “Deviation” is a departure from the requirements specified in the tender document;
b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and
c) “Omission” is the failure to submit part or all of the information or documentation required in the Tender document.

31. Determination of Responsiveness

31.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 13.

31.2 A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation**, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:**
a) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract; or

c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

31.3 The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 18, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

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

32. Non-material Non-conformities

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

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

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

33. Arithmetical Errors

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

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

a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.

b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, and subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and

c) if there is a discrepancy between words and figures, the amount in words shall prevail

33.3 Tenderers shall be notified of any error detected in their bid during the notification of a ward.

34. Currency provisions

34.1 Tenders will priced be in Kenya Shillings only. Tenderers quoting in currencies other than in Kenya shillings will be determined non-responsive and rejected.

35. Margin of Preference and Reservations

35.1 No margin of preference shall be allowed on contracts for small works.

35.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, youth and/or persons living with disability, who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses/firms belonging to those specified groups are the only ones eligible to tender. Otherwise if no so stated, the invitation will be open to all tenderers.

36. Nominated Subcontractors

36.1 Unless otherwise stated in the **TDS**, the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Procuring Entity.

36.2 Tenderers may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified in the **TDS**. Subcontractors proposed by the Tenderer shall be fully qualified for their parts of the Works.

36.3 The subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated by the Procuring Entity in the **TDS** as can be met by subcontractors
referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

37. Evaluation of Tenders

37.1 The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Procuring Entity shall determine the Best Evaluated Tender in accordance with ITT 40.

37.2 To evaluate a Tender, the Procuring Entity shall consider the following:

a) price adjustment due to discounts offered in accordance with ITT 16;
b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 39;
c) price adjustment due to quantifiable nonmaterial non-conformities in accordance with ITT 30.3; and
d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

37.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.

37.4 In the case of multiple contracts or lots, Tenderers shall be allowed to tender for one or more lots and the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the **Form of Tender, is specified in Section III, Evaluation and Qualification Criteria.**

38. Comparison of Tenders

38.1 The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 38.2 to determine the Tender that has the lowest evaluated cost.

39. Abnormally Low Tenders

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

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

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

40. Abnormally High Tenders

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

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

i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.

ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

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

41. Unbalanced and/or Front-Loaded Tenders

41.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.

41.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:

a) accept the Tender; or

b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price; or

c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works; or

d) reject the Tender,

42. Qualifications of the Tenderer

42.1 The Procuring Entity shall determine to its satisfaction whether the eligible Tenderer that is selected as having submitted the lowest evaluated cost and substantially responsive Tender, meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

42.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 19. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

42.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

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

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

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

43. Best Evaluated Tender

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

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

44. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders.

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

F. Award of Contract

45. Award Criteria

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

46. Notice of Intention to enter into a Contract

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

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

47. Standstill Period

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

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

48. Debriefing by the Procuring Entity 48.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 46, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.

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

49. Letter of Award

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

50. Signing of Contract

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

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

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

51. Appointment of Adjudicator

51.1 The Procuring Entity proposes the person named in the **TDS** to be appointed as Adjudicator under the Contract, at the hourly fee specified in the **TDS**, plus reimbursable expenses. If the Tenderer disagrees with this proposal, the Tenderer should so state in his Tender. If, in the Letter of Acceptance, the Procuring Entity does not agree on the appointment of the Adjudicator, the Procuring Entity will request the Appointing Authority designated in the Special Conditions of Contract (SCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

52. Performance Security

52.1 Within twenty-one (21) days of the receipt of the Letter of Acceptance from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 40.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.

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

52.3 Performance security shall not be required for contracts estimated to cost less than Kenya shillings five million shillings**.**

53. Publication of Procurement Contract

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

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

54. Procurement Related Complaints and Administrative Review

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

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

Section II - Tender Data Sheet (TDS)

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

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	A. General
ITT 1.1	The name of the contract PROPOSED OFFICE PARTITIONING AND INTERIOR FIT-OUT AT OLD MUTUAL BUIDLING, UPPER HILL-NAIROBI The reference number of the Contract is **TENDER NO. MFA/SDDA/01/2022-2023** **W.P ITEM No. D1052 NB/NB/2202 JOB NO. 11169 A** The number and identification of lots (contracts) comprising this Tender are: ***Not applicable***
ITT 2.3	The Information made available on competing firms is as follows:
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: **STATE DEPARTMENT FOR PUBLIC WORKS, P.O.BOX 30743-00100 NAIROBI** _____
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: ***None***
B. Contents of Tender Document	
8.1	(A) Pre-Tender conference shall take place at the following date, time and place: ***As indicated in the tender invitation*** – Not Applicable (B) A pre-arranged pretender visit of the site of the works shall take place at the following date, time and place: ***As indicated in the tender invitation*** – Not Applicable
ITT 8.2	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than: ***As indicated in the tender invitation***
ITT 8.4	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender site visit will be published is: ***As indicated in the tender invitation*** – Not Applicable
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is: **STATE DEPARTMENT FOR DIASPORA AFFAIRS.** The Principal Secretary, State Department for Diaspora Affairs. P.O Box 30551-00100, Nairobi Attn: Head, Supply Chain Management Services 316-Upper Hill Chambers -15th Floor, 2nd Ngong Avenue, Nairobi. Email: psdiaspora@mfa.go.ke
C. Preparation of Tenders	
ITP 13.1 (h)	The Tenderer shall submit the following additional documents in its Tender:

	1. Valid Copy of certificate of incorporation/ Registration. (Certified by an advocate) 2. Valid Current Tax Compliance Certificate issued by Kenya Revenue Authority 3. Dully filled and signed Confidential Business Questionnaire 4. Valid Copy of Current Single Business Permit (Certified by an advocate) 5. Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 6 months) or National Identity Card(s) for Sole Proprietorship/ Partnership 6. Submission of original tender document (including supportive document) 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. 7. Letter of authority to seek references from the Tenderer's bankers. 8. Provide proof of Power of attorney. 9. Submit certified copies of Audited accounts (Signed by Auditors and directors) for the last three (3) years (2019,2020 and 2021) (Certified by an advocate)
ITT 15.1	Alternative Tenders ***shall not be*** considered.
ITT 15.2	Alternative times for completion ***shall not be*** permitted.
ITT 15.4	Alternative technical solutions shall be permitted for the following parts of the Works: ***Not applicable***
ITT 16.5	The prices quoted by the Tenderer shall be: ***fixed***
ITT 20.1	The Tender validity period shall be **120** days.
ITT 20.3 (a)	(a) If the days for award is delayed by a period exceeding 30 days (b) The Tender price shall be adjusted by the following percentages of the tender price: (i) By ***Not applicable*** % of t*he local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and* (ii) *By **Not applicable** % the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.*
ITT 21.1	The tenderer shall provide a tender security of Kenya Shillings One Million Six Hundred Thousand (Kshs. **1,600,000.00**)
ITT 21.2 (d)	The other Tender Security shall be: - ***Not applicable***
ITT 21.5	On the Performance Security, other documents required shall be: - ***Not applicable***
ITT 22.1	In addition to the original of the Tender, the number of copies is: ***One (1)***

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS

ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: ***Proof of power of attorney***
D. Submission and Opening of Tenders	
ITT 24.1	(A) For Tender submission purposes only, the Procuring Entity's address is: **Office and Tender Box located at:** 316-Upper Hill Chambers -12th Floor, 2nd Ngong Avenue, Nairobi. Addressed to: The Principal Secretary, State Department for Diaspora Affairs. P.O Box 30551-00100, Nairobi Date and time for submission of Tenders ***As indicated in tender invitation:*** **10th May, 2023 at 10.00am.** Tenderers **shall not submit** tenders electronically.

ITT 27.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: ***As indicated in tender invitation*** STATE DEPARTMENT FOR DIASPORA AFFAIRS **316-Upper Hill Chambers -15th Floor-Boardroom, 2nd Ngong Avenue, Nairobi.** Date and time of tender opening: **10th May, 2023 at 10.00am.**
ITT 27.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below***: Not applicable***
ITT 27.6	The number of representatives of the Procuring Entity to sign is: ***As directed by the procuring entity***
E. Evaluation, and Comparison of Tenders	
ITT 32.3	The adjustment shall be based on the *"**average**"* price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.
ITT 35.2	The invitation to tender is extended to the following groups that qualify for Reservations: Women Enterprises, Youth Enterprises and Enterprises of persons living with disability. *NB:* ***All must meet prequalification criteria for the tender***
ITT 36.1	At this time, the Procuring Entity *"does not intend"* to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 36.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: *10 % of the total contract amount.* Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS

ITT 36.3	The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows: **N/A** For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.
ITT 37.2 (d)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 51.1	The person named to be appointed as Adjudicator is (**To be agreed appointed jointly by the Procuring Entity and the Contractor**). _____ of _____*(pride tel. no. full postal and email addresses)* at an hourly fee of Shs._____ per day.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 52.2	Other documents required are: 1. Program of Works / Progress Chart 2. The bidder shall, **before signing of the contract**, provide Proof of registration with the National Construction Authority (NCA) category 6 and above under building works category with **current annual contractors practicing license**.
ITT 54.1	The procedures for making a Procurement-related Complaints are detailed in the "Regulations" available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke. If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to: ***As indicated in the tender invitation*** For the attention: *[insert full name of person receiving complaints]* Title/position: *[insert title/position]* Procuring Entity: *[insert name of Procuring Entity]* Email address*: [insert email address]* In summary, a Procurement-related Complaint may challenge any of the following: (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract.

n

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1. General Provisions

Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

b) Value of single contract - Exchange rate prevailing on the date of the contract signature.

c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity should use **the Standard Tender Evaluation Document for Goods and Works** for evaluating Tenders.

Evaluation and contract award Criteria

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

2. Preliminary examination for Determination of Responsiveness

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Procuring Entity's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded. The Standard Tender Evaluation Report Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

ITEM	MANDATORY REQUIREMENTS (MR)
MR1	Valid Copy of certificate of incorporation/ Registration. (Certified by an advocate)
MR2	Valid Current Tax Compliance Certificate issued by Kenya Revenue Authority
MR3	Current National Construction Authority Registration Certificate (NCA 6 and above for Main Contractor and NCA 6 for Domestic Subcontractors;
MR4	Provide Current National Construction Authority Annual Contractors Practicing License for both the Main Contractor and Domestic Subcontractors
MR5	Dully filled and signed Confidential business questionnaire
MR6	Submit tender security in the amount of Kenya Shillings One Million Six Hundred Thousand Only (KES 1,600,000/=) in the form of an on-demand bank guarantee issued by a reputable bank located in Kenya. Addressed and bound to the Kenya School of Government, that is in the required format, amount, from a reputable bank and that is valid for 150 days from the date of tender opening.

MR7	Valid Copy of Current Single Business permit (Certified by an advocate)
MR8	Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 6 months) or National Identity Card(s) for Sole Proprietorship/ Partnership
MR9	Submission of original tender document (including supportive document) 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.
MR10	Letter of authority to seek references from the Tenderer's bankers.
MR11	Provide proof of Power of attorney.
MR12	Submit certified copies of Audited accounts (Signed by Auditors and directors) for the last three (3) years (2019,2020 and 2021) (Certified by an advocate)
MR13	Must fill and submit the Self-declaration form that the person/tenderer is not debarred in the matter of the Public Procurement and Asset Disposal Act 2015 in the format provided **- Form SD1.**
MR14	Must fill and submit the Self-declaration that the person/tenderer will not engage in any corrupt or fraudulent practice in the format provided **- Form SD2**
MR15	Must fill and submit Declaration and Commitment to The Code of Ethics in the format provided
MR16	Domestic Contractor's Agreement- A duly signed and stamped Agreement dated within the period of tender for this works between the Main contractor and the a) Electrical Installation works subcontractor b) Mechanical Installation Works Subcontractor Stating that if the main contractor is awarded the contract, he shall work with the firms as their domestic subcontractors The agreement must be witnessed by an attorney/advocate (Not necessary if the main contractor is registered for specialist work)
	NB: • ***The criteria for the subcontract bids shall be referred from the Mechanical and Electrical folios respectively.*** • Bidders who do not satisfy any of the above requirements shall be considered non responsive and their tenders will not be evaluated further. • ***Preliminary Evaluation*** for the proposed specialist works listed under ITT 34.3 to be as ***contained in this volume*** as per the section below. • Order of evaluation of works will be as follows: a) Preliminary evaluation of Main Works b) Preliminary Evaluation of Electrical Installation Works and Mechanical Installation Works c) Technical Evaluation of Main Works (Qualification Form) d) Technical Evaluation of Electrical & Mechanical Works and Financial Evaluation

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

3. **Tender Evaluation (ITT 35) Price evaluation**: in addition to the criteria listed in ITT 35.2 (a) – (c) the

following criteria shall apply:

i) **Alternative Completion Times, i**f permitted under ITT 13.2, will be evaluated as follows:

……

ii) **Alternative Technical Solutions** for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows: …… **iii) Other Criteria; i**f permitted under ITT 35.2(d):

……

4. Multiple Contracts

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

OPTION 1

i) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.

ii) If a tenderer wins more than one Lot, the tender will be awarded contracts for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the Lots. The tenderer will be awarded the combination of Lots for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION 2

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

5. Alternative Tenders (ITT 13.1)

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

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

6. Margin of Preference is not applicable

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

a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.

b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.

i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance p a y m e n t) sufficient to meet t h e construction c a s h fl o w o f K e n y a Shillings **30,000,000.00.**

ii) Minimum average annual construction turnover of Kenya Shillings **212,500,000**, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last **3** years.

iii) At least **3** of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings **70,000,000.00** equivalent.

iv) Contractor's Representative and Key Personnel, which are specified as

v) Contractors key equipment listed on the table “Contractor's Equipment” below and more specifically listed as *[specify requirements for each lot as applicable]* __ vi) Other conditions depending on their seriousness.

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

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last ***three years (3).*** The required information shall be furnished in the appropriate form.

b) **Pending Litigation**

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

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last ***three years (3)***. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the year’s specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

8. QUALIFICATION FORM SUMMARY

1	2	3	*4*	*5*
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority in accordance with ITT 3.14.	Form of Tender	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.8	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.7	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1st January 2017.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	Form CON – 2	
10	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1st January 2017	Form CON – 2	

No.			by Tenderer	Use (Qualification met or Not Met)
1	**2**	**3**	***4***	***5***
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
11	Financial Capabilities	(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings **30,000,000.00** equivalents for the subject contract(s) net of the Tenderer's other commitments. (ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last ***Three (3)*** years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.	Form FIN – 3.1, with attachments	
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings ***212,500,000.00***, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last three (3) years, divided by **3 years**	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last ***five (5)*** years, starting 1st January 2018	Form EXP – 4.1	

1	2	3	*4*	*5*
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
14	Specific Construction & Contract Management Experience	A minimum number of ***Three (3)*** similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or subcontractor between 1st January 2018 and tender submission deadline i.e. …. (number) contracts, each of minimum value Kenya shillings **70,000,000.00** equivalent. [*In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]* The similarity of the contracts shall be based on the following: [*Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITT 34.3]*	Form EXP 4.2(a)	
15	Contractor's Representative and Key Personnel	**Qualification and Total Work Similar Experience (years)**		

		Project Manager	Bachelor’s degree in Architecture, Quantity Surveying, Construction Management or Equivalent with not less than 8 years general experience and 5 years specific experience in similar projects	Form PER - 1 and Form PER - 2 with attachments

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
		Site Agent	Higher Diploma in Building Construction or equivalent with not less than 10 years general experience and 7 years' experience in similar projects	
			Foreman	Diploma- Building Construction, Electrical, Mechanical. A minimum of not less than 10 years' experience in similar projects is required.
			Artisan	Trade test certificate in relevant field and a minimum experience of 10 years

QUALIFICATION FORMS

1. FORM EQU: EQUIPMENT

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

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

2. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

1.	**Title of position: Contractor's Representative**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]

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

3. FORM PER-2:

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

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

Name of Tenderer

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

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

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

Declaration

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

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

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

I understand that any misrepresentation or omission in this Form may: a) be taken into consideration during Tender evaluation;

b) result in my disqualification from participating in the Tender;

c) result in my dismissal from the contract.

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

Signature: _____

Date: (day month year): _____ Countersignature

of authorized representative of the Tenderer:

Signature: _____ Date: (day month

year): _____

4. TENDERER'S QUALIFICATION WITHOUT PRE-QUALIFICATION

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

4.1 FORM ELI -1.1

Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____

1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 ☐ In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderer is not under the supervision of the Procuring Entity 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.2 FORM ELI -1.2

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

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.8. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.3 FORM CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Reason(s) for nonperformance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, SubFactor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	**Amount in dispute (currency)**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: ____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			

Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Procuring Entity" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

4.4 FORM FIN – 3.1:

Financial Situation and Performance

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

4.4.1. Financial Data

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

Information from Income Statement					
Total Revenue (TR)					
Type of Financial information in_____ (currency)	**Historic information for previous _____*years*, _____ (amount in currency, currency, exchange rate*, USD equivalent)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITT 15 for the exchange rate

4.4.2 Sources of Finance

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

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

4.4.3 Financial documents

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

(a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).

(b) be independently audited or certified in accordance with local legislation.

(c) be complete, including all notes to the financial statements.

(d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements[1] for the _____years required above; and complying with the requirements

_____

4.5 FORM FIN – 3.2:

Average Annual Construction Turnover

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

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

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

4.6 FORM FIN – 3.3:

Financial Resources

_____

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

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

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

4.7 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

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

Current Contract Commitments					
	Name of Contract	**Procuring Entity's Contact Address, Tel,**	**Value of Outstanding Work [Current Kenya Shilling /month Equivalent]**	**Estimated Completion Date**	**Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]**
1					
2					
3					
4					
5					

4.8 FORM EXP - 4.1

General Construction Experience

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Page _____of _____pages

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

4.9 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	

If member in a JV or sub-contractor, specify participation in total Contract amount			
Procuring Entity's Name:			
Address: Telephone/fax number E-mail:			

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

Specific Construction and Contract Management Experience (cont.)

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

4.11 FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____
Date: _____
Tenderer's JV Member Name: _____
Sub-contractor's Name[2] (as per ITT 34): _____
ITT No. and title: _____

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

1. Key Activity No One: _ _____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	

[2] If applicable

Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)
Year 1			
Year 2			
Year 3			
Year 4			
Procuring Entity's Name:			
Address: Telephone/fax number E-mail:			

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

2. Activity No. Two
3. ……

OTHER FORMS

5. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

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

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

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

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

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

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

Request for Tender No.: *[insert identification*]

Name and description of Tender *[Insert as per ITT)*

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

To: [*insert complete name of Procuring Entity*] Dear Sirs,

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

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

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

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.

3. We agree to adhere by this tender until_*[Insert date]*, and it shall remain binding upon us and may be accepted at any time before that date.

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

5. We, the undersigned, further declare that:

i) *No reservations:* We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;

ii) *Eligibility:* We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;

iii) *Tender-Securing Declaration:* We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8; *iv) Conformity:* We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works];*

v) *Tender Price:* The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*

vi) Option 1, in case of one lot: Total price is: [*insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*]; Or

Option 2, in case of multiple lots:

a) Total price of each lot [*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and

b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

vii) *Discounts:* The discounts offered and the methodology for their application are:

viii) The discounts offered are: [*Specify in detail each discount offered.*] ix) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

x) *Tender Validity Period:* Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

xi) *Performance Security:* If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;

xii) *One Tender Per Tender:* We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;

xiii) *Suspension and Debarment:* We, along with any of our subcontractors, suppliers, Project Manager, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

xiv) *State-owned enterprise or institution:* [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITT 3.8*];

xv) *Commissions, gratuities, fees:* We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].*

Name of Recipient	Address	Reason	Amount

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

xvi) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;

xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

xix) Collusive practices: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Tender Determination" attached below.

xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from_(*specify website*) during the procurement process and the execution of any resulting contract.

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

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

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

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

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

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

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

Date signed_____day of _____ , _____

Notes
** In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer ** Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.*

A. TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

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

(a) **Tenderer's details**

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

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full_____Age Nationality_____
_____Country of Origin Citizenship ___ _____

c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

d) Registered Company, provide the following details.

i) Private or public Company_____

ii) State the nominal and issued capital of the Company_

Nominal Kenya Shillings (Equivalent)..... Issued Kenya Shillings (Equivalent).....

iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

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

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

If yes, provide details as follows.

	Names of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

ii) **Conflict of interest disclosure**

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		

7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

f) Certification

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

Full Name_____ Title or

Designation_____

_____ _____

(Signature) *(Date)*

B. CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

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

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

1. I have read and I understand the contents of this Certificate;

2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;

4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who: a) has been requested to submit a Tender in response to this request for tenders;
   b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;

5. The Tenderer discloses that [check one of the following, as applicable:
   a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
   b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;

6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding: a) prices;
   b) methods, factors or formulas used to calculate prices;
   c) the intention or decision to submit, or not to submit, a tender; or
   d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;

7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;

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

Name _____ Title_ Date _____

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

C. SELF - DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENTAND ASSET DISPOSALACT 2015.

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of ……...…….. *(insert name of the Company)* who is a Bidder in respect of Tender No. …….. for ……. *(insert tender title/description)* for ……. *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act. **3.** THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

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

Bidder Official Stamp

FORM SD2

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

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

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ……..... *(insert name of the Company)* who is a Bidder in respect of Tender No. ….....……. for …….. *(insert tender title/description)* for …… *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ……... *(insert name of the Procuring entity)* which is the procuring entity.
3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ……. (name of the procuring entity)

4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender 5. THAT what is deponed to herein above is true to the best of my knowledge information and belief.

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

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

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

Sign…….....

Position…….....…….....

Office address…… Telephone…….....…….

E-mail…….....….....…

Name of the Firm/Company…….....……

Date…….....…. (Company Seal/ Rubber Stamp where applicable)

Witness

Name ……..... Sign.....

Date……

D. APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

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

3. Requirements

The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.

Kenya's public procurement and asset disposal act *(no. 33 of 2015)* under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior: -

1) a person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
   a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
   b) if a contract has already been entered into with the person, the contract shall be voidable;
4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;
5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: - a) shall not take part in the procurement proceedings;
   b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and
   c) shall not be a subcontractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:

i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party; v) "obstructive practice" is:

- deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
- acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.

b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.

c) Rejects a proposal for award[3] of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

d) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or recommend to appropriate authority (ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;

e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect[4] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

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

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

f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a “Self-Declaration Form” as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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

Beneficiary:_____

Request forTenders No:

_____

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

1. We have been informed that_____(here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of_____ under Request for Tenders No. __(“the ITT”).

2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.

3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_(_) upon receipt by us of the
Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender (“the Tender Validity Period”), or any extension thereto provided by the Applicant; or

b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.

5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above onor before that date.

_____

[signature(s)]

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

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.:

1. Whereas …… [*Name of the tenderer]* (hereinafter called "the tenderer") has submitted its tender dated …… [*Date of submission of tender]* for the …… *[Name and/or description of the tender]* (hereinafter called "the Tender") for the execution of__under Request for Tenders No.__("the ITT").

2. KNOW ALL PEOPLE by these presents that WE …… of …… [**Name of Insurance Company**] having our registered office at …… (hereinafter called "the Guarantor"), are bound unto …….. [*Name of Procuring Entity*] (hereinafter called "the Procuring Entity") in the sum of …… (Currency and guarantee amount) for which payment well and truly to be made to the said Procuring Entity, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

   Sealed with the Common Seal of the said Guarantor this ___day of _____ 20 __.

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

   a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Principal; or

   b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers ("ITT") of the Procuring Entity's Tendering document.

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

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii)twenty-eight days after the end of the Tender Validity Period.

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

_____	_____
[Date]	*[Signature of the Guarantor]*
_____	_____
[Witness]	*[Seal]*

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

TENDER-SECURING DECLARATION FORM

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

Date:.....*[insert date (as day, month and year) of Tender Submission]*
Tender No.:.....*[insert number of tendering process]*
To:..... *[insert complete name of Purchaser]* I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.

2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation(s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.

3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
   a) our receipt of a copy of your notification of the name of the successful Tenderer; or
   b) thirty days after the expiration of our Tender.

4. I/We understand that if I am/we are/in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:……..……....….. Capacity / title (director or partner or sole proprietor, etc.) …….…….....……. Name: …….. Duly authorized to sign the bid for and on behalf of: *[insert complete name of Tenderer]*

Dated on ……. day of …….……. *[Insert date of signing]* Seal or stamp

Appendix to Tender

Schedule of Currency requirements

Summary of currencies of the Tender for_____*[insert name of Section of the Works]*

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

PART II - WORK REQUIREMENTS

SECTION V - DRAWINGS

A list of drawings should be inserted here. The actual drawings including Site plans should be annexed in a separate booklet.

SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

1. Specifications must be drafted to present a clear and precise statement of the required standards of materials, and workmanship for tenderers to respond realistically and competitively to the requirements of the Procuring Entity and ensure responsiveness of tenders. The Specifications should require that all materials, plant, and other supplies to be permanently incorporated in the Works be new, unused, of the most recent or current models, and incorporating all recent improvements in design and materials unless provided otherwise in the Contract. Where the Contractor is responsible for the design of any part of the permanent Works, the extent of his obligations must be stated.

2. Specifications from previous similar projects are useful and may not be necessary to re-write specifications for every Works Contract.

3. There are considerable advantages in standardizing **General Specifications** for repetitive Works in recognized public sectors, such as highways, urban housing, irrigation and water supply. The General Specifications should cover all classes of workmanship, materials and equipment commonly involved in constructions, although not necessarily to be used in a particular works contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

4. Care must be taken in drafting Specifications to ensure they are not restrictive. In the Specifications of standards for materials, plant and workmanship, existing Kenya Standards should be used as much as possible, otherwise recognized international standards may also be used.

5. The Procuring Entity should decide whether technical solutions to specified parts of the Works are to be permitted. Alternatives are appropriate in cases where obvious (and potentially less costly) alternatives are possible to the technical solutions indicated in tender documents for certain elements of the Works, taking into consideration the comparative specialized advantage of potential tenderers.

6. The Procuring Entity should provide a description of the selected parts of the Works with appropriate reference to Drawings, Specifications, Bills of Quantities, and Design or Performance criteria, stating that the alternative solutions shall be at least structurally and functionally equivalent to the basic design parameters and Specifications.

7. Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details. Technical alternatives permitted in this manner shall be considered by the Procuring Entity each on its own merits and independently of whether the tenderer has priced the item as described in the Procuring Entity's design included with the tender documents.

SECTION VII- BILLS OF QUANTITIES

1. Objectives

The objectives of the Bill of Quantities are:

a) to provide sufficient information on the quantities of Works to be performed to enable tenders to be prepared efficiently and accurately; and

b) when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and contents of the Bill of Quantities should be as simple and brief as possible.

2. Day work Schedule

A Day work Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Procuring Entity of the realism of rates quoted by the Tenderers, the Day work Schedule should normally comprise the following:

a) A list of the various classes of labor, materials, and Constructional Plant for which basic day work rates or prices are to be inserted by the Tenderer, together with a statement of the conditions under which the Contractor shall be paid for work executed on a day work basis.

b) Nominal quantities for each item of day work, to be priced by each Tenderer at day work rates as Tender. The rate to be entered by the Tenderer against each basic day work item should include the Contractor's profit, overheads, supervision, and other charges.

3. Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary priced Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the Special Conditions of Contract should state the manner in which they shall be used, and under whose authority (usually the Project Manager's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Tenderers in respect of any facilities, amenities, attendance, etc., to be provided by the successful Tenderer as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Tenderer to quote a sum for such amenities, facilities, attendance, etc.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the tendering document. They should not be included in the final tendering document.

4. The Bills of Quantities

The Bills of Quantities should be divided generally into the following sections:

a) Preambles

b) Preliminary items

c) Work Items

c) Daywork Schedule; and
d) Provisional items
e) Summary.

The Summary to the Bills of Quantities will take this form or some other form but including these items.

SUMMARY ITEMS	*Page*	*Amount*
Bill No. 1: Preliminary Items		
Bill No. 2: Work Items		
Bill No 3: Daywork Summary		
Bill No 4: Provisional Sums		
Subtotal of Bills No 1-4		
Allow for any Discounts [i]		
TOTAL TENDER PRICE Carried forward to Form of Tender		

PART III - CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

These General Conditions of Contract (GCC), read in conjunction with the Special Conditions of Contract (SCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

General Conditions of Contract

A. General

1. Definitions

1.1 Bold face type is used to identify defined terms.

a) **The Accepted Contract** Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

b) **The Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.

c) **The Adjudicator** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.

d) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.

e) **Compensation Events** are those defined in GCC Clause 42 hereunder.

f) **The Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.

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

h) **The Contractor** is the party whose Bid to carry out the Works has been accepted by the Procuring Entity.

i) **The Contractor's Bid** is the completed bidding document submitted by the Contractor to the Procuring Entity.

j) **The Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.

k) **Days** are calendar days; months are calendar months.

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

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

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

o) **The Defects Liability Period** is the period **named in the SCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

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

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

q) **The Procuring Entity** is the party who employs the Contractor to carry out the Works, **as specified in the SCC,** who is also the Procuring Entity.

r) **Equipmen**t is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

s) **"In writing" or "written"** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

t) The Initial Contract Price is the Contract Price listed in the Procuring Entity's Letter of Acceptance.

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

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

w) **Plant i**s any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

x) **The Project Manager** is the person **named in the SCC** (or any other competent person appointed by the Procuring Entity and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.

y) **SCC** means Special Conditions of Contract.

z) **The Site** is the area of the works as **defined as such in the SCC**.

aa) **Site Investigation Reports** are those that were included in the bidding document and are factual and interpretative reports about the surface and subsurface conditions at the Site.

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

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

dd) **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.

ee) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

ff) **A Variation** is an instruction given by the Project Manager which varies the Works.

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

2. Interpretation

2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

2.2 If sectional completion is specified in the SCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority: a) Agreement,

b) Letter of Acceptance,

c) Contractor's Bid,

d) Special Conditions of Contract,

e) General Conditions of Contract, including Appendices,

f) Specifications,

g) Drawings,

h) Bill of Quantities[5], and

i) any other document **listed in the SCC** as forming part of the Contract.

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3. Language and Law

3.1 The language of the Contract is English Language and the law governing the Contract are the Laws of Kenya.

3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Procuring Entity's Country when

a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country; or

b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

4. Project Manager's Decisions

4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Procuring Entity and the Contractor in the role representing the Procuring Entity.

5. Delegation

5.1 Otherwise **specified in the SCC,** the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

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[5] *In lump sum contracts, delete "Bill of Quantities" and replace with "Activity Schedule."*

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

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the Schedule of Other Contractors, as **referred to in the SCC.** The Contractor shall also provide facilities and services for them as described in the Schedule. The Procuring Entity may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Procuring Entity, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in Fraud and Corruption during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Procuring Entity's and Contractor's Risks

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

11. Procuring Entity's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Procuring Entity's risks:

a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to

i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or

ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed by or contracted to him except the Contractor.

b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is a Procuring Entity's risk except loss or damage due to

aa) a Defect which existed on the Completion Date, bb) an event occurring before the Completion Date, which was not itself a Procuring Entity's risk, or cc) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Procuring Entity's risks are Contractor's risks.

13. Insurance

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

a) loss of or damage to the Works, Plant, and Materials;
b) loss of or damage to Equipment;
c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

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

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

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

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

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

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works 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.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

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

19. Discoveries

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

20. Possession of the Site

20.1 The Procuring Entity shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the SCC,** the Procuring Entity shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

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

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Procuring Entity and/or persons appointed by the Public Procurement Regulatory Authority to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Public Procurement Regulatory Authority. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Public Procurement Regulatory Authority's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Public Procurement Regulatory Authority's prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by the Procuring Entity and the Contractor, at the time of the Procuring Entity's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Procuring Entity does not agree on the appointment of the Adjudicator, the Procuring Entity will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 14 days of receipt of such request.

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

24. Settlement of Claims and Disputes

24.1 Contractor's Claims

24.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.

24.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

24.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

24.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Procuring Entity's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record- keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

24.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

a) this fully detailed claim shall be considered as interim;

b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and

c) the Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

24.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

24.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with SubClause shall apply.

24.1.8 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

24.1.9 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

24.1.10 If the Project Manager does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer to Arbitration in accordance with Sub-Clause 24.4 [Arbitration].

24.1.11 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 24.3.

24.2 **Amicable Settlement**

24.2.1 Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 24.1 above should move to commence arbitration after the fifty-sixth day from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

24.3 **Matters that may be referred to arbitration**

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

a) The appointment of a replacement Project Manager upon the said person ceasing to act.
b) Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
c) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
e) Any dispute arising in respect of war risks or war damage.
f) All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

24.4 **Arbitration**

24.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 24.3 shall be finally settled by arbitration.

24.4.2 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.

24.4.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

24.4.4 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

24.4.5 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and

revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.

24.4.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

24.4.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

24.4.8 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Project Manager shall not be altered by reason of any arbitration being conducted during the progress of the Works.

24.4.9 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

24.5 **Arbitration with National Contractors**

24.5.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the

arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

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

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

24.6 **Alternative Arbitration Proceedings**

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

24.7 **Failure to Comply with Arbitrator's Decision**

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

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

24.8 **Contract operations to continue**

24.8.1 Notwithstanding any reference to arbitration herein,

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

25. Fraud and Corruption

25.1 The Government requires compliance with the country's Anti-Corruption laws and its prevailing sanctions policies and procedures as set forth in the Constitution of Kenya and its Statutes.

25.2 The Procuring Entity requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time stated in the SCC, after the date of the Letter of Acceptance, 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. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 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.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC 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. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 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.

27. Extension of the Intended Completion Date

27.1 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.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.

28.2 If the Contractor's priced proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the Project Manager

29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

30. Management Meetings

30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

31. Early Warning

31.1 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.

31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

32. Identifying Defects

32.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

33. Tests

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

34. Correction of Defects

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

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price[7]

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price[8]

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Procuring Entity.

37.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

38. Variations

38.1 All Variations shall be included in updated Programs9 produced by the Contractor.

38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

38.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

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[7] *In lump sum contracts, replace GCC Sub-Clauses 36.1 as follows:*

36.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. The Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for materials on site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule. [8] *In lump sum contracts, replace entire GCC Clause 37 with new GCC Sub-Clause 37.1, as follows:*

The Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

[9] *In lump sum contracts, add "and Activity Schedules" after "Programs."* [10] *In lump sum contracts, delete this paragraph.*

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

38.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work

38.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

a) the proposed change(s), and a description of the difference to the existing contract requirements;
b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Procuring Entity may incur in implementing the value engineering proposal; and
c) a description of any effect(s) of the change on performance/functionality.

38.8 The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that: a) accelerate the contract completion period; or

b) reduce the Contract Price or the life cycle costs to the Procuring Entity; or
c) improve the quality, efficiency, safety or sustainability of the Facilities; or
d) yield any other benefits to the Procuring Entity, without compromising the functionality of the Works.

38.9 If the value engineering proposal is approved by the Procuring Entity and results in:

a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the SCC** of the reduction in the Contract Price; or
b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39. Cash Flow Forecasts

39.1 When the Program[11], is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

40. Payment Certificates

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

40.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

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

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed12.

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

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

40.7 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (which would be the tender price), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price)/tender price X 100*.

41. Payments

41.1 Payments shall be adjusted for deductions for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Procuring Entity makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at

the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

41.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

42. Compensation Events

42.1 The following shall be Compensation Events:

d) The Procuring Entity does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.

e) The Procuring Entity modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.

f) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

g) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

h) The Project Manager unreasonably does not approve a subcontract to be let.

i) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

j) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Procuring Entity, or additional work required for safety or other reasons.

k) Other contractors, public authorities, utilities, or the Procuring Entity does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. l) The advance payment is delayed.

m) The effects on the Contractor of any of the Procuring Entity's Risks.

n) The Project Manager unreasonably delays issuing a Certificate of Completion.

42.2 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.

42.3 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 shall assume that the Contractor shall react competently and promptly to the event.

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[11] *In lump sum contracts, add "or Activity Schedule" after "Program."*

[12] *In lump sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."*

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

43. Tax

43.1 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 bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currency y of Payment

44.1 All payments under the contract shall be made in Kenya Shillings

45. Price Adjustment

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

P = A + B Im/Io

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

13 representing the non-adjustable and adjustable portions, A and B are coefficients **specified in the SCC,** respectively, of the Contract Price payable and Im is the index prevailing at the end of the month being invoiced and IOC is the index prevailing 30 days before Bid opening for inputs payable.

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 The Procuring Entity shall retain from each payment due to the Contractor the proportion stated in the **SCC** until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects

Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

47. Liquidated Damages

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

47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day

(less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

49. Advance Payment

49.1 The Procuring Entity shall make advance payment to the Contractor of the amounts stated in the **SCC** by the date stated in the **SCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Procuring Entity in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

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

50. Securities

50.1 The Performance Security shall be provided to the Procuring Entity no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the SCC,** by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 day from the date of issue of the

Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

51. Dayworks

51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

51.2 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.

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

52. Cost of Repairs

52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 The Procuring Entity shall take over the Site and the Works within seven days of the Project Manager's
issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

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

56. Operating and Maintenance Manuals

56.1 If “as built” Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

57.1 The Procuring Entity or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 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 authorized by the Project Manager;

b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;

c) the Procuring Entity or the Contractor is made 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 Procuring Entity to the Contractor within 84 days of the date of the Project Manager's certificate;

e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of

Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

f) the Contractor does not maintain a Security, which is required;

g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or

h) if the Contractor, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Procuring Entity may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

57.3 Notwithstanding the above, the Procuring Entity may terminate the Contract for convenience.

57.4 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.

57.5 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 GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

58. Payment upon Termination

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

58.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's

costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

59. Property

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

60. Release from Performance

60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Procuring Entity or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

Except where otherwise specified, all Special *Conditions of Contract should be filled in by the Procuring Entity prior to issuance of the bidding document. Schedules and reports to be provided by the Procuring Entity should be annexed.*

Number of GC Clause	**Amendments of, and Supplements to, Clauses in the General Conditions of Contract**
A. General	
GCC 1.1 (q)	The Procuring Entity is **STATE DEPARTMENT FOR DIASPORA AFFAIRS**
GCC 1.1 (u)	The Intended Completion Date for the whole of the Works shall be: **20 weeks** from the time of commencement of the works
GCC 1.1 (x)	The Project Manager is: - The Works Secretary, State Department for Public Works P.O. Box 30743-00100
GCC 1.1 (z)	The Site is located at **Nairobi** and is defined in both preliminaries and drawings.
GCC 1.1 (cc)	The Start Date shall be as agreed with the project manager
GCC 1.1 (gg)	The Works consist of: **The Proposed Office Partitioning and Interior Fit-Out at Old Mutual Building, Upper Hill- Nairobi**
GCC 2.2	Sectional Completions are: **Not applicable**
GCC 5.1	The Project manager may delegate any of his duties and responsibilities.
GCC 8.1	Schedule of other contractors: **Not applicable**
GCC 9.1	**Key Personnel** GCC 9.1 is replaced with the following: As agreed with the project manager

GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: As per applicable laws. (b) For loss or damage to Equipment: As per applicable laws. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract: As per applicable laws. (d) for personal injury or death: (i) of the Contractor's employees: As per applicable laws. (ii) of other people: As per applicable laws.
GCC 14.1	Site Data are: As agreed with the project manager
GCC 20.1	The Site Possession Date(s) shall be: As agreed with the project manager

Number of GC Clause	**Amendments of, and Supplements to, Clauses in the General Conditions of Contract**
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: As agreed by the Procuring entity and the Contractor.
	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: As agreed with the project manager
B. Time Control	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within **7** days from the date of the Letter of Acceptance.
GCC 26.3	The period between Program updates is 7 days. The amount to be withheld for late submission of an updated Program is **Whole Certificate**
C. Quality Control	
GCC 34.1	The Defects Liability Period is: 6 Months.
D. Cost Control	
GCC 38.9	If the value engineering proposal is approved by the Procuring Entity the amount to be paid to the Contractor shall be: **Not applicable**
GCC 44.1	The currency of the Procuring Entity's Country is: **Kenya Shilling**
GCC 45.1	The Contract **is not** subject to price adjustment in accordance with GCC Clause 45, and the following information regarding coefficients **does not** apply.
GCC 46.1	The proportion of payments retained is: **10%**

GCC 47.1	The liquidated damages for the whole of the Works are **0.01**% per day. The maximum amount of liquidated damages for the whole of the Works is **5%** of the final Contract Price.
GCC 48.1	The Bonus for the whole of the Works is: Not applicable.
GCC 49.1	The Advance Payments shall be: Not applicable
GCC 50.1	The performance security will be in the form of a performance bond in the amount of 5% of the accepted Amount in the same currency(ies) of the accepted contract amount
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is: As agreed with the project manager The date by which "as built" drawings are required is: As agreed with the project manager
GCC 56.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required in GCC 58.1 is: As agreed with the project manager
GCC 57.2 (g)	The maximum number of days is: **125 days.**
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Procuring Entity's additional cost for completing the Works, is: 100% of the works done.

FORM No 1: NOTIFICATION OF INTENTION TO AWARD

This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below. ----------

FORMAT

1. For the attention of Tenderer's Authorized Representative

   i) Name: *[insert Authorized Representative's name] ii)* Address: *[insert Authorized Representative's Address]*

   iii) Telephone: *[insert Authorized Representative's telephone/fax numbers] iv)* Email Address: *[insert Authorized Representative's email address]*

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

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

   This Notification is sent by (*Name and designation*) _____

3. Notification of Intention to Award

i) Procuring Entity: *[insert the name of the Procuring Entity] ii)* Project: *[insert name of project]*

iii) Contract title: *[insert the name of the contract] iv)* Country: *[insert country where ITT is issued]*

v) ITT No: *[insert ITT reference number from Procurement Plan]*

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

4. Request a debriefing in relation to the evaluation of your tender

Submit a Procurement-related Complaint in relation to the decision to award the contract. a) The successful tenderer

i) Name of successful Tender____

ii) Address of the successful Tender _____

iii) Contract price of the successful Tender Kenya Shillings _ (in wor b) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out. For Tenders not evaluated, give one main reason the Tender was unsuccessful.

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

(Note a) State NE if not evaluated

5. How to request a debriefing

a) DEADLINE: The deadline to request a debriefing expires at midnight on [*insert date*] (*local time*).

b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.

c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

i) Attention: [*insert full name of person, if applicable*] ii) Title/position: [*insert title/position*] ii) Agency: [*insert name of Procuring Entity*] iii) Email address: [*insert email address*]

d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. **<u>How to make a complaint</u>**

a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [*insert date*] (local time).

b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

i) Attention: [*insert full name of person, if applicable*] ii) Title/position: [*insert title/position*] iii) Agency: [*insert name of Procuring Entity*] iv) Email address: [*insert email address*]

c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@ppra.go.ke.

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

e) There are four essential requirements:

i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.

ii) The complaint can only challenge the decision to award the contract. iii) You must submit the complaint within the period stated above.

iv) You must include, in your complaint, all of the information required to support your complaint.

7. Standstill Period

i) DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).

ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.

iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

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

Signature: _ **Name:** _____

Title/position: _ **Telephone:** **Email:** _____

FORM NO. 2 - REQUEST FOR REVIEW

FORM FOR REVIEW(r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION

NO…….OF…….…20…….. BETWEEN

……...…….APPLICANT

AND

……RESPONDENT (Procuring Entity)

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

REQUEST FOR REVIEW

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

1.

2.

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

1.

2.

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

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on……day of
……....20….……

SIGNED

Board Secretary

FORM NO 3: LETTER OF AWARD

[letterhead paper of the Procuring Entity] [date]

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

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by …… (*name of Procuring Entity)*.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:.....

Name and Title of Signatory:.....

Name of Procuring Entity.....

Attachment: *Contract Agreement*.....

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the_____day of , 20_____, between _____ _____of _____ (hereinafter "the Procuring Entity"), of the one part, and_____of_____(hereinafter "the Contractor"), of the other part:

WHEREAS the Procuring Entity desires that the Works known as__should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents. a) the Letter of Acceptance
   b) the Letter of Tender
   c) the addenda Nos _____ (if any)
   d) the Special Conditions of Contract
   e) the General Conditions of Contract;
   f) the Specifications
   g) the Drawings; and
   h) the completed Schedules and any other documents forming part of the contract.

3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

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

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by _____ (for the Procuring Entity)

Signed and sealed by _____ (for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[insert name and Address of* Procuring Entity*]* **Date:** _____

_____*[Insert date of issue]*

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

1. We have been informed that___(hereinafter called "the Contractor") has entered into Contract No. dated _____ with (*name of Procuring Entity*)____(the Procuring Entity as the Beneficiary), for the execution of _____ (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(*in words*),[6] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the …. Day of ……, 2...…[7], and any demand for payment under it must be received by us at the office indicated above on or before that date.

---

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

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

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
[Name of Authorized Official, signature(s) and seals/stamps].

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

FORM No. 6 - PERFORMANCE SECURITY

[Option 2– Performance Bond]

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

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

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

1. By this Bond____as Principal (hereinafter called "the Contractor") and_____] as Surety (hereinafter called "the Surety"), are held and firmly bound unto_____] as Obligee (hereinafter called "the Procuring Entity") in the amount of_____ _____for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the _day of_, 20 , for_in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:
   1) complete the Contract in accordance with its terms and conditions; or

2) obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or

3) pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named herein or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.

6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this day _____ of_20 _____ .

SIGNED ON on behalf of By_____in the capacity of In the presence of

SIGNED ON on behalf of By_in the capacity of In the presence of

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

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

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

_____**[***Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Contractor") has entered into Contract No._____*dated*_____with the Beneficiary, for the execution of _____

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _(*in words*) is to be made against an advance payment guarantee.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_(*in words*_)[8] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
   a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at_.

---

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

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment
repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of_, 2 ,[9] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months][one year],* in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

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

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

FORM NO. 8 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

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

Date: _____ *[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

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

1. We have been informed that_*[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No.
_*[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[*insert the second half of the Retention Money] is to be made against a Retention Money guarantee.

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

3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words* _____ *])*[10] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number___at _____ *[insert name and address of Applicant's bank]*.

5. This guarantee shall expire no later than the …..... Day of ….....……, 2.....…[11], and any demand for payment under it must be received by us at the office indicated above on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

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

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

COMMITMENT TO PROVIDE BENEFICIAL OWNERSHIP INFORMATION

I, ……. of P. O. Box ……
being a resident of ……. in the Republic of ….…..…….……. do hereby make a
state as follows: -

1. THAT I am the Chief Executive Officer / Managing Director / Principal Officer / Director / Authorized Officer of …….……. *(Insert name of the Company)* who is a Bidder in respect of **Tender No**. …. …..…..……. for …… *(Insert tender title / description)* advertised by …… *(Insert name of the Procuring entity)* (the **Procuring Entity**) and duly authorized and competent to make this statement.

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

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

2. THAT I do hereby commit to provide Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form to the procuring entity upon receipt of notification of award in the event we are the successful tenderer in this subject procurement proceeding. I fully understand that failure to furnish the procuring entity with the Beneficial Ownership Information within the period provided for in the letter of award shall invalidate my award and may considered as refusal to enter into a written contract which is punishable under Section 41 (1) (e) of the Public Procurement and Asset Disposal Act, 2015.

Name of the Firm / Company …….

Registered Physical Address of the Company ……

Postal Address ……

Telephone No ……. Mobile Number

……. Email Address

…….

Name of Authorized Signatory

……...…… Designation

…….

Signatory …….

Date

……

…. Witnessed by

……...

Signature of Witness ……...

Date
……
…

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM

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

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the Tenderer by meeting one or more of the following conditions:

- *Directly or indirectly holding 25% or more of the shares.*
- *Directly or in directly holding 25% or more of the voting rights.*
- *Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.*

Tender Reference No.:_____[*insert identification no*] Name of the Assignment:_____*[insert name of the assignment]* to: ____*[insert complete name of Procuring Entity]*

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

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

Details of beneficial ownership

Identity of Beneficial Owner	**Directly or indirectly holding 25% or more of the shares (Yes / No)**	**Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)**	**Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer (Yes / No)**

[include full name (last, middle, first), nationality, country of residence]			

OR

ii) We declare that there is no Beneficial Owner meeting one or more of the following conditions: directly or indirectly holding 25% or more of the shares. Directly or indirectly holding 25% or more of the voting rights. Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.

OR

We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Tenderer shall provide explanation on why it is unable to identify any Beneficial Owner]

Directly or indirectly holding 25% or more of the shares. Directly or indirectly holding25% or more of the voting rights.

Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer]"

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

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

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

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

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

PREAMBLES & PRICING NOTES

PREAMBLES AND PRICING NOTES

A. GENERALLY

All work to be carried out in accordance with the Ministry of Public Works General Specifications for Building Works issued in 1976 or as qualified or amended below.

B. MANUFACTURERS' NAMES

Where manufacturers' names and catalogue references are given for guidance to quality and standard only. Alternative manufacturer of equal quality will be accepted at the discretion of the Project Manager.

C. WALLING

All precast concrete blocks shall be manufactured by the methods and to the sizes specified in the Ministry of Public Works "Specification for Metric Sized Concrete Blocks for Building (1972)"

Walling of 100 mm thickness or under shall be reinforced with hoop iron every alternate course.

Prices for walling must allow for all costs in preparing, packing and sending sample blocks for testing as and when required by the Project Manager.

D. CARPENTRY

The grading rules for cypress shall be the same for podocarpus and all timber used for structural work shall be select (second grade).

All structural timber must conform to the minimum requirements for moisture content and preservative treatment and timber prices must allow for preparing, packing and sending samples for testing when required.

Prices must also include for all nails and fasteners.

E. JOINERY

Cypress for joinery shall be second grade in accordance with the latest grading rules of the Kenya Government.

Where Mahogany is specified, this refers to prime grade only. The Contractor may with the approval of the Project Manager; use either Msharagi or Mvuli in lieu of Mahogany but such approval will be given only in the case of shortages of the hardwoods specified.

Plugging shall be carried out by drilling walling or concrete with masonry drill and filling with propriety plugs of the correct sizes. Cutting with hammer and chisel will not be allowed.

Prices for joinery must include for pencil rounded arises, protection against damage, nails, screws, framing and bedding in cement mortar as required.

Sizes given for joinery items are nominal sizes and exact dimensions of doors, etc, must be ascertained on site.

A. IRONMONGERY

Ironmongery shall be specified in the Bills of Quantities or equal and approved.

Prices must include for removing and re-fixing during and after painting, labeling all keys, and for fixing to hardwood, softwood, concrete or blockwork.

Catalogue references given for ironmongery are for purposes of indicating quality and size of item(s). Should the Contractor wish to substitute the specified item(s) with others of equal manufacture, he must inform the Project Manager and obtain approval in writing.

B. STRUCTURAL STEELWORK

All structural steelwork shall comply with the Ministry of Public Works "Structural Steelwork Specification (1973) and shall be executed by an approved Sub-contractor.

C. PLASTERWORK AND OTHER FINISHES

All finishing shall be as described in the general specifications and in these Bills of Quantities.

Prices for paving are to include for brushing concrete clean, wetting and coating with cement and sand grout 1:1.

Rates for glazed wall tiling are to include for a 12 mm cement and sand (1:4) backing screed unless otherwise specified in these Bills of Quantities.

A. GLAZING

Where polished plate glass is specified, this refers to general glazing quality.

Prices for glazing shall include for priming of rebates before placing putty.

The Contractor will be responsible for replacing any broken or scratched glass and handing over in perfect condition.

B. PAINTING

Painting shall be applied in accordance with the manufacturers' instructions.

Prices for painting are to include for scaffolding, preparatory work, priming coats, protection of other works and for cleaning up on completion. Prices for painting on galvanized metal are to include for mordant solution as necessary.

PARTICULAR PRELIMINARIES

ITEM	DESCRIPTION	KSHS
	PARTICULAR PRELIMINARIES	
A.	EMPLOYER The "Employer" is the Principal Secretary, State Departent for Diaspora Affairs. The term "Employer" and "Government" wherever used in the contract document shall be synonymous.	
B.	PROJECT MANAGER The term "PM" wherever used in these Bills of Quantities shall be deemed to imply the project Manager as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government .	
C.	ARCHITECT The term "Architect" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	
D.	QUANTITY SURVEYOR The term "Quantity Surveyor" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	
E.	ELECTRICAL ENGINEER The term "Electrical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	
F.	MECHANICAL ENGINEER The term "Mechanical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	
G.	STRUCTURAL ENGINEER The term "Structural Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	

H.	INTERIOR DESIGNER The term "Designer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is the State Department for Public Works, P.O Box 30743, NAIROBI.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	<u>NOTE-:RESPONSIBILITY</u> The responsibility for the details designs, specifications and performance of the building is to be done by the design team and shall be approved by the Project Manager before they can be used.	
B.	PRICING ITEMS OF PRELIMINARIES Prices SHALL BE INSERTED against items of “preliminaries” in the tenderer’s priced Bills of Quantities. The contractor is advised to read and understand all preliminary items.	
C.	SCOPE OF CONTRACT The works to be carried out comprises of partitioning and interior fit-out of offices at ground floor, 1st floor and 28th floors, using gypsum boards and laminated glass for the walls and doors. Finishes includes gypsum ceiling, acoustic and painting including electrical and mechnical installation works.	
D.	DESCRIPTION OF THE WORKS The works consists of partitioning of offices with aluminium sections, zinc coated channels with sound proofed gypsum boards and laminated glass.Finishes will include gypsum board and acoustic ceiling and painting works, floor finishes include granito floor tiles. Services include electrical, IP CCTV, Access Control, IP Telophony,Structured Cabling and Works, plumbing and drainage, Fire Surpression and Air Conditioning works as described in the deatiled Bills of Quantities .	

E.	MEASUREMENTS In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER in accordance with Clause 38 of the General Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 38 of the said Conditions.	
F.	LOCATION OF SITE The site of the proposed works is located at Old Mutual Building, Upper Hill approximately 2.2 kilometres from GPO Nairobi. The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	SIGNING OF THE TENDER DOCUMENTS The bidder shall append his / her signature and / or company 's rubberstamp on each and every page of tender document.	

B.	DEMOLITIONS AND ALTERATIONS The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs, etc as directed by the Project Manager and as necessary for the adequate propping and protection of existing property, finishes, workmen employed on the site, employer's agents and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the works and any necessary making good consequent upon this is to be excecuted to the satisfaction of the Project Manager The works shall be propped, strutted and supported as necessary before any alteration or demolition work commences. Prices shall include for all cleaning and preparatory work to structure and finishes and for making good to all finishes on completion whether or not specifically described. Unless described as set aside for re-use all arising debris and surplus materials shall be carefully removed from building and carterd away from site. The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use during their removal unless it is certified by the Project Manager that such damage or breakage was inevitable as a result of the condition of the item concerned.	
C.	CLEARING AWAY The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Project Manager. The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project Manager.	
D.	CLAIMS It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contact period.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS

A.

PAYMENTS

The tenderer's attention is drawn to the fact that the GOVERNMENT DOES NOT MAKE ADVANCE PAYMENTS but pays for work done and materials delivered to sit: all in accordance with Clause 41 of the General Conditions of Contract Agreement. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements

B. PREVENTION OF ACCIDENT, DAMAGE OR LOSS

The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other nomal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruoption of activities beeing carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.

C.

WORKING CONDITIONS

The Contractor shall allow in his rates for any interferance that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed, as the facility will be operating as usual during the course of the contract.

D.

SIGNBOARD

Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away a signboard as designed, specified and approved by the Project Manager.

E. LABOUR CAMPS

The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the contract.

F.

MATERIALS FROM DEMOLITIONS

Any materials arising from demolitions and not re-used shall become the property of the client. The Contractor shall allow in his rates the cost of disposing the demolished materials as directed.

G. PRICING RATES

The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.

	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	SECURITY The Contractor shall allow for providing adequate security for the works and the workers in the course of execution of this contract. No claim will be entertained from the Contractor for not maintaining adequate security for both the works and workers.	
B.	URGENCY OF THE WORKS The Contractor is notified that these " works are urgent" and should be completed within the period stated in these Particular Preliminaries (20 weeks) . The Contractor shall allow in his rates for any costs he/ she deems that he/she may incur by having to complete these works within the stipulated contract period.	
C.	PAYMENT FOR MATERIALS ON SITE All materials for incorporation in the works must be stored on site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers.	
D.	EXISTING SERVICES Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.	
E.	TENDER DOCUMENTS Tender documents are as listed in Clause 11 of the Instruction to Tenderers	
F.	CONTRACT COMPLETION PERIOD The contract completion period in accordance with condition 31 of the Conditions of contract must be adhered to. The 'PROJECT MANAGER' shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the 'PROJECT MANAGER' shall inform the Contractor in writing that his actual performance on site is not satisfactory .In all such cases the Contractor shall accelerate his rate of performance production and progress by all means such as additional labour,plant, e.t.c and working overtime all at his cost.	

G.	PERFORMANCE BOND A bond of 5% of the contract sum will be required in accordance with clause 48, on award of contract of the Instructions to Tenderer's. No payment on account for the works executed will be made to the contractor until he has submitted the Performance Bond to the Project Manager duly signed, sealed and stamped from an approved Bank.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	DELIVERY OF TENDER Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement. Tenders will be opened at the time specified in the letter accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the above time will not be opened.	

B.	VALUE ADDED TAX The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993 which requires payment of VAT on all contracts. The Contractor should therefore include allowance in his rates and prices for prices for VAT and any other Government taxes currently in force. The tenderer is advised that in accordance with Government public notice No. 35 & 36 Dated 11th September 2003 operational from 1st October 2003, VAT will be deducted against the contract sum at the prevailing rate by the Employer and remitted directly to the Commissioner of VAT through all interim certificates. It should however be noted that this is not additional tax but a new mode of payment for VAT, any excess payment will be refundable once the Contractor has submitted monthly returns to the Commissioner of VAT who will do the refunds when satisfied that the VAT regulations have been complied with. NB: The Contractor should therefore include the tax within the rates.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	Provide Provisional Sum of Kenya Shillings Eight Hundred Thousand (Kshs. 800,000.00) only for Project Management Expenses for State Departent for Public Works Officers for the duration of the contract period.	800,000.00

B.	Allow for Contractor's profit and overheads (--------%)	
	Carried to collection	

ITEM	DESCRIPTION	KSHS

PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEMENT

The following are the insertions to be made in the appendix to the Contract Agreement: -

Period of Final Measurement 6 Months From Practical completion

Defects Liability Period 180 days from practical completion

Date for Possession To be agreed with the Project Manager

Date for Completion ….20..... Weeks from date of Possession

Liquidated and Ascertained At the rate of ….0.01% of the contract price… per day or part thereof:

Prime cost sums for which …… The Contractor desires to tender ……

Period of Interim Certificates Monthly

Period of Honouring Certificates 30 days

Percentage of Certified Value Retained 10%

Limit of Retention Fund 10%

Carried to collection

ITEM	DESCRIPTION	KSHS
	COLLECTION	
	Brought forward from page PP/1	
	Brought forward from page PP/2	
	Brought forward from page PP/3	
	Brought forward from page PP/4	
	Brought forward from page PP/5	
	Brought forward from page PP/6	
	Brought forward from page PP/7	
	Brought forward from page PP/8	

	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

GENERAL PRELIMINARIES

ITEM	DESCRIPTION	KSHS
	GENERAL PRELIMINARIES	
A.	PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES	
	Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification.	
	The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all costs involved in complying with all the requirements for the proper execution of the whole of the works in the Contract.	

B.	ABBREVIATIONS Throughout these Bills, units of measurement and terms are abbreviated and shall be interpreted as follows:- C.M. Shall mean cubic metre S.M. Shall mean square metre L.M. Shall mean linear metre MM Shall mean Millimetre Kg. Shall mean Kilogramme No. Shall mean Number Prs. Shall mean Pairs B.S. Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England. Ditto Shall mean the whole of the preceding description except as qualified in the description in which it occurs. m.s. Shall mean measured separately. a.b.d Shall mean as before described.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS

A.

EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT

Attendance ; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted

Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary;providing space for office accommodation and for storage of plant and materials;providing light and water for their work: clearing away rubbish; unloading checkingand hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- Contractors' work and being responsible for the accuracy of the same.

Fix Only:-

"Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.

B.

FORM OF CONTRACT

The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building and Associated Civil Engineering Works (April, 2022) included herein The Conditions of Contract are also included herein

C. PLANT, TOOLS AND VEHICLES

Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.

	Carried to Collection	

ITEM	DESCRIPTION	KSHS
A.	TRANSPORT. Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.	
B.	MATERIALS AND WORKMANSHIP. All materials and workmanship used in the execution of the work shall be of the bestquality and description unless otherwise stated. The Contractor shall order all materialsto be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
C.	SIGN FOR MATERIALS SUPPLIED. The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER	
D.	STORAGE OF MATERIALS The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.	

E.	SAMPLES The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works.The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS
A.	GOVERNMENT ACTS REGARDING WORK, PEOPLE ETC. Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. n particular the Contractor's attention is drawn to the provisions of the Factory Act I 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained.	
B.	PUBLIC AND PRIVATE ROADS. Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the PROJECT MANAGER	

C.	EXISTING PROPERTY. The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER	
D.	VISIT SITE AND EXAMINE DRAWINGS. The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries hereof. He shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from his failure to comply with this recommendation will be considered.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS
A.	ACCESS TO SITE AND TEMPORARY ROADS. Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER.	
B.	AREA TO BE OCCUPIED BY THE CONTRACTOR The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER	

C.	OFFICE ETC. FOR THE PROJECT MANAGER The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER	
D.	WATER AND ELECTRICITY SUPPLY FOR THE WORKS The Contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub--contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS
A.	SANITATION OF THE WORKS The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER	
B.	SUPERVISION AND WORKING HOURS The works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract.	

C.	PROVISIONAL SUMS. The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Such sums are net and no addition shall be made to them for profit.	
D.	PRIME COST (OR P.C.) SUMS. The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods as stated in Condition No. 20 of the Conditions of Contract are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers	
E.	PROGRESS CHART. The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS

A.

ADJUSTMENT OF P.C. SUMS.

In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations,invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account prorata to the amount paid. Items of "attendance" (as previouslydescribed) following P.C. Sums shall be adjusted pro-rata to the physical extent of the workexecuted (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them.Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor.

B.

NOMINATED SUB-CONTRACTORS

When any work is ordered by the PROJECT MANAGER to be executed by nominated subcontractors, the Contractor shall enter into sub-contracts as described in clause 36 of the Instructions to Tenderers and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such SubContractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".

C.

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 instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.

D.

ATTENDANCE UPON OTHER 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 use of his ordinaryscaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills.

	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	INSURANCE The Contractor shall insure as required in Conditions No 13 of the General Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection.	
B.	BLASTING OPERATIONS Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives.	
C.	PROVISIONAL WORK All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall if the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.	
D.	ALTERATIONS TO BILLS, PRICING, ETC. Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.	

E.	PROTECTION OF THE WORKS. Provide protection of the whole of the works contained in the Bills of Quantities, including casing , casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Government.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
A.	MATERIALS ARISING FROM EXCAVATIONS Materials of any kind obtained from the excavations shall be the property of the Government. Unless the PROJECT MANAGER directs otherwise such materials shall bedealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.	
B.	WORKS TO BE DELIVERED UP CLEAN Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER	
C.	GENERAL SPECIFICATION. For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.	
D.	TRAINING LEVY The Contractor's attention is drawn to the legal notice which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than Ksh. 1,000,000.00 in value.	

E.	MATERIALS ON SITE All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER.This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers.	
	Carried to Collection	

ITEM	DESCRIPTION	KSHS

A.	CONTRACTOR'S SUPERINTENDENCE/SITE AGENT The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	Carried to collection	

ITEM	DESCRIPTION	KSHS
	COLLECTION	
	Brought Forward From Page GP/1	
	Brought Forward From Page GP/2	
	Brought Forward From Page GP/3	
	Brought Forward From Page GP/4	
	Brought Forward From Page GP/5	
	Brought Forward From Page GP/6	
	Brought Forward From Page GP/7	
	Brought Forward From Page GP/8	

	Brought Forward From Page GP/9 Brought Forward From Page GP/10	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY	

BUILDER'S WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	GROUND FLOOR				
	ELEMENT NO.1: DEMOUNTABLE PARTITIONS				
A	*Sound proofed Gypsum Board* 12mm thick plain linings; fixed to both sides metal studs (framings) (m.s).	114	SM		
	Metal Studs (Framings)				
B	100 x 50mm zinc coated mild steel studs; plugged to floors	19	LM		
C	100 x 50mm zinc coated mild steel studs; vertical members	51	LM		
D	100 x 50mm zinc coated mild steel studs; middlel members	38	LM		
E	Ditto to soffites of suspended slabs	19	LM		
	Insulation				
F	100mm thick rock wool or any other equal and approved sound proofing material	57	SM		
	Prepare and apply two coats of gypsum primer as SKIMCOAT or any other equal and approved to:				
G	Surfaces of gypsum boards	114	SM		
	Prepare and apply one undercoat and two finishing coats of water paste paint to:				

H	Surfaces of gypsum boards	114	SM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	Powder coated aluminium standard hollow sections; frames mitred at corners including reinforcing cleats all to approval colours				
A	100 x 50 x 2mm thick aluminium hollow sections (horizontal bottom members) screwed to receive glass (m.s).	30	LM		
B	100 x 50 x 2mm thick aluminium hollow sections (horizontal members on soffites on suspended concrete slab) screwed to receive clear glass (m.s).	30	LM		
C	100 x 50 x 2mm thick aluminium hollow sections (horizontal middle members screwed to receive clear glass (m.s).	30	LM		
D	100 x 50 x 2mm thick aluminium hollow sections (vertical members) screwed to receive frosted glass (m.s).	48	LM		
E	27.5 x 17.5 x 2mm thick aluminium hollow sections to receive glass	173	LM		
	Louvered Aluminiumm				
F	65.1 x 16.1mm aluminium fixed square blades	4	SM		
	Glazing				
G	8mm thick frosted (toughened) glass wall	81	SM		
H	8mm clear glass wall	14	SM		
	Beading				

J	27. 5x 17.25 x 1.5mm thick aluminium beading to glazing (m.s)	173	LM		
K	Ditto to doors	22	LM		
	Stainless steel				
L	180mm wide x 2mm thick skirting; screwed to floor and aluminium frames.	38	LM		
	Sundries				
M	45 x 25mm silicon filler applied as directed and to the approval of the architect at the joints between existing concrete ceiling and aluminium top rail	173	LM		
	Carried to Collection Below				
	COLLECTION:				
	BROUGHT FORWARD FROM PAGE BW/1				
	BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	ELEMENT NO.2 : DOORS				
	Timber doors				
	Wrot Mahogany				
A	150 x 50 mm; 2 No. labours; plugged door frame and transomes	63	LM		
B	38 x 20 mm moulded architrave	63	LM		
C	20 x 20mm moulded quadrants	63	LM		
	Solid core Flush				
D	45mm thick single leaf door with 1No. 900 x 300mm fanlight infilled with glass (m.s) and approved beading all round; overall size 900 x 2400mm high	9	NO.		
	Glass Doors				
E	50mm thick framed aluminium glass door; overall size 900 x 2100mm high including lock and all other fixing accessories	4	NO.		

	Painting and Decorations				
	On wood				
	Aluminium primer or other equal and approved wood primer before fixing: -				
F	Backs of frame, over 100mm but not exceeding 200mm girth	63	LM		
	Knot, prime and stop; prepare and apply one coat stain and two coats of clear varnish				
G	General surfaces of wood	39	SM		
H	Frames; over 200mm but not exceeding 300mm girth; internal	63	LM		
J	Frames; not exceeding 100mm girth; internal	63	LM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	Ironmongery				
	Supply and fix the following to UNION catalogue or other equal and approved with matching screws				
A	3-Lever UNION Lock as per architects specifications	9	NO		
B	125mm high hinges as UNION.	15	PRS		
C	Door closer as Briton CAT No. N8834SR	9	NO		
D	Indicator bolts	9	NO.		
E	Rubber door stop as Union	9	NO.		
	Total Carried to Collection				

	COLLECTION BROUGHT FORWARD FROM PAGE BW/2 BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
A	**ELEMENT NO 3: MASONRY WALLING** *Approved clay brick hollow port wall including pointing and neat flush joints: bedding and jointing in cement and sand mortar (1:3); including reinforcing with 25x3mm hoop iron in every alternative course* 150mm thick walling ***Damp proof course*** *Hessian based damp proof course bedded and levelled in cement and sand (1:4) mortar as described (measured nett allow for laps):*	162	SM		

B	150 mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar	54	LM		
	Wall Finishes				
	Insitu finishes				
	Plaster; 15mm thick, 2 No. coatwork, 12mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base				
C	Walls; internal	216	SM		
	Prepare and apply one undercoat and three coats of first quality emulsion Vinyl Matt paint to the following surfaces				
D	Plastered walls; internal	216	SM		
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	ELEMENT NO. 4: FINISHES				
	Gypsum Ceiling				
A	Drop down Decorative gypsum ceiling on approved suspension system comprising 25mm x 20mm galvanised mild steel channels and studs on grid (to Manufacturer's instructions)	352	SM		
B	Extra over gypsum ceiling for 600 x 600mm trap door	1	NO		
C	100 x 50mm moulded Gypsum cornice ; plugged	40	LM		

	Prepare and apply one undercoat and two finishing coats of first quality Silk Vinyl emulsion paint as "Crown (K) Ltd" or approved equivalent on:-				
D	General surfaces of gypsum board ceiling	352	SM		
E	General surfaces of timber 100-200 mm girth	40	LM		
F	Plastered walls	140	SM		
	Granito Floor Tiling				
G	Hack out floor to make levels, clean dust and cart away debris as directed	352	SM		
	Supply and fix approved floor of different sizes with"Tilemaster adhesive tile adhesive 101" on backing renders (m.s.): jointed and pointed in approved adhesive/ underlays/ silent nailing to; or other equal and approved;-				
H	150 x 900 x 8mm thick tiling in an approved pattern.	352	SM		
J	100 x 8mm Skirting (to wet areas)	25	LM		
	Total Carried to Sumary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT(KSHS)
	SUMMARY				
A	ELEMENT NO.1: DEMOUNTABLE PARTITIONS		BW/2	**Kshs**	
B	ELEMENT NO.2 : DOORS		BW/4	**Kshs**	
C	ELEMENT NO. 3: WALLING		BW/5	**Kshs**	

D	ELEMENT NO. 4: FINISHES		BW/6	**Kshs**	
	TOTAL CARRIED TO GRAND SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	1ST FLOOR				
	ELEMENT NO.1: DEMOUNTABLE PARTITIONS				
	Sound proofed Gypsum Board				
A	12mm thick plain linings; fixed to both sides metal studs (framings) (m.s).	174	SM		
	Metal Studs (Framings)				
B	100 x 50mm zinc coated mild steel studs; plugged to floors	29	LM		
C	100 x 50mm zinc coated mild steel studs; vertical members	78	LM		
D	100 x 50mm zinc coated mild steel studs; middle members	58	LM		
E	100 x 50mm zinc coated mild steel studs; to soffites of suspended slabs	29	LM		
	Insulation				
F	100mm thick rock wool or any other equal and approved sound proofing material	87	SM		
	Prepare and apply two coats of gypsum primer as SKIMCOAT or any other equal and approved to:				
G	Surfaces of gypsum boards	174	SM		
	Prepare and apply one undercoat and two finishing coats of water paste paint to:				

H	Surfaces of gypsum boards	174	SM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2 : DOORS				
	Timber doors				
	Wrot Mahogany				
A	150 x 50 mm; 2 No. labours; plugged door frame and transomes	35	LM		
B	38 x 20 mm moulded architrave	35	LM		
C	20 x 20mm moulded quadrants	35	LM		
	Solid core Flush				
D	45mm thick single leaf door with 1No. 900 x 300mm fanlight infilled with glass (m.s) and approved beading all round; overall size 900 x 2400mm high	5	NO.		
	Painting and Decorations				
	On wood				
	Aluminium primer or other equal and approved wood primer before fixing: -				
G	Backs of frame, over 100mm but not exceeding 200mm girth	35	LM		
	Knot, prime and stop; prepare and apply one coat stain and two coats of clear varnish				

H	General surfaces of wood	22	SM		
J	Frames; over 200mm but not exceeding 300mm girth; internal	35	LM		
K	Frames; not exceeding 100mm girth; internal	35	LM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following to UNION catalogue or other equal and approved with matching screws				
A	3-Lever UNION Lock as per architects specifications	5	NO		
B	125mm high hinges as UNION.	8	PRS		
C	Door closer as Briton CAT No. N8834SR	5	NO		
D	Indicator bolts	5	NO.		
E	Rubber door stop as Union	5	NO.		
	Total Carried to Collection				
	COLLECTION				
	BROUGHT FORWARD FROM PAGE BW/2				

	BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 3: MASONRY WALLING				
A	*Approved clay brick hollow port wall including pointing and neat flush joints: bedding and jointing in cement and sand mortar (1:3); including reinforcing with 25x3mm hoop iron in every alternative course* 150mm thick walling	40	SM		
	Damp proof course				
	Hessian based damp proof course bedded and levelled in cement and sand (1:4) mortar as described (measured nett allow for laps):				
B	150 mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar	13	LM		

	Wall Finishes **Insitu finishes** *Plaster; 15mm thick, 2 No. coatwork, 12mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base*				
C	Walls; internal	78	SM		
	Prepare and apply one undercoat and three coats of first quality emulsion Vinyl Matt paint to the following surfaces				
D	Plastered walls; internal	78	SM		
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4: FINISHES **Acoustic Ceiling (Adjustments and Repair)**				
A	600 x 600mm "hunter-Douglas" or any other equal and approved suspended miniature board Accoustic ceiling including all the necessary aluminium suspended framing and branderings, panels suspension hangers, flush jointing and trap doors.	135	SM		
	Granito Floor Tiling				

B	Hack out floor to make levels, clean dust and cart away debris as directed	135	SM		
	Supply and fix approved floor of different sizes with"Tilemaster adhesive tile adhesive 101" on backing renders (m.s.): jointed and pointed in approved adhesive/ underlays/ silent nailing to; or other equal and approved;-				
C	150 x 900 x 8mm thick tiling in an approved pattern.	135	SM		
D	100 x 8mm Skirting (to wet areas)	24	LM		
	Total Carried to Sumary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.5: TERRACE				
A	Supply and install parasols; 3000mm diameter wide and 2500 mm high (adjustable height) offset umbrella outdoor hanging with crank, water proofed with 8 ribs	3	NO		

B	Supply and install round table with 4 seats to architects approval	3	NO		
	Planters				
C	Supply and install 600 x 600 x 450mm high fibre glass planters.	12	NO		
	Total Carried to Sumary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
A	ELEMENT NO.1: DEMOUNTABLE PARTITIONS		BW/1	**Kshs**	

B	ELEMENT NO.2 : DOORS		BW/3	**Kshs**	
C	ELEMENT NO. 3: WALLING		BW/4	**Kshs**	
D	ELEMENT NO. 4: FINISHES		BW/5	**Kshs**	
E	ELEMENT NO.5: TERRACE		BW/6	**Kshs**	
	TOTAL CARRIED TO MAIN SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	28TH FLOOR-EXECUTIVE OFFICES				
	ELEMENT NO. 1: DEMOLITIONS				
	All demolitions must be carried out with utmost care to avoid damage to adjoining works. All salvage materials shall become the property of the Client and must not be removed from site without their express permission in writing. The Contractor will not be allowed to use any salvage materials without the express permission of the Project Manager in which case he will be expected to give discount for the materials used at a rate to be agreed upon with the Project Manager.Where materials are described as "set aside" prices to include for cleaning and safe storage until required for fixing.				
	Existing Doors				
A	Carefully remove 20 No. aluminium doors overall size 900 x 2400mm high, store as directed.		ITEM		
	Aluminium Partioning				
B	Carefully take down all aluminium partitioning, including glass and MDF, store as directed by the Project Manager (approximately 600 SM)		ITEM		
	Electrical Fitings				
C	Carefully remove cables, conduits and fittings and store as directed by the Electrical Engineer.		ITEM		
	Carpet				
D	Carefully remove existing floor carpet and store as directed by the PM (Area = 504 SM)		ITEM		
	Floor Tiles				
E	Hack out ceramic floor tiles and cart away debris and dispose on an approved City County dump site. (Area =504 SM)		ITEM		
	Screed				

F	Hack out adhesive/cement and screed and cart away debris and dispose on an approved City County dump site. (Area =504 SM)		ITEM		
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2: DEMOUNTABLE PARTITIONS				
	Post Formed Particle Board				
A	22mm thick plain linings; fixed to both sides of timber framings (m.s).	438	SM		
	Gypsum Board				
B	12mm thick plain linings; fixed to both sides timber framings (m.s).	706	SM		
	Sawn cypress; well seasoned				
C	100 x 50mm; plugged to floors	73	LM		
D	100 x 50mm; plugged to soffits of reinforced concrete suspended slabs	438	LM		
E	100 x 50mm vertical members	183	LM		
F	100 x 50mm; intermediate (strut) members	219	LM		
	Insulation				
G	100mm thick rock wool or any other equal and approved sound proofing material	237	SM		
	Wall Panelling				
H	12mm thick laminated wood fixed on solid walls (m.s) to Interior Designer's details	90	SM		
	Computer Numerically Control Cut Design (CNC) Partitions				

J	18mm thick CNC particle boards fixed to 100 x 50mm timber framing; to Interior Designer's details	20	SM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Frameless Glass Partitions				
	Glazing				
A	12mm thick frosted (toughened) glass wall	243	SM		
	Stainless steel				
B	200 x 50mm brackets	70	NO		
C	45 x 25mm silicon filler applied as directed and to the approval of the architect at the joints between existing concrete ceiling and aluminium top rail	102	LM		
	Carried to Collection Below				
	COLLECTION:				
	BROUGHT FORWARD FROM PAGE BW/2				

	BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3 : DOORS				
	Timber Doors				
	Wrot Mahogany				
A	150 x 50 mm; 2 No. labours; plugged door frame and transome	77	LM		
B	38 x 20 mm moulded architrave	77	LM		
C	20 x 20mm moulded quadrants	77	LM		
	Panel Door				

D	50mm thick wrot mahogany door with 150 x 50mm top rail and stiles, 200 x 50mm middle and bottom rails, resulting panels infilled with bevel raised and fielded panels including 300mm high fanlight at the top fixed with mahogany beads (both sides m/s).				
E	45mm thick single leaf door with 1No. 900 x 300mm fanlight infilled with glass (m.s) and approved beading all round; overall size 900 x 2400mm high	9	NO.		
	Solid Core Flush				
F	45mm thick single leaf door with 1No. 900 x 300mm fanlight infilled with glass (m.s) and approved beading all round; overall size 900 x 2400mm high	3	NO.		
	Glass Doors				
G	12mm thick frameless toughened glass door; overall size 900 x 2400mm high including lock and all other fixing accessories.	11	NO.		
	Painting and Decorations				
	On wood				
	Aluminium primer or other equal and approved wood primer before fixing: -				
H	Backs of frame, over 100mm but not exceeding 200mm girth	77	LM		
	Knot, prime and stop; prepare and apply one coat stain and two coats of clear varnish				
J	General surfaces of wood	48	SM		
K	Frames; over 200mm but not exceeding 300mm girth; internal	77	LM		
L	Frames; not exceeding 100mm girth; internal	77	LM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following to UNION catalogue or other equal and approved with matching screws				
A	Cylinder Lock 62 ABB	9	NO		
B	3-Lever UNION Lock with furniture	3	NO		
C	125mm high hinges as UNION.	17	PRS		

D	Door closer as Briton CAT No. N8834SR	12	NO		
E	Stainless steel Indicator bolts	12	NO.		
F	Rubber door stop as Union	12	NO.		
	Total Carried to Collection				
	COLLECTION BROUGHT FORWARD FROM PAGE BW/4 BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 4: MASONRY WALLING *Approved clay brick hollow port wall including pointing and neat flush joints: bedding and jointing in cement and sand mortar (1:3); including reinforcing with 25x3mm hoop iron in every alternative course*				

A	150mm thick walling	40	SM		
	Damp proof course				
	Hessian based damp proof course bedded and levelled in cement and sand (1:4) mortar as described (measured nett allow for laps):				
B	150 mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar	40	LM		
	Wall Finishes				
	Insitu finishes				
	Plaster; 15mm thick, 2 No. coatwork, 12mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base				
C	Walls; internal	60	SM		
	Prepare and apply one undercoat and three coats of first quality emulsion Vinyl Matt paint to the following surfaces				
D	Plastered walls; internal	60	SM		
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5: FINISHES				
	Gypsum Ceiling				

A	Drop down Decorative gypsum ceiling on approved suspension system comprising 25mm x 20mm galvanised mild steel channels and studs on grid (to Manufacturer's instructions)	154	SM		
B	Extra over gypsum ceiling for 600 x 600mm trap door	4	NO		
C	100 x 50mm moulded gypsum cornice ; plugged	120	LM		
	Prepare and apply one undercoat and two finishing coats of first quality Silk Vinyl emulsion paint as "Crown (K) Ltd" or approved equivalent on:-				
D	General surfaces of gypsum board ceiling	154	SM		
E	General surfaces of timber 100-200 mm girth	120	LM		
F	Plastered walls	430	SM		
	Wrot Hardwood				
G	25 x 50mm x 1200mm wide slats spaced at 40mm centres at the boardroom and corridor ceiling	48	SM		
H	40 x 25mm x 900mm wide slats spaced at 40mm centres at the reception area(walls and ceiling)	8	SM		
	Acoustic Ceiling				
J	600 x 600mm "Hunter-Douglas" or any other equal and approved suspended miniature board Accoustic ceiling including all the necessary aluminium suspended framing and branderings, panels suspension hangers, flush jointing and trap doors.	232	SM		
	Carpet				
K	12mm thick approved jute-backed carpet to K.S 08779;1998 comprising; 80% wool, 20% synthetic fused in woven textile backing, stain resistant, fade resistant; soiling treated permanently anti-static standard carpet with and including standard underfelt complete with aluminium fixing clips metal gripperd, approved adhesive; all fixed in accordance with the manufacturer's instructions	112	SM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT

	Porcelain Tiles				
A	Hack out floor to make levels, clean dust and cart away debris as directed	504	SM		
	Supply and fix approved floor of different sizes with"Tilemaster adhesive tile adhesive 101" on backing renders (m.s.): jointed and pointed in approved adhesive/ underlays/ silent nailing to; or other equal and approved;-				
B	205 x 615 x 9mm thick Sambu Natural Matt porcelain floor tile or any other equivallent and approved.	504	SM		
C	100 x 8mm Skirting (to wet areas)	30	LM		
	Wrot Hardwood				
D	100 x 25 mm mahogany skirting	252	LM		
	Prepare and apply three coats of clear gloss varnish to:-				
E	Timber skirting;100-200mm girth	252	LM		
	Carried to Collection				
	COLLECTION				
	BROUGHT FORWARD FROM PAGE BW/7 BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Sumary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	JOINERY FITTINGS				
A	Supply and fix 1400mm long x 450mm wide x 2100mm high, cabinets in 18mm thick white particle board divisions and shelves and drawers, Doors in 18mm thick Armari particle board with with 18mm thick x 200mm long horizontal brass or equal and approved handles bolted to board, soft closing hinges and drawers to details and as per the Interior Designer's details	12	NO		
B	Ditto 2100 x 450 x 2100mm high	2	NO		
	RECEPTION DESK				

C	2700 x 800 x 1100mm high reception desk in MDF boards sides, shelving and divisons; 20mm thick marble top.	2	NO		
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
A	ELEMENT NO.1: DEMOLITIONS		BW/1	**Kshs**	
B	ELEMENT NO.2: DEMOUNTABLE PARTITIONS		BW/3	**Kshs**	
C	ELEMENT NO.3 : DOORS		BW/5	**Kshs**	
D	ELEMENT NO. 4: WALLING		BW/6	**Kshs**	
E	ELEMENT NO. 5: FINISHES		BW/8	**Kshs**	

F	ELEMENT NO. 6: JOINERY FITTINGS		BW/9	**Kshs**	
	TOTAL CARRIED TO GRAND SUMMARY				

Item	Descriptions		Kshs.	Cts.
	BUILDERS' WORKS SUMMARY			
1	GROUND FLOOR			
2	1ST FLOOR			
3	28TH FLOOR			
	TOTAL FOR BUILDERS' WORKS TO GRAND SUMMARY			

ELECTRICAL WORKS

VOLUME 1

PROPOSED PARTITIONING WORKS FOR STATE DEPARTMENTFOR DIASPORA AFFAIRS AT OLD

MUTUAL BUILDING, UPPER HILL

WP ITEM No: D1052 NB/NB/2202 JOB NO. 11169A

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

MAY 2023

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INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

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INSTRUCTION TO TENDERERS

Note: The tenderer, who shall be domestic subcontractor to the Main Contractor, must comply with the following conditions and instructions failure to which the tender shall be rejected.

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 2 stages, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

STAGE 1: PRELIMINARY EVALUATION

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

These conditions shall include the following:

i) Company Certificate of incorporation/registration;
ii) Valid National Construction Authority Registration certificate (NCA 6 and above in Electrical Installation Works); iii) Valid annual contractors practicing license for NCA;
iv) Valid Electrical Contractor's licence from Energy & Petroleum Regulatory Authority (EPRA Class C1 and above),
v) Valid Tax Compliance Certificate;
vi) Pre-Contract agreement between the main contractor and the domestic Electrical Installations Works subcontractor vii) Duly filled, signed and stamped statement of compliance
viii) Compliance with Technical Specifications

Note:

On compliance with Technical Specifications, bidders shall supply equipment/items which comply with the technical specifications set out in the bid document. In this regard, the bidder will be required to submit relevant technical brochure/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/model of the proposed items. Such brochures/ catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

(i) Standards of manufacture;
(ii) Performance ratings/characteristics;
(iii) Material of manufacture;
(iv) Electrical power ratings; and
(v) All other requirements as indicated in the technical specifications of the bid.

The bids will then be analyzed, using the information in the technical brochures, to determine compliance with technical specifications for the works/items as indicated in the tender document. Bidders not complying with any of the technical specifications shall be adjudged technically non-responsive while those meeting all technical specifications shall be considered technically responsive.

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

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

STAGE 2: TECHNICAL EVALUATION

S/No	Requirement	Comment
1	Qualifications and technical experience of site personnel to manage and execute the electrical works on the site. Bidders shall submit the following documents for their electrical subcontractor which shall be certified by the employer as true copies of the original to be used for evaluation: • Copies of academic certificates • Copies of professional certificates • Curriculum vitae signed by the nominee • A written undertaking signed by the nominee confirming his/her availability to carry out the assignment upon winning the bid. Key Personnel 1. Bachelor's Degree or Diploma in relevant Engineering Field. 2. Specific Experience on Electrical Works– Minimum Five (5) years.	Must Meet
2	Company past works experience in the last 5 years Proof of at least Three (3) completed similar works in Electrical Installations, costing not less than Kshs. 2,000,000 million (Kenya Shillings Two Million) each previously undertaken in the last five years (2018 to date). Bidder shall attach copies of Completion Certificate for the respective projects	Must Meet

3	Equipment and Machinery Must demonstrate access to the following key minimum equipment (invoices, receipts, leased or hire agreement) necessary to undertake the work. 1. Voltmeter – One (1) 2. Tester 3. Multimeter 4. Earth Loop Impedance Tester 5. Tool Box 6. Other relevant equipment.	Must Meet

S/No	Requirement	Comment
	Notes • If the equipment is owned, must provide CLEAR copies of log book or proof of ownership; • If equipment is hired or leased Provide a commitment letter from the lessor of the equipment indicating that the lessor shall avail the equipment upon award of the tender and submit a copy of a written agreement to lease between lessee and lessor indicating list of equipment and their corresponding copies of log books or proof of ownership by lessor; The equipment listed shall be available on site when required	

SECTION B

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

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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-contractor's expense.

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

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 subcontractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

2.6 RECORD DRAWINGS

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

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

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

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

2.7 REGULATIONS AND STANDARDS

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

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

2.8 SETTING OUT WORK

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

2.9 POSITIONS OF ELECTRICAL PLANT AND APPARATUS

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

2.10 MCB DISTRIBUTION PANELS AND CONSUMER UNITS

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

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

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

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

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of Perspex, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart.
Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

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

2.11 FUSED SWITCHGEAR AND ISOLATORS

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

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

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

Isolators shall be load breaking/fault making isolators.

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

2.12 CONDUITS AND CONDUIT RUNS

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

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

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

The Sub-contractor's 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-contractor's expense.

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

2.14 LABELS

Labels fitted to switches and fuse boards; -

(i) Shall be Ivorine engraved black on white.

(ii) Shall be secured by R.H brass screws of same manufacturing throughout.

(iii) Shall be indicated on switches: -

a) Reference number of switch

b) Special current rating

c) Item of equipment controlled

(iv) Shall indicate on MCB panels

a) Reference number
b) Type of board, i.e.; lighting, sockets, etc.
c) Size of cable supplying panel
d) where to isolate feeder cable

(v) Shall be generally not less than 75mm x 50mm.

2.15 EARTHING

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

(i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.

(ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.

(iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).

(iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided

(v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.

(vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.

(vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6M. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

(viii) Earth plates will not be permitted

(ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.

(x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.

(xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.

(xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.

(xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.

(xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

2.16 CABLES AND FLEXIBLE CORDS

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

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

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

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

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 cable hooks or clamps, of appropriate size to suit cables, fixed by studs and back nuts to their channel sections.

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

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

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

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

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

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

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

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

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

2.19 PVC INSULATED CABLES

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

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

2.20 HEAT RESISTING CABLES

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

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

2.21 FLEXIBLE CORDS

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

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

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

2.22 CABLE ENDS AND PHASE COLOURS

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

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

2.23 CABLE INSULATION COLOURS

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

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

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

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.

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

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

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

(iii) 2.5mm² for one 15Amp socket.

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

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

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

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 noncompliance 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 up to 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 STREET LIGHTING

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

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

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

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

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

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

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

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

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

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 of fuseboards, such connections shall be made by trunking fittings manufactured for this purpose and not by multiple conduit couplings.

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

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

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

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

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

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

The inner radius of the bed shall not be less than four (4) times the outside diameter of the conduit. Not more than two right angle bends will be permitted without the inter-position of a draw-in-box. Where straight runs of conduit are installed, draw-in-boxes shall be provided at distances not exceeding 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 galvanized according to the type of conduit specified. All accessory boxes shall have threaded brass inserts.

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

All adaptable boxes and lids of the same size shall be interchangeable.
Boxes used on surface work are to be tapped or drilled to line up with the conduit fixed in distance type saddles allowing clearance between the conduit and wall without the need for setting the conduit.

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

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

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

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

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

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

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.

(c) 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.

(d) 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 Subcontractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.

(e) 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.

(f) 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.

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

(h) 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.

(i) 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, and Communications Authority of Kenya (CAK).

SECTION C

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

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

NOTE:

Tenderers are advised to inspect the electrical drawings at the office of the Chief Engineer (Electrical) – Ministry of Lands, Public Works, Housing & Urban Development, State Department for Public Works, at Chief Engineer's (Electrical) office, Hill Plaza Building, Community area, Nairobi along Ngong road, during normal working hours.

The drawings shall however be availed, on award of the tender, to the sub-contractor.

SECTION D

PARTICULAR SPECIFICATIONS

OF

MATERIALS AND WORKS

PARTICULAR SPECIFICATIONS

1.00 SITE LOCATION

The site of the proposed works is located at Old Mutual Building, Upperhill.

2.00 SCOPE OF WORKS

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

a) Electrical Works

This shall include conduiting, cabling, fittings, floor boxes accessories.

b) Telephone and data installation

This shall include conduiting and data/telephone outlet plates.

c) Fire Detection

This shall include conduiting, cabling and fittings.

3.00 MATERIALS FOR THE WORKS

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

4.00 BROCHURES FOR FIRE ALARM PANEL & ANY ELECTRICAL EQUIPMENT AND FITTINGS For consideration and qualification tenderers shall, at their own cost, provide coloured manufacturer's brochures detailing technical literature and specifications where applicable.

5.00 MINIMUM SPECIFICATIONS FOR LED LIGHTING FITTINGS

LED TUBES, PANELS & BULBS LIGHT FITTING TECHNICAL SPECIFICATIONS IEC Compliant		
Item	Minimum Specifications	Proposed solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Operating	• voltage range: 130-300 V ac • frequency range: 50-60Hz • Power factor ≥ 0.9 lagging • Total Harmonic Distortion (THD)<15% • Ambient temperature range -10 to +35 °Operating • Colour Consistency ≤ 5SDCM	
Performance	• System efficacy > 90lm/W • Lamp colour temperature: ○ Offices/Task areas: 4000K - 6500K ○ Residential areas: 3000K – 4000K • Colour Rendering Index >=80 • Median useful life >= 30000 hr	
Standards Compliance	CB/EMC/CE	
General	• Driver/power unit/transformer - PSU-E • LED - Backlit type • Protection class IEC - Safety class II (II)	

6.00 Compliance to Technical Specifications

ITEM	Description	COMPLIANCE √	×
1	<u>LIGHT FITTINGS</u>		

a) <u>Type 1</u>

i. LED Type
ii. 4750 Lumens
iii. Efficiency: ≥90Lm/Watt
iv. Power Factor: ≥ 0.9
v. Operating Frequency Range:50 – 60Hz
vi. Operating Voltage Range: 220 – 240Vac
vii. Correlated Colour Temperature (CCT): ≥ 6500K
viii. Median Useful life: 20,000 Hours

b) Type 2

i. LED Type

ii. 3000 Lumens
iii. Efficiency: ≥95Lm/Watt
iv. Power Factor: ≥ 0.9
v. Operating Frequency Range:50 – 60Hz
vi. Operating Voltage Range: 220 – 240Vac
vii. Correlated Colour Temperature (CCT): ≥ 6500K
viii. Housing Material : Aluminum die-cast
ix. Optical cover/lens material: Tempered Glass

ITEM	Description	COMPLIANCE √	×
2	SOCKETS i) Twin 13A x 240V ii) White in colour iii) Screwless front plate		
3	SWITCHES i) Twin 10A x 240V ii) White in colour iii) Screwless Front Plate		
4	INDUSTRIAL SOCKETS i. 3 Pin & 5 Pin ii. 32A rating iii. Connectors fitted with cable entry gland iv. IP44 Splash proof v. Angled Surface vi. Top conduit or rear cable entry, complete with blanking plug vii. Operating Voltage Range 380V-415V (for 5 Pin Socket) viii. Operating Voltage Range 200V -250V (for 3 Pin socket) ix. Operating Frequency Range 50Hz-60Hz		
	D-2		
4	ISOLATORS i. 3 Pole ii. 63A rating iii. IP66		

Bidders must provide Technical Brochures to assess their technical compliance with these specifications

D-3

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 E

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.

2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.

3. The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.

4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of equal and approved quality will be accepted.

5. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all all taxes applicable at the time of tender.

E-1

SCHEDULE OF UNIT RATES

ITEM	DESCRIPTION	QTY/UNIT	RATE(KSHS)

1.	4-way 125A TPN distribution board surface mounted complete with 125 A TP integral isolator and lockable cover and all accessories excluding MCBs as Schneider or approved equivalent	1No.	
2.	16-way 125A TPN distribution board surface mounted complete with 125 A TP integral isolator and lockable cover and all accessories excluding MCBs as Schneider or approved equivalent	1 No.	
3.	4 core 6mm2 armoured copper cable complete with all the necessary accessories	1 Metre	
4.	2 core 6mm2 insulated copper cable complete with all the necessary accessories	1 Metre.	
5.	1 core 35mm2 insulated copper cable complete with all the necessary accessories	1Metre	

SECTION F

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:

(a) Preliminaries – Bill No.1

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

(b) Installation Items – Other Bills

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

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

(c) Summary

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

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

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes applicable at the time of tender.

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.

4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of equal and approved quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the MAIN Summary Page.

6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

PROPOSED OFFICE PARTITIONING WORKS FOR STATE DEPARTMENT OF DIASPORA AFFAIRS

BILL N0.1 ELECTRICAL INSTALLATION WORKS

SCHEDULE 1: 28TH FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply, install, test and commission the following :				
	LIGHTING POINTS				
1.01	Carefully remove the light/electrical fittings on site and handover to the tenant for storage	70	No.		
1.02	Lighting points wired in 3x1.5mm^2 PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	(a) One Way Switching.	36	No.		
	(b) Two Way Switching.	39	No.		
	SWITCHES				
1.03	Carefully remove the architrave light switches and install 10A Chrome coated switches according to partition adjustments as MK or approved equivalent as follows:				
	i) One gang one way Switch	27	No.		
	ii) Two gang one way Switch	4	No.		
	iii) One gang 2 Way switch	4	No.		
	iv) Two gang 2 way	11	No.		
	LIGHTING FITTINGS				
1.04	Light fittings complete with all accessories and lamps as follows:-				
	a) 40W, 600mm x 600mm, recessed LED Lighting fitting with cool light output as Forlight Square or approved equivalent.	48	No.		
	b) 5W, 100mm diameter Low Voltage LED downlight, satin finish, aluminium reflector and silver effect and suitable for recessed installation in standard ceiling as Forlight Base or approved equivalent.	36	No.		
	c) Compact and flexible LED Strip Light with self adhesive tape on the reverse for fast installation, IP20 rating, upto 60 LED/M for high lighting homogenity as Thorn ArrowFlex or approved equivalent.	85	Lm		
	d) Suspended decorative lighting fitting with warm light output as Forlight Bloom or other equal and approved equivalent	4	No.		

	e) 26W slim suspended LED luminaire of 915mm length and 1100mm maximum suspension length, complete with all necessary accessories as Forlight Thin or other equal and approved equivalent	1	No.		
	f) 8W, 76mm diameter and 188mm long tubular LED downlight, with warm light output as Forlight Tub or equal and approved equivalent	22	No.		
	Sub-Total C/F to Next Page				
	F-3				

Item	Description	Qty	Unit	Rate (Kshs	Amount (Kshs)
	Sub-Total B/F from Previous Page				
	g) Self-contained double sided EXIT sign with 8W LED lamp for non-maintained emergency lighting for 3 hour duration as Philips or approved equivalent.	4	No.		
	h) 600mm LED batten mirrorlight with 38W, 3000K warm white, white body as Philips	3	No.		
	SOCKET OUTLETS AND OTHER POWER POINTS				
1.05	Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	60	No.		
1.06	13A switched chrome coated socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent.				
	a) Twin outlets	60	No.		
1.07	**Floor Distribution Systems**: Floor recessed/mounted power outlet station complete with 4 No. 13A twin standard switched socket outlets and wiring in 3 x 2.5mm2 SC-PVC-CU cables drawn in existing 32 mm Ø HG PVC conduits/ducts concealed in floor complete with all the necessary accessories excluding socket outlet plate. To be constructed from high quality pregalvanised steel sheets and stainless steel cover.	12	No.		
	i) 13A switched metallic twin socket outlet plates for floor distribution systems above as Clipsal or approved equivalent	12	No		
	ii) 13A switched metallic data/telephone outlets	12	No.		
	TRUNKING				
1.08	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail.	140	M		

	a)Powder coated twin punched outlet plate for fixing twin socket outlets	60	No		
	b)Ditto but for data/telephone outlets	60	No		
	c)Carry out bonding throughout the entire length of the above trunking and connect to earthing	1	Item		
	DISTRIBUTION BOARD				
1.09	8 Ways TPN+E, surface-mounted Distribution Board complete with 63A integral isolator to be installed as SCHNEIDER ELECTRIC or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
	Sub-Total C/F to Next Page				
	F-4				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
1.10	MCB's for item above				
	(a) 10A, SP	6	No.		
	(b) 20A, SP	4	No.		
	(c) 32A, SP	4	No.		
	(d) Blanking plates	2	No.		
	(e) 1No. 63A TPN c/w all installation accessories	1	No.		
1.11	Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	Item		
	SUB-MAIN POWER DISTRIBUTION				
1.12	(a)16mm2 4-core SWA PVC Copper cables in 32mmØ concealed HG PVC ducts(provisional length)	60	Lm.		
	(b) Cable glands and lugs for the above cables.	1	Item		
	(c) Allow for meter separation	1	Item		
	CCTV				
1.13	CCTV points for the cameras done in 25mmsq. Size conduits concealed inside ceiling	6	No.		
1.14	TV Points wired in 75 ohm co-axial cable drawn in concealed 25 mm Ø HG PVC conduit complete with all accessories.	15	No.		
1.15	Supply and install television white faceplate and as MK or approved equivalent.	15	No.		

1.16	Supply and install master aerial TV wiring for 9 outlets using coaxial cable. Wiring to include installation of one UHF and one VHF aerial to be located outside the building	1	No.		
1.17	Install as provision, 25mm conduit concealed inside slab for Access Control points c/w draw wire	6	No.		
1.18	Install as provision, 25mm conduit concealed inside slab for indoor wireless access points c/w draw wire	2	No.		
1.19	Outlet point for a hand drier wired in 3x 2.5 mm sq. copper cables drawn in 25 mm dia conduits	4	No		
1.20	Supply and install indoor A/C circuits wired using 2x4mm2+2.5mm2 ECC PVC insulated copper cables drawn in 25 mm diameter PVC heavy gauge conduits	22	No.		
1.21	20A, metal clad with Satin Chrome finish DP control switch with neon light and cord outlet for hand drier and sweep fans as Crabtree or approved equivalent	26	No.		
	SUB TOTAL C/F TO NEXT PAGE				

F-5

Item	Description	Qty	Unit	Rate (Kshs)	
	Sub-Total B/F from Previous Page				
1.22	**Projector Power Point,** comprising wiring drawn in 3x2.5mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits complete with all accessories but excluding the D.P switch for training room	1	No.		
1.23	15m HDMI cable for the item above concealed in 20mm Diameter HG PVC conduit complete with all accessories	1	No.		
	FIRE ALARM SYSTEM				
1.24	Additional Photoelectric Smoke detector point completely wired in wired in 2x1.5mm2 heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	46	No.		
	i) Addressable Photoelectric Smoke Detector as Menvier or Approved Equivalent	35	No.		
	ii) Addressable Heat Detector as Menvier or Approved Equivalent	4	No.		
	iii) Addressable Manual Fire Alarm 'Break Glass' call points as MENVIER or approved equivalent.	3	No.		

	iv)Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon(Visual alarm) as MENVIER or approved equivalent	3	No.		
	v) 2 - Loop addressable fire alarm control panel complete with 72hrs autonomous time emergency batteries as Menvier or equal and approved equivalent	1	No.		
TOTAL FOR 28TH FLOOR -ELECTRICAL WORKS C/F TO SUMMARY PAGE					

SCHEDULE 2: FIRST FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply, install, test and commission the following : **LIGHTING POINTS**				
2.01	Carefully remove the light/electrical fittings on site and handover to the tenant for storage	30	No.		
2.02	Lighting points wired in 3x1.5mm^2 PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	(a) One Way Switching.	13	No.		
	(b) Two Way Switching.	14	No.		
	SWITCHES				

2.03	Carefully remove the architrave light switches and install 10A Chrome coated switches according to partition adjustments as MK or approved equivalent as follows:				
	i) One gang one way Switch	7	No.		
	ii) Two gang one way Switch	0	No.		
	iii) One gang 2 Way switch	1	No.		
	iv) Two gang 2 way	3	No.		
	LIGHTING FITTINGS				
2.04	Light fittings complete with all accessories and lamps as follows:-				
	a) 40W, 600mm x 600mm, recessed LED Lighting fitting with cool light output as Forlight Square or approved equivalent.	9	No.		
	b) Circular ceiling-mounted 10W LED luminaire made of aluminuim body with shiny finish, polycarbonated Glass diffuser, with cool daylight (4500K) output as Forlight Tempo DE-0312-ALU or other equal and approved equivalent.	6	No.		
	c) Suspended decorative lighting fitting with warm light output as Forlight Bloom or other equal and approved equivalent	1	No.		
	d)1200mm, 3120 lm, 28W, 4000K LED Batten Luminaire with opal polycarbonate diffuser as Thorn Poppark LED Batten or approved Equivalent	3	No.		
	e) Self-contained double sided EXIT sign with 8W LED lamp for non-maintained emergency lighting for 3 hour duration as Philips or approved equivalent.	3	No.		
	f) 18W, 1500 Lumens LED wall Fittings as philips or approved equivalent	4	No.		
	SOCKET OUTLETS AND OTHER POWER POINTS				
2.05	Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	22	No.		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
2.06	13A switched chrome coated socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent.				
	a) Twin outlets	22	No.		

2.07	**Floor Distribution Systems**: Floor recessed/mounted power outlet station complete with 4 No. 13A twin standard switched socket outlets and wiring in 3 x 2.5mm2 SC-PVC-CU cables drawn in existing 32 mm Ø HG PVC conduits/ducts concealed in floor complete with all the necessary accessories excluding socket outlet plate. To be constructed from high quality pregalvanised steel sheets and stainless steel cover.	5	No.		
	i) 13A switched metallic twin socket outlet plates for floor distribution systems above as Clipsal or approved equivalent	5	No		
	ii) 13A switched metallic data/telephone outlets	5	No.		
	TRUNKING				
2.08	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail.	20	M		
	a)Powder coated twin punched outlet plate for fixing twin socket outlets	0	No		
	b)Ditto but for data/telephone outlets	0	No		
	c)Carry out bonding throughout the entire length of the above trunking and connect to earthing	1	Item		
	DISTRIBUTION BOARD				
2.09	4 Ways TPN+E, surface-mounted DB complete with 63A integral isolator to be installed as SCHNEIDER ELECTRIC or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
2.10	MCB's for item above				
	(a) 10A, SP	6	No.		
	(b) 20A, SP	4	No.		
	(c) 32A, SP	4	No.		
	(d) Blanking plates	2	No.		
	(e) 1No. 63A TPN c/w all installation accessories	1	No.		
2.11	Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	Item		
	SUB TOTAL C/F TO NEXT PAGE				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)

	Sub-Total B/F from Previous Page				
	SUB-MAIN POWER DISTRIBUTION				
2.12	(a) 10mm2 4 core PVC Copper cables in 32mmØ concealed HG PVC conduits.(provisional length)	20	Lm.		
	(b) Cable glands and lugs for the above cables.	1	Item		
	(c) Allow for meter separation	1	Item		
	CCTV				
2.13	CCTV points for the cameras done in 25mmsq. Size conduits concealed inside ceiling	4	No.		
2.14	TV Points wired in 75 ohm co-axial cable drawn in concealed 25 mm Ø HG PVC conduit complete with all accessories.	5	No.		
2.15	Supply and install television white faceplate and as MK or approved equivalent.	5	No.		
2.16	Supply and install master aerial TV wiring for 5 outlets using coaxial cable. Wiring to include installation of one UHF and one VHF aerial to be located outside the building	1	No.		
2.17	Install as provision, 25mm conduit concealed inside slab for Access Control points c/w draw wire	1	No.		
2.18	Install as provision, 25mm conduit concealed inside slab for indoor wireless access points c/w draw wire	1	No.		
2.19	Outlet point for a hand drier wired in 3x 2.5 mm sq. copper cables drawn in 25 mm dia conduits	0	No		
2.20	Supply and install indoor A/C circuits wired using 2x4mm2+2.5mm2 ECC PVC insulated copper cables drawn in 25 mm diameter PVC heavy gauge conduits	7	No.		
2.21	20A, metal clad with Satin Chrome finish DP control switch with neon light and cord outlet for hand drier and sweep fans as Crabtree or approved equivalent	7	No.		
	FIRE ALARM SYSTEM				
2.22	Additional Photoelectric Smoke detector point completely wired in wired in 2x1.5mm2 heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	15	No.		
	i) Addressable Photoelectric Smoke Detector as Menvier or Approved Equivalent	10	No.		
	ii) Addressable Heat Detector as Menvier or Approved Equivalent	0	No.		
	iii) Addressable Manual Fire Alarm 'Break Glass' call points as MENVIER or approved equivalent.	2	No.		

	SUB TOTAL C/F TO NEXT PAGE				
F-9					
Item	**Description**	**Qty**	**Unit**	**Rate (Kshs)**	
	Sub-Total B/F from Previous Page				
	iv)Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon (Visual alarm) as MENVIER or approved equivalent	2	No.		
	v) 1 - Loop addressable fire alarm control panel complete with 72hrs autonomous time emergency batteries as Menvier or equal and approved	1	No.		
TOTAL FOR FIRST FLOOR -ELECTRICAL WORKS C/F TO SUMMARY PAGE					
F-10					

SCHEDULE 3: GROUND FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply, install, test and commission the following :				
3.01	Carefully remove the light/electrical fittings on site and handover to the tenant for storage	50	No.		
3.02	Lighting points wired in 3x1.5mm^2 PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	(a) One Way Switching.	18	No.		
	(b) Two Way Switching.	33	No.		
3.03	Carefully remove the pull cord light switches and install 10A moulded ivory Architrave switches according to partition adjustments as Crabtree or approved equivalent as follows: i) One gang one way Switch	13	No.		
	ii) Two gang one way Switch	2	No.		
	iii) One gang 2 Way switch	3	No.		
	iv) Two gang 2 way	3	No.		
	LIGHTING FITTINGS				
3.04	Light fittings complete with all accessories and lamps as follows:-				
	a) 40W, 600mm x 600mm, recessed LED Lighting fitting with cool light output as Forlight Square or approved equivalent.	32	No.		
	b) 5W, 100mm diameter Low Voltage LED downlight, satin finish, aluminium reflector and silver effect and suitable for recessed installation in standard ceiling as Forlight Base or approved equivalent.	28	No.		
	c)Self-contained single sided EXIT sign with 8W LED lamp for maintained emergency lighting for 3 hour duration as Thorn EF X3 or approved equivalent.	4	No.		
	d) 26W slim suspended LED luminaire of 915mm length and 1100mm maximum suspension length, complete with all necessary accessories as Forlight Thin or other equal and approved equivalent	1	No		

	e) Circular ceiling-mounted 20W LED luminaire made of aluminuim body with shiny finish, polycarbonatedGlass diffuser, with cool daylight (4500K) output as Forlight Tempo DE-0312-ALU or other equal and approved equivalent.	3	No.		
	f) 600mm LED batten mirrorlight with 18W, 3000K warm white, white body as Philips	2	No.		
	g) Compact and flexible LED Strip Light with self adhesive tape on the reverse for fast installation, IP20 rating, upto 60 LED/M for high lighting homogenity as Thorn ArrowFlex or approved equivalent.	53	Lm		
	Sub-Total C/F to Next Page				
F-11					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
	h) 23W, 2000 Lumens LED Downlight as DN027C 23W philips or approved equivalent	6	No.		
	CCTV				
3.05	CCTV points for the camera done in 25mmsq. Size conduits concealed inside ceiling	6	No.		
	SOCKET OUTLETS				
	<u>Floor Boxes</u>				
3.06	13A Ring Mains Socket Outlet Points wired in 3 x 2.5 mm2 SC PVC insulated CU cables drawn in existing 32 mm Ø HG PVC conduits/ducts concealed in floor complete with all the necessary accessories excluding socket outlet plate.	12	No.		
	i) 13A switched metallic twin socket outlet plates for floor boxes above as Clipsal or approved equivalent	12	No		
	ii) 13A switched metallic data/telephone outlets	12	No.		
3.07	TV Points wired in 75 ohm co-axial cable drawn in concealed 25 mm Ø HG PVC conduit complete with all accessories.	6	No.		
3.08	Supply and install television white faceplate and as MK or approved equivalent.	6	No.		
3.09	Supply and install master aerial TV wiring for 9 outlets using coaxial cable. Wiring to include installation of one UHF and one VHF aerial to be located outside the building	1	No.		
	TRUNKING				

3.10	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail.	100	Lm		
	a)Powder coated twin punched outlet plate for fixing twin socket outlets	20	No		
	b)Ditto but for data/telephone outlets	0	No		
	c)Carry out bonding throughout the entire length of the above trunking and connect to earthing	1	Item		
3.11	Socket outlet point comprising wiring in 3x2.5mm2 PVC-SC-Cu cables in concealed in HG conduits	59	No.		
	i) 13A switched twin socket outlet as Crabtree or approved equivalent	59	No		
	SUB TOTAL C/F TO NEXT PAGE				
	F-12				

Item	Description	Qty	Unit	Rate (Kshs)	Amount(Kshs)
	Sub-Total B/F from Previous Page				
	DISTRIBUTION BOARD				
3.10	8 Ways TPN+E, surface-mounted Consumer Unit complete with 63A integral isolator to be installed as SCHNEIDER ELECTRIC or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
3.11	MCB's for item above				
	(a) 10A, SP	6	No.		
	(b) 20A, SP	4	No.		
	(c) 32A, SP	4	No.		
	(d) Blanking plates	2	No.		
	(e) 1No. 63A TPN c/w all installation accessories	1	No.		
3.12	Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	Item		
	SUB-MAIN POWER DISTRIBUTION				
3.13	(a 16mm2 4 Core SWA PVC Copper cables in 32mmØ concealed HG PVC conduits.	20	Lm.		
	(b) Cable glands and lugs for the above cables.	1	Item		

	(c) Allow for meter separation	1	Item		
	POWER POINTS				
3.14	Install as provision, 25mm conduit concealed inside slab for Access Control points c/w draw wire	5	No.		
3.15	Install as provision, 25mm conduit concealed inside slab for indoor wireless access points c/w draw wire	2	No.		
3.16	Outlet point for a hand drier wired in 3x 2.5 mm sq. copper cables drawn in 25 mm dia conduits	2	No		
3.17	Supply and install indoor A/C circuits wired using 2x4mm2+2.5mm2 ECC PVC insulated copper cables drawn in 25 mm diameter PVC heavy gauge conduits	8	No.		
3.18	20A, metal clad with Satin Chrome finish DP control switch with neon light and cord outlet for hand drier and sweep fans as Crabtree or approved equivalent	10	No.		
3.19	**Projector Power Point,** comprising wiring drawn in 3x2.5mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits complete with all accessories but excluding the D.P switch	1	No.		
3.20	15m HDMI cable for the item above concealed in 20mm Diameter HG PVC conduit complete with all accessories	1	No.		
	SUB TOTAL C/F TO NEXT PAGE				

Item	Description	Qty	Unit	Rate (Kshs)	Amount(Kshs)
	Sub-Total B/F from Previous Page				
	FIRE ALARM SYSTEM				
3.21	Additional Photoelectric Smoke detector point completely wired in wired in 2x1.5mm2 heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	23	No.		
	i) Addressable Photoelectric Smoke Detector as Menvier or Approved Equivalent	15	No.		
	ii) Addressable Heat Detector as Menvier or Approved Equivalent	3	No.		
	iii) Addressable Manual Fire Alarm 'Break Glass' call points as MENVIER or approved equivalent.	2	No.		
	iv)Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon (Visual alarm) as MENVIER or approved equivalent	2	No.		

	v) 2 - Loop addressable fire alarm control panel complete with 72hrs autonomous time emergency batteries as Menvier or equal and approved.	1	No.		
TOTAL FOR GROUND FLOOR -ELECTRICAL WORKS C/F TO SUMMARY PAGE					

SUMMARY PAGE

Item	Description	AMOUNT (KSHS)
1	Total for 28th Floor	
2	Total for First Floor	

3	Total for Ground Floor	
	Total carried to Grand Summary Page	

MAIN SUMMARY PAGE		
ITEM	DESCRIPTION	AMOUNT
1.00	Bill No. 1: ELECTRICAL INSTALLATION WORKS	
	TOTAL AMOUNT CARRIED FORWARD TO FORM OF TENDER	

Amount of tender in words: KenyaShillings……...……..

…….....

Domestic Subcontractor's Signature and Stamp……..……

Address…….

Date……

Witness: Name and Signature……..

Address……

Date ……

SECTION G

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.

2. 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 equipment they intend to offer to the employer in this schedule.

3. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered responsive.

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	MODEL	COUNTRY OF ORIGIN
1	LED Light Fittings			
2	Lighting Switches			
3	Socket outlet			
4	Industrial Sockets			
5	Isolators			
6	Cables			
7	MCB			
8	MCCB			
9	Distribution Board			
10	LV Board			
11	PVC conduits			

SECTION H

SCHEDULE OF LIGHT FITTINGS

SCHEDULE OF LIGHT FITTINGS	
Type 1	600x600mm, Ceiling Panel, Recess Mount, 36W, 4000K, LED fitting with High efficiency LED panel delivering 100lm/W and an average lifetime of 50,000 hrs as Osram LEDvance or approved equivalent
Type 2	25W, 2000 Lumens, 20000 hours Medium Useful life, 6500k Daylight Back Lit LED circular recessed Downlight as Osram LEDvance or approved equivalent
Type 3	Maintained 600x600mm, Ceiling Panel, Recess Mount,36W, 400K, LED fitting with High efficiency LED panel delivering 100lm/W and an everage lifetime of 50,000 hrs as Osram LEDvance or approved equivalent
Type 4	Maintained 25W, 2000 lumens, 20000 hours Medium Useful life, 6500K Daylight Back Lit LED Circular recessed downlight as Osram LEDvance or approved equivalent
Type 5	Self-contained single sided EXIT sign with 8W LED lamp for maintained emergency lighting for 3 hour duration as Thorn EF X3 or approved equivalent.

SECTION I

STANDARD FORMS

CONTENTS OF SECTION I

NOTE:

1.0 Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part the evaluation criteria.

2.0 Any tender returned with Unfilled Standard Forms shall be considered Non-Responsive and shall automatically be disqualified.

KEY PERSONNEL

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

POSITION	NAME	HIGHEST QUALIFICATION (Attach proof)	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1.				
2.				
3.				
4.				
5.				
6.				
7.				

I certify that the above information is correct.

…….. …… ……

Title Signature Date

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature, complexity and volume over the last 5 years.

PROJECT NAME	NAME OF CLIENT	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.

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

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

……. …… …….

Title Signature Date

I-3

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?)

DETAILS OF LITIGATION OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER HAS BEEN INVOLVED AS ONE OF THE PARTIES IN THE LAST 5 YEARS

1. .....

2. .....

3. .....

4. .....

5. .....

6. .....

7. .....

8. .....

9. .....

10. .....

VOLUME 2

PROPOSED OFFICE PARTITIONING FOR STATE DEPARTMENT FOR DIASPORA AFFAIRS AT OLD MUTUAL BUILDING, UPPER HILL

WP ITEM No: D1052 NB/NB/2202 JOB No: 11169A

TENDER SPECIFICATIONS & BILLS OF QUANTITIES FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF STRUCTURED CABLING, IP PBX, CCTV ,ACCESS CONTROL & AUDIO VISUAL WORKS

MAY 2023

TABLE OF CONTENTS

SECTION A

INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

CONTENTS

Note: The tenderer, who shall be domestic subcontractor to the Main Contractor, must comply with the following conditions and instructions failure to which the tender shall be rejected.

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 2 stages, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

STAGE 1: PRELIMINARY EVALUATION

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

These conditions shall include the following:

i) Company Certificate of incorporation/registration;
ii) Valid National Construction Authority Registration Certificate (NCA 5 and above in Structured Cabling, Access Control, CCTV/Security Surveillance and Telecommunication/IP PBX Installation Works); iii) Valid National Construction Authority Annual Contractors Practicing License; iv) Valid CA Registration Licence as a Telecommunication Contractor.
v) Valid CA Compliance Certificate as a Telecommunication Contractor. vi) Valid Tax Compliance Certificate;
vii) Precontract Agreement between the main contractor and domestic structured cabling Installation Works subcontractor viii) Pre-tender site visit form
ix) Manufacturer's authorization form for Network switches, CCTV Cameras, NVR, IP PBX & Wireless Access Points being offered by bidder.
x) Duly filled, signed and stamped statement of compliance
xi) Compliance with technical specifications Note:

On compliance with Technical Specifications, bidders shall supply equipment/items which comply with the technical specifications set out in the bid document. In this regard, the bidder will be required to submit relevant technical brochure/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/model of the proposed items. Such brochures/ catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

(i) Standards of manufacture;
(ii) Performance ratings/characteristics;
(iii) Material of manufacture;
(iv) Electrical power ratings; and
(v) All other requirements as indicated in the technical specifications of the bid.

The bids will then be analyzed, using the information in the technical brochures, to determine compliance with technical specifications for the works/items as indicated in the tender document. Bidders not complying with any of the technical specifications shall be adjudged technically non-responsive while those meeting all technical specifications shall be considered technically responsive.
The tenderer shall also fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer and catalogue numbers of the Items/Equipment they propose to supply.

The tenderers who do not satisfy any of the above mandatory requirements shall be considered Non-Responsive and their tenders will not be evaluated further. A-1

STAGE 2: TECHNICAL EVALUATION

At this stage technical evaluation shall be done by comparing each tender to the technical requirements in the tender document

Item	Description	COMPLIANT YES/NO
1.	**Compliance with Technical Specifications** *-Brochures for All active Equipment* *-Brochures of LAN switches* *-Brochures and manufacturer authorization for IP PBX, Network Switches, LED Displays, CCTV Cameras.*	
2.	**Qualification and Experience of Key Personnel**	
	Academic Qualification and Experience (Provide evidence) a) **Director of the firm** • Holder of at least a diploma with 10 years' experience in Electrical and electronic Engineering field/ICT	
	b) Project Manager • Holder of at least a diploma in Electrical & electronic Engineering/ ICT course with 5 years' experience in relevant field	

	c) At least 2 No artisans • Holder of at least a certificate in Electrical & electronic Engineering/ ICT course/Security Systems with 5 years' experience in relevant field **The tenderer MUST submit/attach the necessary qualification certificates which shall be certified by the employer as true copies of the original to be used for evaluation:** • Copies of academic certificates • Copies of professional certificates • Curriculum vitae signed by the nominee • A written undertaking signed by the nominee confirming his/her availability to carry out the assignment upon winning the bid.	

3.	**Experience of the firm in similar services: Structured Cabling/Security Systems/Access Control /Telecommunications Installation works** a) Provide One (3No.) project of similar nature, complexity or magnitude) between the Period 2016 – 2022: **(Provide evidence)**	
4.	**Adequacy of tools and equipment** The tenderer ***must*** show proof of ownership or leasing of the following equipment: - a) **Relevant Transport (at least 2No.)** • Vehicle b) **Relevant Equipment (at least 3No.)** • Has relevant equipment for work being tendered The tenderer **MUST** fill the forms in section I in the format provided.	
	QUALIFIED YES / NO	

N/B Full compliance by the tenderers shall be required. Failure to provide any of the listed requirements shall lead to disqualification. Hence the tenderer shall not proceed to financial evaluation.

S/No	Requirement	Comment
	Notes • If the equipment is owned, must provide CLEAR copies of log book or proof of ownership; • If equipment is hired or leased Provide a commitment letter from the lessor of the equipment indicating that the lessor shall avail the equipment upon award of the tender	

and submit a copy of a written agreement to lease between lessee and lessor indicating list of equipment and their corresponding copies of log books or proof of ownership by lessor;

The equipment listed shall be available on site when required

SECTION B

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

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

8. Testing on Site

1. GENERAL

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

2. STANDARD OF MATERIALS

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

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

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

3. WORKMANSHIP

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

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

3.3. Permits, Certificates or 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.

4. PROCUREMENT OF MATERIALS

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

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

5. RECORD DRAWINGS

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

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

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

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

6. REGULATIONS AND STANDARDS

6.1. All work executed by the contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, Electric Power Act, Kenya Bureau of Standards (KeBS), Institution of Electrical Engineers (I.E.E) Wiring Regulations, Current recommendation of CCITT and CCIR, and with the Regulations of the Local Electricity Authority and the Communications Authority of Kenya (CAK)

6.2. Where the sets of regulations appear to conflict, they shall be clarified with the Engineer.

7. SETTING OUT WORK

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

8. TESTING ON SITE

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

8.2. Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation shall be rectified by the contractor at his own expense.

SECTION C

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

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

NOTE:

Tenderers are advised to inspect the electrical drawings at the office of the Chief Engineer (Electrical) – Ministry of Transport, Infrastructure, Housing, Urban Development & Public Works, State Department for Public Works, at Chief Engineer's (Electrical) office, Hill Plaza Building, Community area, Nairobi along Ngong road, during normal working hours.

The drawings shall however be availed, on award of the tender, to the sub-contractor.

SECTION D

PARTICULAR AND TECHNICAL SPECIFICATIONS

OF

MATERIALS AND WORKS

PARTICULAR AND TECHNICAL SPECIFICATIONS OF MATERIALS AND WORKS FOR STRUCTURED CABLING WORKS

TELECOMMUNICATIONS DISTRIBUTION SYSTEM – STRUCTURED CABLING

A. GENERAL TECHNICAL SPECIFICATIONS

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

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

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

1. REFERENCES

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

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

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

3) ANSI/TIA/EIA-568-B.3 -- Optical Fiber Cabling Components Standard

4) ANSI/TIA/EIA-569-A -- Commercial Building Standard for Telecommunications Pathways and Spaces

5) ANSI/TIA/EIA-606(A) -- The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings

6) ANSI/TIA/EIA-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications

7) ANSI/TIA/EIA-526-7 -- Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant

8) ANSI/TIA/EIA-526-14A -- Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant

(9) ANSI/TIA/EIA-758(A) -- Customer-Owned Outside Plant Telecommunications Cabling Standard

(10) ISO/IEC 1101 Amendment 2

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

1. PERMITS, FEES, AND CERTIFICATES OF APPROVAL

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

2. SYSTEM DESCRIPTION

a. A telecommunications cabling system generally consists of one telecommunications outlet in each workstation, wall telephones in common and power socket outlet.

b. The typical work area consists of a single-gang plate with two standards compliant work area outlets.

c. One work area outlet consists of one (1) four-pair data Category 6 cable or above, installed from work area outlet to the data cabinet. Terminate data cables on modular patch panels located in the appropriate data cabinet.

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

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

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

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

3. SUBMITTALS

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

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

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

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

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

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

b. Shop drawings: Submit the following:

Coordinate with Part 2.

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

c. Product Data -- Provide catalog cut sheets and information for the following:
Coordinate with Part 2.

1) Wire, cable, and optical fiber
2) Outlets, jacks, faceplates, and connectors
3) All metallic and nonmetallic raceways, including surface raceways, outlet boxes, and fittings
4) Terminal blocks and patch panels

5) Enclosures, racks, and equipment housings
6) Over-voltage protectors 7) Splice housings

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

e. Project record drawings:

1) Submit project record drawings at conclusion of the project and include:

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

4. QUALITY ASSURANCE

2.1 The contractor shall have worked satisfactorily for a minimum of five (5) years on systems of this type and size.

2.2 Upon request by the P.M, furnish a list of references with specific information regarding type of project and involvement in providing of equipment and systems.

2.3 Equipment and materials of the type for which there are independent standard testing requirements, listings, and labels, shall be listed and labeled by the independent testing laboratory.

2.4 Where equipment and materials have industry certification, labels, or standards (i.e., NEMA - National Electrical Manufacturers Association), this equipment shall be labeled as certified or complying with standards.

2.5 Material and equipment shall be new, and conform to grade, quality, and standards specified. Equipment and materials of the same type shall be a product of the same manufacturer throughout.

2.6 Subcontractors shall assume all rights and obligations toward the contractor that the contractor assumes toward the client and P.M.

5. WARRANTY

5.1 Unless otherwise specified, unconditionally guarantee in writing the materials, equipment, and workmanship for a period of not less than fifteen (15) years from date of commissioning of the project for active components.

5.2 Transfer manufacturer's warranties to the owner in addition to the General System Guarantee. Submit these warranties on each item in list form with shop drawings. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the guarantee period. Final payment shall not relieve you of these obligations.

6. DELIVERY, STORAGE, AND HANDLING

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

7. SEQUENCE AND SCHEDULING

7.1 Submit schedule for installation of equipment and cabling. Indicate delivery, installation, and testing for conformance to specific job completion dates. As a minimum, dates are to be provided for bid award, installation start date, completion of station cabling, completion of riser cabling, completion of testing and labeling, cutover, completion of the final punch list, start of demolition, owner acceptance, and demolition completion.

8. USE OF THE SITE

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

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

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

PRODUCTS

1. MANUFACTURERS

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

2. FABRICATION

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

3. SUITABILITY

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

4. VOICE/DATA TELECOMMUNICATIONS SERVICE BACKBONE CABLE

a. Solid copper, 24 AWG, 100 Ω balanced twisted-pair (UTP) backbone cable, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA568-B.2

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

5. VOICE TELECOMMUNICATIONS STATION CABLE

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

6. DATA STATION CABLE (Copper)

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

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

7. DATA STATION CABLE (Optical Fiber)

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

8. UNDERGROUND TELECOMMUNICATIONS CABLE (Copper)

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

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

9. UNDERGROUND TELECOMMUNICATIONS CABLE (Optical Fiber)

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

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

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

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

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

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

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

b. Optical Fiber Connectors – simplex ST - ST adapter. Provide two optical fiber adapters for each faceplate

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

Single-gang mounting plate with four (4) openings containing the following devices: Data Outlet - 8-pin modular, Category 6A, unkeyed, black, pinned to either T568 (A or B) standards.

12. VOICE ONLY WORK AREA OUTLET

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

13. TERMINATION BLOCKS

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

a. Product(s) as approved by the P.M: Wiring blocks are to be in following configurations: 1) List dimensional configurations

2) ER – List pairs categorized for PABX portion of ER and pairs field terminated for backbone and CO portion of ER

Provide wiring troughs between ER frame sections.

14. PATCH PANELS

Specification Note: Alter quantities to match job requirements.

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

15. WALL MOUNTED OPTICAL FIBER PATCH PANELS

Specification Note: Alter quantities to match job requirements

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

16. RACK MOUNTED OPTICAL FIBER TERMINATION PANEL

Specification Note: Alter size to match job requirements. Coordinate with connector type. 19 in. rack mounted 72-port rack-mounted optical fiber termination panel with cable strain relief, grounding lugs, slack storage and three 12-port duplex SC or approved alternative connector panels with adapters and provisions for six (6) splice trays.

17. SPLICE TRAYS

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

18. OPTICAL FIBER CONNECTORS

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

19. OPTICAL FIBER JUMPERS

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

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

20. OPTICAL FIBER PIGTAILS

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

21. OPEN FRAME EQUIPMENT RACK

Open frame, 19 in. equipment rack, 7 foot 6 in. overall height with flange base, mounting rails drilled front and back and tapped to EIA standards, and a front-rack mountable 10 outlet multiple outlet electrical strip or 42u enclosed glazed.

22. EQUIPMENT RACKS/CABINETS

Specification Note: Use 19 in. or change to 23 in. as required. If using wall-mounted racks or cabinets, add required specifications here. Add and delete features as required. a. The 19 in. equipment rack shall have the following minimum requirements:

- 77 in. (44 rack spaces) of panel space
- Welded frame construction
- Locking front and rear doors
- Adjustable front and back equipment mounting rails drilled and tapped to EIA standards
- 10 position electrical outlet strip
- Removable side panels
- Top mounted, thermostatically controlled exhaust fan Smoked acrylic front door.

23. LISTED BUILDING ENTRANCE PROTECTORS

Use when copper cables are run outside of building.

Use appropriate protector modules.

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

24. SPLICE HOUSING

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

a. Encapsulated, re-enterable splice housing, sized as required with bonding straps, accessories, end caps and encapsulant as required
b. Splice modules (such as 710 series or MS^2) for use within splice housing

25. SPARES

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

Terminal block connectors, if required

Test set cords, if required

Install one test cord set in each telecommunications closet

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

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

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

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

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

EXECUTION

1. PRE-INSTALLATION SITE SURVEY

a. Prior to start of systems installation, meet at the project site with the P.M and representatives of trades performing related work to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work. Facilitation with the Client will be necessary to plan the crucial scheduled completions of the equipment room and telecommunications closets.

b. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.

2. HANDLING AND PROTECTION OF EQUIPMENT AND MATERIALS

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

3. PROTECTION OF OWNER'S FACILITIES

a. Effectively protect the client's facilities, equipment, and materials from dust, dirt, and damage during construction.

b. Remove protection at completion of the work.

4. INSTALLATION

Receive, check, unload, handle, store, and adequately protect equipment and materials to be installed as part of the contract. Store in areas as directed by the owner's representative. Include delivery, unloading, setting in place, fastening to walls, floors, ceilings, or other structures where

required, interconnecting wiring of system components, equipment alignment and adjustment, and other related work whether or not expressly defined herein.

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

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

1) Where manufacturer does not provide bending radii information, minimumbending radius shall be 15 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the P.M and the client.

e. Penetrations through floor and fire-rated walls shall utilize intermediate metallic conduit (IMC) or galvanized rigid conduit (GRC) sleeves and shall be fire stopped after installation and testing, utilizing a fire stopping assembly approved for that application.

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

g. Installation shall conform to the following basic guidelines:
   1) Use of approved wire, cable, and wiring devices
   2) Neat and uncluttered wire termination

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

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

j. Support riser cables every floor and at top of run with cable grips.
   1) Limit number of four-pair data riser cables per grip to fifty (50)

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

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

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

5. GROUNDING

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

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

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

6. LABELING

Use 6d if the type of termination block permits labels. Otherwise use 6e.
Use 6g if the owner does not have a standard for outlet numbering. Use 6h if required. Alter time as requested.

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

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

b. Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:
   1) Inside receptacle box at the work area.
   2) Behind the communication closet patch panel or punch block.

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

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

e. Mount termination blocks on color-coded backboards.

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

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

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

i. Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form (3.5" floppy disks) and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

7. TESTING

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

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

1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements. 2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable.

Use 2 or 3 as required.

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

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

4) If horizontal cable contains bad conductors or shield, remove and replace cable.
Initially test optical cable with a light source and power meter utilizing procedures as stated in ANSI/TIA/EIA-526-14A: OFSTP-14A Optical Power Loss Measurements of Installed Multimode
Fiber Cable Plant and ANSI/TIA/EIA-526-7 Measurement of Optical Power Loss of Installed Single mode Fiber Cable Plant. Measured results shall be plus/minus 1 dB of submitted loss budget calculations. If loss figures are outside this range, test cable with optical time domain reflectometer to determine cause of variation. Correct improper splices and replace damaged cables at no charge to the owner.

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

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

1) Submit printout for each cable tested.
2) Submit 3.5 in. disks with test results and program to view results.

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

FIELD QUALITY CONTROL

a. Employ job superintendent during the course of the installation to provide coordination of work of this specification and of other trades, and provide technical information when requested by other trades. This person shall maintain current RCDD® (Registered Communications Distribution Designer) registration and shall be responsible for quality control during installation, equipment set-up, and testing.

b. At least 30 percent of installation personnel shall be BICSI Registered Telecommunications Installers. Of that number, at least 15 percent shall be registered at the Technician Level, at least 40 percent shall be registered at the Installer Level 2, and the balance shall be registered at the Installer Level 1.

Specification Note: Use this or insert manufacturer's requirements for installer qualifications to meet extended warranty program requirements.

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

B. PARTICULAR SPECIFICATIONS

PART 1
PARTICULAR SPECIFICATIONS FOR STRUCTURED CABLING WORKS

1.0 SITE LOCATION

The site of the proposed works is located at Old Mutual Building, Upperhill.

2.0 DESCRIPTION OF THE PROJECT

The works to be carried out comprise the following;

i) Proposed supply, installation, testing and commissioning of a structured cabling system to cater for computer data points and telephone points.
ii) Configure and set up the structured cabling system to be used on LAN,
iii) Produce test result, warranty certification, reports and as installed drawings. The Network will be capable of supporting approximately 120 data/voice points per floor for 5 floors.
iv) Supply, install IP CCTV Cameras.
v) Supply, install IP PBX system and telephones vi) Supply, install Access Control for 15 doors

3.0 REGULATIONS

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

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

4.0 WORKING DRAWINGS

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

5.0 NETWORK CABINETS

a) To be located on each floor in designated rooms as indicated in the electrical drawings.
b) Must be metallic (appropriately sized as specified in the BQ) with a front clear glass, freestanding, complete with lock and key and the following accessories;
   - Cable Management channel rack
   - Cable support hooks
   - Cable support rings and straps
   - Cable duct cover
   - Feed through cable panels

- Vented equipment shelving
- Blank filler panels
- Hinged wall mounted brackets
- Glass viewing window
- Colored Designation strips

- Management lock and key
- Cooling extractor fans
- Caster wheels
- Inbuilt 2-gang power socket outlet

c) Power to the cabinet shall be switched off from within the cabinets. Proper power socket cables to be supplied with the cabinet.

d) The cabinet for active devices shall conform to ANSI/TIA/EIA-568A specifications with forced cooling

6.0 ACTIVE CONTROL EQUIPMENTS AT THE NETWORK CORE (CORE SWITCH)

The active control equipment at the core should have the following features: a) Up to 1 TBps of local stackable switching bandwidth.

b) Flexible downlink options with 1G Copper and Fiber as well as the densest Multigigabit links

c) Mix of Copper (1G up to 10G) and Fiber (1G up to 25G) supported in a single stack

d) Flexible and dense uplink offerings with 1G, Multigigabit, 10G, 25G, 40G and 100G in the form of fixed or modular uplinks

e) Based on UADP 2.5sec ASIC which adds line rate support for Crypto, including 100G IPSec

f) PoE capabilities with up to 384 ports of PoE per stack, PoE+, and high-density IEEE 802.3bt

g) Intelligent Power Management, providing power stacking among members for power redundancy.

h) Line-rate, hardware-based Flexible NetFlow (FNF), delivering flow collection of up to 128,000 flows with select models

i) IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks

j) Dual-stack support for IPv4/IPv6 and dynamic hardware forwarding table allocations, for ease of IPv4-to-IPv6 migration

k) Support for both static and dynamic NAT and Port Address Translation (PAT)

l) IEEE 802.1ba AV Bridging (AVB) built in to provide a better audio and video experience through improved time synchronization and QoS

m) x86 CPU complex with 8-GB memory, and 16 GB of flash and external USB 3.0 SSD pluggable storage slot (delivering up to 240GB of storage with an option SSD drive) to host containers.

7.0 ACTIVE CONTROL EQUIPMENTS AT THE LAN EDGE

Active control equipment at the LAN Edge should have the following features:

a) Switching Capacity: 128 Gbps

b) Forwarding Performance : 96 Mpps

c) 24x10/100/1000Base-T Ethernet ports

d) 4x10GE SFP+ Ports

e) Full Power over Ethernet Plus (PoE+) capability
f) At least 2GB RAM Memory
g) At least 1GB Flash Memory
h) One-year technical support
i) Complete with all necessary software and Licences

8.0 NTU Specifications

Type:	HDSL
Max Data Transfer Rate:	2Mbps
Mode of Operation:	DCE
Connector:	DB37
Interface Cable:	DB37-DB15

9.0 NETWORK MANAGEMENT SYSTEM

Bidders must propose the manufacturers Network Management system for centralized configuration, maintenance and troubleshooting of active equipments. Third party standalone systems should not be offered as part of the solution. Features and functionalities of the system should include the following:

a) Should be compatible with Microsoft windows/Linux operating systems
b) Graphical User Interface for central Management and network viewing
c) Network discovery and inventory management
d) VLAN, multicast, security and load-balancing/fail over configuration
e) Downloading and saving of log file from the device flash memory
f) Centralized upgrade/backup and archiving of active devices
g) Export of network topology to JPEG or other standard formats.

10.0 CABLES

10.1) UTP CABLE

The UTP cable must be category 6A compliant UTP cable, with the following specifications;

a) 4-pair cables with 100-ohm impedance.
b) Compliant to standards such as TIA/EIA – 268-B. 2-1 and IEC 61156-5
c) Made of polyethylene insulation
d) Pulling force should support up to 50N/mm2
e) Low Smoke Zero Halogen outer sheath

10.2) OPTICAL FIBRE CABLE

The fibre cable must be 8 core multimode fibre with the following specifications: -

a) Cable size: 8 core.

b) Termination: SC Duplex connectors.
c) Graded Index: Nominal 62.5/125 micro. m

11.0 CAT 6A PATCH PANELS

The Contractor shall provide factory made patch panels, Cat 6A complete with cable management and front designation strips, 110 PCB mounted connectors and integral RJ mounted jack sockets.

12.0 FIBER PATCH PANELS

All Backbone Fiber links to individual floors should be terminated on Fiber Patch Panels. Connector interfaces should support ST, Sc simplex, Sc duplex, FC, LC or MT-RJ.

13.0 BACK BONE

Backbone cabling inclusive of switches and all necessary accessories shall be carried out in readiness for the termination of edge switches.
The Backbone cabling shall be flexible and allow for easy 'add on's' for future expansions.
Hence enough capacity shall be allowed for future expansion.

14.0 EDGE/FLOOR SWITCHES

These shall be per floor/wing and have enough capacity for expansion

15.0 WIRELESS ACCESS POINT

The wireless access point shall have the following specifications:

(2)10/100/1000 Ethernet Ports Networking Interface
Simultaneous Dual-Band
Full Power over Ethernet Plus (PoE+) capability
450Mbps at 2.4GHz Radio Rate
1300Mbps at 5GHz Radio Rate
3x3 5GHz MIMO
Supports Wireless Uplink

16.0 Uninterruptible Power Supply (UPS)

The UPS shall have the following specifications:

Max Configurable Power (kVA)	3kVA
Output Voltage Distortion	Less than 5 %
Output Frequency (sync to mains)	50/60 Hz +/-3 Hz Sync to mains
Topology	Line interactive
Waveform type	Sine wave

Transfer Time	6 ms typical : 10 ms maximum
Nominal Input / Output Voltages	230V
Input frequency	50/60 Hz +/- 3 Hz Auto-sensing
Input voltage range for main operations	151-302 Adjustable, 160 - 286V
Battery type	Lead-acid battery
Typical recharge time	3hour(s)
Expected Battery Life (years)	3 - 5 years
Interface Port(s)	RJ-45 Serial, SmartSlot, USB
Control panel	Multifunction LCD status and control console
Audible Alarm	Distinctive low battery alarm : configurable delays

17.0 COMPLETION COMMISSIONING OF STRUCTURED CABLING WORKS

17.1 Upon completion of the installation, all cabling links must be tested for the following parameters, using Level Three testers: -

a) Category 6A Cable Tests

1. Wire Map
2. Length
3. Insertion Loss (Attenuation)
4. NEXT Loss
5. PSNEXT Loss
6. ELFEXT Loss, pair-to-pair
7. PSELFEXT Loss
8. Return Loss
9. ACR (Attenuation to crosstalk ratio)

10. PSACR
11. Propagation Delay
12. Delay Skew

b) Fibre Optic Cable Tests

1. Link attenuation (insertion loss)
2. Length

Any failing link must be diagnosed and corrected. The corrective action shall be followed with a new test to prove that the corrected link meets the performance requirements.

The results should be recorded in one or several measure books showing test results of the cable components. In addition, the measurements must be recorded on two soft copies (CDROM).

17.2 All components must be tested and a Completion Certificate issued stating the following:

a. Number of outlets
b. Type of cable
c. Date completed
d. Type of Warranty

In addition, an "as-built" package must be submitted with the following information

a. Updated floor plans
b. Wire/cable routing schematic
c. Facility assignment records
d. Horizontal cable test results
e. Fibre Backbone test results

18.0 Documentation

The contractor shall avail documentation (2 copies) detailing the layout and devices or components of the system and must include all information for maintenance technicians to run, service, extend or maintain the network. In particular, the documentation must be structured and contain the following:

a. Synopsis of the cabling (primary and secondary)
b. Charts of the distribution highlighting the details of the elements that have been installed
c. Detailed map of socket layout (2 Soft copies on CD-ROM should be availed)
d. Reports on measurements (2 Soft copies on CD-ROM should be availed)

The CD-ROMs provided shall include the software tools required to view, inspect and print any selection of test reports.

19.0 Warranty and Support

3.1 The Contractor will be required to give a per link warranty of at least fifteen (15) years for the structured cabling infrastructure and must provide a site certification certificate from the manufacturer of the cabling infrastructure not more than 30 days after completion of tests.

3.2 In the event of failure of the core switch, the contractor will be required to deliver any necessary parts on the next business day after determining that parts replacement is required, during the standard work week (8 hours a day, 5 days a week). This support will be carried out by a field engineer and will run for a period of Twenty Four months from the date of commissioning of the LAN.

3.3 The contractor will be required to provide a sixty months warranty on the edge switches from the date of commissioning of the LAN.

20.0 ADDITIONAL NOTES

Tenderers should take note of the following

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

21.0 BROCHURES AND TECHNICAL LITERATURE

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

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

PART 2

1.00 PARTICULAR SPECIFICATIONS – IP-CCTV

1.01 DESCRIPTION OF THE SITE

The site of the proposed works is located at Old Mutual Building, Upperhill.

1.02 DESCRIPTION OF THE PROJECT

The works comprise the Supply, Installation, setting to work, integration to existing system, Testing and Commissioning and leaving in servicing condition the IP Based Closed Circuit Television Cameras. The works shall include but not limited to the Supply and Installation of the following;

- IP Cameras
- LED Monitors
- Cabling of the CCTV and all Associated Works
- Integration to existing system

1.03 CLIMATIC CONDITIONS

The following climate conditions can apply at the site of the sub-contract works and all the plant, equipment, apparatus, materials and installations shall be suited for these conditions:

Maximum Temperature	:	27.3 ^{0}C
Minimum Temperature	:	11.1 ^{0}C
Relative humidity range	:	40% - 90%
Dust in Atmosphere	:	Relatively dusty conditions prevail
Longitude (approximately)	:	36.0567°E
Latitude (approximately)	:	1.7423° S
Altitude	:	2500 m above sea level

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

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

It is intended that ventilation and air filtration, if any shall be provided by others. It is not intended that the accommodation shall be air conditioned. Any requirements of this nature upon which the tender is conditional shall be clearly stated in the tender.

1.04 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 Authority of Kenya (formerly CCK)
- The Kenya Communications Act
- The Electronic Power Act and the Rules made there under.
- The Kenya Power and Lighting Company Limited's Bye-Laws.
- The current 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 (KEBS) Standard Specifications and Codes of Practice, or other equal and approved standard specifications and codes.
- The Bye-Laws of the Local Authority.
- Any other regulations applicable to Electric and Electronic Installations or Communications systems in Kenya.
- The Employer's Safety Regulations.

1.05 ELECTRICAL REQUIREMENTS

The equipment to be supplied shall be capable of being operated from 240V AC, 50Hz power supply.

1.06 MANDATORY REQUIREMENTS

a) All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.
b) All systems and components shall have been thoroughly tested and proven in actual use.
c) All systems and components shall be provided with the availability of a, 24-hour technical assistance program (TAP) from the manufacturer. The TAP shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.
d) All systems and components shall be provided with a one-day turn around repair express and 24-hour parts replacement. The repair and parts express shall be guaranteed by the manufacturer on warranty and non-warranty items.

e) The supplier shall be the manufacturer, or the manufacturer appointed agent (proof to be submitted).
f) The Offered system has been installed and commissioned by the supplier in other locations.
g) The proposal will include operators training in Kenya and system manager factory training (at the manufacturer training facility).

1.07 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.

1.08 SETTING TO WORK AND REGULATING SYSTEMS

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

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

The contractor shall include in his tender for the costs for testing and commissioning the contract works as herein described. He shall submit for approval to the P.M. a suitable 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.

1.09 IDENTIFICATION OF PLANT AND COMPONENTS

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

Where heating is likely to distort Traffolyte, approved aluminum labels with stamped or engraved lettering shall be used.

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

1.10 WORKING DRAWINGS

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

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

1.11 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 elsewhere applicable those applicable to system operation as a whole.

One reproducible copy of the Record Drawings of the contract works and Schematic Diagrams shall be provided not later that 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.

1.12 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.

1.13 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.

1.14 TRAINING

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

1.15 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.

1.16 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 on 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.

1.00 TECHNICAL SPECIFICATIONS FOR THE IP-CCTV CAMERAS SYSTEM

2.01 EXTENT OF WORKS FOR SECURITY SURVEILLANCE SYSTEM

The security surveillance system should consider the following.

IP CCTV Camera. The cameras specified should be able to cover the distance with clear pictures. Consider whether there shall be need to support the fixed digital cameras with the Pan, Tilt and Zoom Cameras or not. Highly sensitive areas should be covered with more cameras able to take pictures of any person coming in both from the front and the rear. The resolution of the cameras should be able to give motion pictures that are clear.

LED Monitors. The color monitors must be of high resolution and preferably of plasma screen. The size of the monitor should be big enough to allow the operators make correct deductions both in real time operation and during playbacks.

2.02 WORKING DRAWINGS

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

2.03 MINIMUM ALLOWABLE TECHNICAL SPECIFICATIONS FOR THE CCTV SYSTEM

2.03.1 GENERAL SPECIFICATIONS FOR THE CAMERAS

a) Fixed cameras –

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

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

2.04 MINIMUM REQUIREMENTS FOR THE PROPOSED CCTV SYSTEM

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

Type A Camera

- IP 5MP Vandal Proof Dome camera
- 1/1.8" CMOS imaging sensor with 120db WDR.
- Fixed Lens length of 3.7 mm
- IR Viewable Length 30m
- Minimum illumination 0.2lux (colour)
- Frame rate of 30fps at 5MP
- True day and night vision capability (ICR)
- IP network capable – IPv4/IPv6
- PoE capability
- H.265 video compression
- Tampering detection, Loitering, Face Detection, Audio Detection, Motion detection Masking
- Accessible Edge Storage with internal 128GB MicroSD card slot and complete with a 128GB MicroSD card
- ONVIF compliant application programming interface
- Web viewer/browser support
- Vandal proof IK-10 rating housing
- Weather proof IP66 rating

2.05 MOUNTING BRACKETS

The Brackets shall:

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

2.06 CAMERA HOUSING

The camera housing shall:
Be IP66 rated with integral cable management.
Be Weatherproof and constructed from aluminum with epoxy coating.

2.07 COLOR VIDEO MONITORS

The monitor should be capable of providing high levels of picture quality 10MHz bars visible at low brightness and reliability stable synchronization, black level clamping, low sensitivity and high stability.
The monitors shall be high performance color video monitors for monitoring scenes from the above cameras and viewing playback scenes from the video cassette recorders. The monitors shall be located at places to be shown on site by the project manager.

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

Type:	LED; 50,000hours panel life
Video System:	NTSC/PAL
Screen Size:	40”
Resolution:	1,920 x 1, 080
Display Colour :	16.7 million
Brightness:	350cd/m^2
Contrast Ratio:	5,000:1
Video input signal:	1.0 V pk-pk
Power consumption:	Not more than 80W
Power input:	240V, 50HZ
Interface:	VGA, DVI, HDMI, RGB, Audio, Video

(State make and type, and enclose catalogues)

2.08 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 UTP 4 pair shall be of Solid copper, 24 AWG, 100 □ balanced twisted-pair (UTP) Category 6a cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz. Cat 6a Structured Cabling shall be used throughout the entire installation.

(State make and type, and enclose catalogues)

2.09 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.

2.10 MINIMUM REQUIREMENTS FOR THE PROPOSED NETWORK VIDEO RECORDER (NVR)

- 32 Channels
- At least 180Mbps Network Camera Recording
- Gigabit Ethernet connection
- Multi-screen Display: Full/4/9/16 way or as appropriate.
- Max. 8HDDs, e-SATA Storage Supported
- External storage support capability
- VGA/HDMI local monitor
- Redundant hot swap power supply
- Network management/viewer software
- In built intelligent video analysis
- H.265, MPEG, MJPEG Compression
- ONVIF compatibility
- Web viewer supported
- PoE enabled
- Smart Video Search Feature for streamlined Investigations
- Recording resolution of 5MP
- IP address filtering, user access log, authentication and encryption
- Auto Launch of Video on specified Alarms/Events
- LED status indicator
- CE, UL certification

2.11 MINIMUM REQUIREMENTS FOR THE PROPOSED OPERATOR / SYSTEM CONTROL KEYBOARD

Control Equipment	Network Camera/SSM/DVR
Interface	Ethernet, USB & RS-485/422
Units to Control	Network Camera
Baud Rate (RS485/422)	2400~57,600bps
Network Protocol	TCP,HTTP,DHCP,IPv4
LCD Display	5”TFT LCD

Joystick	3 Axist twist zoom
User Management	Admin + 9 Operators
Camera	Pan/Tilt/Zoom, Focus, AtoFocus, Preset, Group, Tour, Swing, Trace, Auto Tracking, Alarm off/on, Freeze

2.12 BROCHURES AND TECHNICAL LITERATURE

Tenderers Must enclose together with their submitted bids brochures detailing technical Literature and specifications of the CCTV Cameras System and the UPS. The brochures shall be used to evaluate the suitability of the system and the associated accessories. Any bid submitted without the brochures shall be considered technically non-responsive, and shall subsequently be disqualified.

PARTICULAR SPECIFICATIONS – ACCESS CONTROL

DESCRIPTION OF THE PROJECT

The works comprise the supply, Installation, Testing and Commissioning of ACCESS CONTROL SYSTEM and the associated cabling works as listed in the Bills of Quantities.

1.0 ACCESS CONTROL - SYSTEM

The main components of an access control system are:

a) IP Access Controller

b) Reader

c) The magnetic locks

2.0 TECHNICAL SPECIFICATION

THE SYSTEM SHOULD BE INSTALLED IN ACCORDANCE TO BS EN 60839-11-1:2013

2.1. IP ACCESS CONTROLLER

Key Features

- 20,000, FIFO, history event log, when offline
- MD-IO84 IO expansion, additional 8 inputs, 4 outputs
- MD-D04 4-Door expansion, 4 readers with 4 inputs, 4 outputs
- Onboard TCP/IP networking
- Built-in sounder

- 30,000 users
- 4 programmable 5A, N.O. and N.C. relay outputs

2.2 READER

- Forced mask wearing alert: If the recognizing face does not wear a mask, the device will prompt a voice reminder. At the same time, the authentication or attendance will be failed
- Face mask wearing alert: If the recognizing face does not wear a mask, the device will prompt a voice reminder. At the same time, the authentication or attendance is valid
- Able to read face, biometric and card
- 7-inch LCD touch screen, 2 Mega pixel wide-angle lens, built-in Mifare card reading module
- Face recognition distance (without face mask): 0.3 m to 3 m, Duration < 0.2 s/User, Accuracy rate ≥ 99%
- Max.6000 faces, Max.6000 cards and Max. 5000 fingerprints
- Two-way audio with client software, indoor station, and main station
- Supports TCP/IP
- Configuration via the web client
- Supports ISAPI and ISUP5.0 protocol
- IP65

Interface

- Network interface ~ 1
- RS-485~ 1
- Wiegand ~ 1
- Lock output ~ 1
- Exit button ~ 1
- Door contact input ~1
- IO input ~ 2
- IO output ~ 1
- Power interface ~ 2-pin
- TAMPER ~ 1
- USB ~ 2

Capacity

- Card capacity ~ 6000
- Face capacity ~ 6000
- Fingerprint capacity~ 5000
- Event capacity ~ 50,000

Authentication

- Card type Mifare ~ 1 card
- Card reading frequency ~ 13.56MHz
- Card reading distance ~ 0 to 5 cm

- Face recognition accuracy rate ≥ 99%
- Face recognition distance ~ 0.3 to 3 m (Without face mask)
- Fingerprint recognition duration ≤ 1 s

General

- Power supply method 2-pin ~ connecter
- Power supply ~ 12 VDC/2 A
- Working temperature ~ -30 ℃ to 60 ℃ (-22 °F to 140 °F)
- Working humidity ~ 10 to 90% (No condensing)
- Protective level ~ IP65
- Installation ~ Surface

2.3. MAGNETIC LOCK

- Magnetic lock supports static linear thrust of 500kg
- Power supply can be 12VDC or 24VDC + 10%, (default voltage is 12VDC)
- Suitable for wooden door, glass door, metal door and fireproof door
- LED indicator displays door lock status
- S model for single-door, D model for double-door.

2.4. ACCESS CONTROL SYSTEM SOFTWARE

Key Features

- The Access Software offers a map viewer, which provides a graphical representation of the premises with device control directly from the map. Monitoring modules shall also include a text-based transaction module
- Visitor Management- Visitor management shall allow for the pre-authorization and first-time arrival of guests to a site.
- The operator shall have the following functionality via GUI:
  - Create a new visitor
  - Set a start and end time for the visitor
  - Choose the access permissions for the visitor
  - Generate a one-time pin (OTP) for the visitor to gain access
  - Send an email with information pertaining to visitors visit details
- The software shall be linked via the API / integration layer in order for the visitor to be enabled in the ACS system. All data shall be able to be reported on via the ACS software. The ACS software shall make available the remote / mobile biometric and card units to be used in conjunction with the Visitor Management module.
- Threat levels – when activated, pre-selected doors shall be opened automatically or security will be increased, based upon the defined rules and depending upon the severity of the threat.
- Scheduled Tours – ability to create predefined schedules for cleaning, guards or maintenance staff with online validation that defined points have been reached within a particular time frame.
- Alarm Mode – when an intrusion or fire alarm is activated, a signal shall be received by the ACS and system configured actions shall be triggered.
- Time Triggered Actions – specified actions may be activated at specified times with the capacity to generate 512 Time Triggered Actions per site.
- Holidays - feature to define Holidays and qualify access rights accordingly.

Access Modes

- Card
- Face Recognition
- Biometrics

Integration

The ACS software supports integration options via XML format commands for one or more or all the following 3rd party systems:

- Intrusion Alarm systems
- Fire alarms
- Human Resources Databases
- Time and Attendance Systems
- ERP, SCM and CRM Systems
- Student Enrolment Systems
- Digital and Network Video Recording Systems
- Visitor Enrolment solutions

2.5. POWER SUPPLY MODULE

Key Features

- AC Power failure supervision relay
- Battery failure / low battery supervision relay
- DC Power failure supervision relay (EAP-5D5Q only)
- Auxiliary output relay
- Relays rated 3A@24VDC, 3A@120VAC
- Adjustable voltage range to compensate for voltage drop
- Built-in backup battery charger (battery not included)
- Selectable 2.2k 9 End-of-Line (EOL) resistor for AC failure and battery failure supervision relays via DIP switch
- Selectable delay timer (5 seconds, 5 minutes, 5 hours) for AC failure supervision relay via DIP switch
- LED Status indicator for AC input, DC output and channel outputs

Power

- Operating Input voltage: 240 VAC
- Field-selectable 12 or 24 VDC output
- Total continuous output current: 5A@12VDC, 2.5A@24VDC
- Individually fused power output (PTC-type fuses) rated at 1.1A, fail-safe or fail-secure modes.
- AC Input fuse rated at 3.15A
  Adjustable Output Voltage Range: 11~15 @ 12VDC setting, via VR switch, 23~28 @ 24VDC setting, via VR switch
- Number of Outputs: 5

Enclosure

- Heavy-duty steel case with ventilation holes
- Enclosure large enough to fit (>two (2) 12V/12Ah batteries)
- Removable steel cover for easy access to power connections
- 6ft Power cord and battery leads included

2.6. PUSH TO EXIT BUTTON

Key Features

- illuminated switch button
- high impact resistant material
- Integrated electronic timer, adj. 1-60 sec, 12/24VDC, DPDT 2Amp contact
- Wire Leads 6”, 20 Gauge
- Stainless Steel – Standard
- 1 Green LED
- narrow frame mount exit switch

2.7. PROXIMITY CARDS

Key Features	• 13.56 MHz read/write contactless smart card technology provides high-speed, reliable communications with high data integrity. • Constructed with ABS shell and PVC cover label, offering durable packaging. • Available in 2k bit (256 Byte), two application area configurations only. • iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities. • Meets ISO 15693 standard for contactless communications. • A PVC Overlay allows for on-site Photo ID production using most direct image printers. • Triple DES encryption.
Data Retention	10 years
Write Endurance	Min. 100,000 cycles
Memory Type	EEPROM, read/write
Baud Rate	26 Kbps
Transaction Time	<100ms typical
Operating Humidity	5-95% non-condensing
Operating Temperature	-40° to 160° F (-40° to 70° C)
Card Construction	ABS Shell with PVC Cover Label.
Dimensions	2.125" x 3.375" x 0.070" max.(5.40 x 8.57 x 0.18 cm)

2.8. OVERRIDE KEY SWITCH

Key Features

- Tamper Resistant, Recessed Cylinder
- Tamper Resistant Spanner Screws
- Heavy Duty All Steel Assembly
- Stainless Steel Faceplates of 0.25" Thickness of Aluminum
- Large Actuator for Positive and Consistent Activation
- 6 Amp @ 30 VDC Resistive
- 7", 22 Gauge Wire Leads
- Compatible with 1.0" or 1.375" Mortise Cylinder (included)
- Anti-Tamper Sensor, SPDT
- Turning the key left or right actuates and latches the contact. Contact position is maintained until the key is inserted and turned again.

2.9 EMERGENCY EXIT DEVICE (Manual Call Point)

Key Features

- Suitable for push face of outward opening doors
- 3 point locking comprising
- Single point central deadlatch (active leaf
- 2 point upper and lower pullman latches (inactive leaf)
- Non-handed for maximum flexibility
- Max. door leaf width : 900mm or 1200mm
- Anti-thrust steel deadlatch
- Adjustable steel strike
- Rods with integral cover
- Complete with signage and fixing instructions
- Supplied complete with adjustable flat, corner and floor strikes to suit various door frame overlap sizes
- push bar and rods can be cut down to size
- Suitable for timber and metal application
- Signage as required by BS EN 1125 annex A19, coloured green & white as detailed in BS5499

3.0 BROCHURES AND TECHNICAL LITERATURE

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

TECHNICAL SPECIFICATIONS FOR WORKSTATION AND ACCESSORIES

SPECIFICATIONS FOR DESKTOP COMPUTERS

ITEM	DESCRIPTION	MINIMUM REQUIREMENTS	BIDDER'S SPECIFICATIONS
A	GENERAL SPECIFICATIONS		
1	Make	BRANDED	
2	Model	HP EliteDesk 800 G1 Desktop	
3	Country of Origin		
4	Manufacturer's brochure and specifications	Must be supplied	
B	TECHNICAL SPECIFICATIONS		
5	Processor	Intel® Core™ i7-4790 with Intel HD Graphics 4600 (3.6 GHz, 8 MB cache, 4 cores)	
6	System Memory	16 GB 1600 MHz DDR3 SDRAM (1 x 4 GB)	
7	Disk cache	Integrated 8MB L2 cache Bus Speed 2700 MHz	
8	Storage sub system	1 TB 7200 rpm SATA SSD	
9		DVD / CD-Writer Drive Memory Card Reader	
10	Display/Graphics	21" TFT Screen (Free standing-Adjustable)	
11	Keyboard	PS/2 Enhanced keyboard	
12	Pointing device	PS/2 Compatible Optical mouse	
13	Audio/ Graphics Systems	✞ PCI 3D audio/video cards ✞ TV/FM cards ✞ Amplified speakers (External)	

14	Communication Interface	✞ 10/100/1000Gbs fast ethernet, RJ 45 jack ✞ 56K ITU V.90 data/fax modern, wake-on-ring ready	
15	Operating System Preload plus CDs	Windows 10 Professional 64	
16	Application Software, pre-installed, registered and CDs supplied	MS OFFICE 2017 OR MS OFFICE XP PRO (2017 Version)	
17	Power sub- system	220-240V ac, 50HZ	
18	Power extension cord	At least four outlets with surge protection	
C	WARRANTY	One year parts replacement warrant	

Part III: IP-PBX SYSTEM

TECHNICAL SPECIFICATIONS

Compliant Standards: 2014/34/EU: ATEX

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Type Approval	Communications Authority of Kenya (CA) – Attach Certificate	
Features	• 224 Trunks; Physical (160); Virtual (64) • 100 Extensions; Physical (304); Virtual/ IP-PT and IP Software Phone/ SIP Extension (20) • desking features for phones in shared desks • Built-in simplified voice message • Server Connection -DHCP client -SNMP Agent / Alarm -SNTP client • VOIP Gateway with QSIG (Enhanced System Networking) • VOIP Extensions • PC-Based Programming • DXDP (Digital Extra Device Port) • Automatic Route Selection (ARS) • Toll Restriction • Caller ID (Name & Number)	

	• ISDN Primary Rate Interface (PRI) with QSIG and T1 • Enhanced System Networking • Uniform Call Distribution (UCD) • Gateway is built into the DSP, no need for the IP Gateway Card • IP Address is built into the MPR, no need for an additional CTI Link Card for remote programming or integration to the phone assistant • host PBX access code; 10 digits, 10 entries	
Dialling	• conference each shelf: 3-8 parties per conference (32 parties total) • coS – 64 • did/ddi table; 32 digits, 1000 entries • Multiple Subscriber number (MSn); 10 entries per iSdn-Bri port • Special carrier access code 16 digits, 100 entries	
Conversation	• Mobility services: Nomadic mode, Routing to service multiple devices (Business phone, DECT or WLAN handset, PC, smartphone), One number service, User-defined routing rules. • Hot-desking/desk sharing	
	• Business communications services: Call option, speed dial, Call back, call queuing, Call pickup, barge-in, Call diversion, Dynamic routing: (No answer, busy), Call recording, Paging, DISA • Conference: 3-party conference, 6-party conference, IP Conference Phone (5 legs), Conference on SIP devices (3 legs)	
Supported phones	• IP Desktop Softphone: NOE/IP • SIP phones • VoIP softphone • OpenTouch Conversation (OTCV): Android	
Welcome greeting	• Personal assistant • Attendant services: Attendant group, call queuing, call overflow; Time range: Daily, weekly, bank holidays, restrict mode control; Alarm indicator ¬ PBX and end user management • Automated attendant (2 levels)	

UC services	• Contact management, presence, calendar sharing, chat, audio/video call, screen and file sharing; Persistent group chat with audio/ video/screen sharing conference capabilities; Audio conference up to 100 participants	
Verticals services	• Directory services: Dial by name: Auto and unified modes, Universal Directory Access: External LDAP server, Integrated Directory, Common and personal directories	
Software	• OS: Linux	
Networking and topology	• Networking: ISVPN (T0/T2), QSIG-BC (DLT0 DLT2), Private SIP trunks, multiple SIP trunks, Automatic Route Selection (ARS): 3000 entries, time range, Least Cost Routing	
Connectivity	• IPv4 • HTTP/HTTPs • VoIP: G.711, G.729, G.722, codec path through (direct RTP) |QOS: TOS, DiffServ, 802.1 p/Q |Direct RTP, RTP proxy, integrated software media server |DTMF: In-band, RFC 2833 |IETF/ RFC standards • WebRTC VOIP services over the Internet |Firewall friendly port forwarding and VPN less |Encrypted media, STUN/TURN • Management: Remote Access | Integrated VPN IPsec |ISDN (1 or 2B), call back • SIP: Public SIP trunk | Private SIP trunk | SIP endpoints (local users) • WLAN	
Security	• User Authentication: Password 6 digits |Access locked after repeated authentication errors, notification |Normal/restricted modes |User right to services |Pin for remote access (DISA) • Certificate: Server self-signed, Import for public authority • WAN access: HTTP proxy compliant • SIP Authentication: RFC2617 • Traffic filtering: ARP spoofing protection| SIP perimeter defense: Quarantine, blacklist, automated blacklist |Connection tracking • Encryption: SSLv3 for secure HTTP |HTTPS	

Hardware CPU Board	• Power CPU EE (PowerPC e300): Chassis: Compact |16 VoIP DSP channel (embedded) |VoIP 64 optional daughter board: 76 VoIP channels |Memory Storage daughter board (MSDB): 8GB (eMMC)	
Warranty	• Comprehensive Manufacturer's Warranty (Attach Manufacturer's Warranty Statement) minimum of 2 years.	

1.1. IP EXECUTIVE PHONE

TECHNICAL SPECIFICATIONS Compliant Standards: TIA/EIA 810-B		
Item	**Minimum Specifications**	**Proposed Solution**
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key features	• The phone offers an easy-to-use interface and provides a traditional telephony-like user experience • Video: 720p HD video (encode and decode), H.264/AVC • The handset is a standard wideband-capable audio handset (connects through an RJ-9 port) • The handset is hearing aid-compatible (HAC) and meets Federal Communications Commission (FCC) loudness requirements for the Americans with Disabilities Act (ADA). • A full-duplex speakerphone. For added security, the audible dual tone multifrequency (DTMF) tones are masked when the speakerphone mode is used. • backlit indicators for audio path keys (Handset, Headset, and Speakerphone), select key, line keys, and message waiting • Dual-position foot stand supports viewing angles of 35 and 50 degrees; you can remove the foot stand for wall mounting, with mounting holes located on the base • Call-history & Contact synchronization (with mobile device)	

	• Ethernet (10/100/1000) line interface with a secondary 10/100/1000 port for collocated laptop or PC • Optional Gigabit Adapter for Gigabit connectivity to a PC • Ergonomic hearing aid compatible handset – supporting PoE class 1 for low power consumption	
Protocols	• SIP (RFC3261, RFC3262)	

	• H.323 • Standards-based codec support: G.711, G.726, G.729A/B, G.722 • Session Description Protocol (SDP) • IPv4 and IPv6 • User Datagram Protocol (UDP) (used only for RealTime Transport Protocol [RTP] streams) • Dynamic Host Configuration Protocol (DHCP) client or static configuration • Gratuitous Address Resolution Protocol (GARP) • Domain Name System (DNS) • Trivial File Transfer Protocol (TFTP) • Secure HTTP (HTTPS) • VLAN • Real-Time Transport Protocol (RTP) • Real-Time Control Protocol (RTCP) • Switch speed auto-negotiation • Peer to Peer calling	
Key-pad	• The phone has the following keys: ◦ Line keys ◦ Soft keys ◦ Back and release keys ◦ Four-way navigation and select keys ◦ Hold/Resume, Transfer, and Conference k◦ Messaging, Application, and Directory key◦ Standard keypad ◦ Volume-control toggle key ◦ Speakerphone, headset, and mute keys	
Network and provisioning	• An internal 2-port Ethernet switch allows for a direct connection to a 10/100/1000BASE-T Ethernet network (IEEE 802.3i/802.3u/802.3ab) through an RJ-45 interface with single LAN connectivity for both the phone and a co-located PC • The phone identifies incoming messages and categorizes them for users on the screen. • Analog headset, Aux port, Bluetooth (Bluetooth 4.1 LE, Enhanced Data Rate (EDR) Class 1 technology; Hands-Free Profile (HFP); Phone Book Access Profile (PBAP))	
Languages	• Multi-language support (menu)	
Security	• Secure boot • Secure credential storage • Device authentication • Configuration file authentication and encryption	

	• Image authentication • Random bit generation • Hardware cryptographic acceleration • Certificate Authority Proxy Function (CAPF) • Manufacturer-Installed Certificates (MIC) • Locally Significant Certificates (LSC) • Ethernet 802.1x supplicant options: Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) and Extensible Authentication Protocol-Transport Layer Security (EAP-TLS) • Signaling authentication and encryption using TLS • Media authentication and encryption using SRTP • HTTPS for client and server • Secure Shell (SSH) Protocol server • SSL-based VPN client	
Configuration options	• The user can configure IP address assignment statically or through the DHCP client.	
Power	• The phone is an interoperable IEEE 802.3af PoE (Class 1 device); 48 VDC is required; it can be supplied locally at the desktop using an optional ACto-DC power supply (CP-PWR-CUBE-3=). • Use of the power supply also requires the use of one of the corresponding AC country cords.	
Certification and compliance	• **Regulatory Compliance** ◦ CE Markings per directives 2004/108/EC and 2006/95/EC ● **Safety** ● EMC - Emissions ● EMC - Immunity ● Telecom ◦ Industry Standards: TIA 810 and TIA 920 ◦ Industry Standards: IEEE 802.3 Ethernet, IEEE 802.3af and 802.3at ● Radio ● Bluetooth	
Warranty	Comprehensive Manufacturer’s Warranty (Attach Manufacturer's Warranty Statement)	

1.2. STANDARD IP PHONE

TECHNICAL SPECIFICATIONS Compliant Standards: TIA/EIA 810-B		
Item	**Minimum Specifications**	**Proposed Solution**
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Key features	• IP Phones with LCD Display • Dynamic soft keys for call features and functions • RJ-45 Port Ethernet, MAC address (IEEE 802.3) • Preassigned phone extensions • Dial Plan • Voice and data VLANs • Ethernet (10/100/1000) line interface with a secondary 10/100/1000 port for collocated laptop or PC • Optional Gigabit Adapter for Gigabit connectivity to a PC • Ergonomic hearing aid compatible handset – supporting PoE class 1 for low power consumption	
Protocols	• SIP (RFC3261, RFC3262) • DTMF transport (RFC2833) • Peer to Peer calling	

Key-pad	• 2-way speakerphone • Message waiting indicator • Dual position flip stand • Four-way navigation cluster button • Three contextual soft key buttons • Volume button – (separate volume levels in the handset, headset, speaker, and ringer) • Quick-access Voicemail Message button • Telephony application button – to return to main telephone screen • Menu button – (options and settings access) • Contacts button • Call log button • Redial button • Speaker button • Mute button • Headset button • Hold button • Conference button • Transfer button • Drop button • Headset interface • Contacts application – supports up to 100 entries • Call log – contains last 100 calls	
Network and provisioning	• IP NOE and SIP v2 (RFC3261) • DHCP and static IP manual or dynamic host configuration protocol (DHCP) network setup • IEEE 802.1 AB/LLDP-MED client (automatic VLAN acquisition, PoE management, inventory information) • The phone supports CDP and 802.1Q/p standards, and can be configured with an 801.1Q VLAN header containing the VLAN ID overrides configured by the Admin VLAN ID. • The phone identifies incoming messages and categorizes them for users on the screen.	
Languages	• Multi-language support (menu)	
Quality-ofservice (QoS) options	• The phone supports CDP and 802.1Q/p standards, and can be configured with an 801.1Q VLAN header containing the VLAN ID overrides configured by the Admin VLAN ID.	
Security	• Certificates • Image authentication • Device authentication • File authentication • Signaling authentication	

	• Media encryption using Secure Real-Time Transfer Protocol (SRTP) using AES-128 • Signaling encryption using Transport Layer Security (TLS) Protocol using AES-128 or AES-256 • Encrypted configuration files • 802.1X authentication • Cryptography	

1.3 CALL SERVER

Key Features

Processor: Intel® Xeon® E-2236 (6 core, 3.4 GHz,80W)

Cache: 12MB

Memory: Standard 16GB (1x16GB) UDIMM 2666 MT/s, 3 x 1TB SATA, NO Optical Drive,

Storage controller: HPE Smart Array S100i SR Gen10 SW RAID, iLO (standard),

Power Supply Type: 1 HPE 500W Flex Slot Redundant Power Supply

Rack mountable: 1RU

Network controller: HPE Embedded 1 GB 361i Ethernet network adapter 2 ports (or) 1 Gb 332i Ethernet adapter 2 ports

Warranty: (3/3/3) Server Warranty includes 3-years parts, 3-years labor, 3-years on-site support with next business day response.

3.0 BROCHURES AND TECHNICAL LITERATURE

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

1. ADDITIONAL NOTES

Tenderers should take note of the following a The network should be capable of carrying data, voice and video. QOS should be considered as part of installation and configuration of the network.

b All active LAN equipment should be from the same manufacturer for seamless integration, management and maintenance.

c Each floor should have a telecommunication Closet to house the necessary structured cabling components and active equipment.

2. FIELD QUALITY CONTROL

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

3. LABELING

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

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

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

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

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

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

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

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

Mount termination blocks on color-coded backboards.

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

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

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

Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

4. TESTING

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

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

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

If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable.

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

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

If horizontal cable contains bad conductors or shield, remove and replace cable.

Initially test optical cable with a light source and power meter utilizing procedures as stated in

ANSI/TIA/EIA-526-14A: OFSTP-14A Optical Power Loss Measurements of Installed Multimode

Fiber Cable Plant and ANSI/TIA/EIA-526-7 Measurement of Optical Power Loss of Installed Single Mode Fiber Cable Plant. Measured results shall be plus/minus 1 dB of submitted loss budget calculations. If loss figures are outside this range, test cable with optical time domain reflectometer to determine cause of variation.

Correct improper splices and replace damaged cables at no charge to the owner.

Cables shall be tested at 850 and 1300 nm for multimode optical fiber cables.

Cables shall be tested at 1310 and 1550 nm for single mode optical fibers.

Testing procedures shall utilize "Method B" – One jumper reference.

Bi-directional testing of optical fibers is required.

Perform optical time domain reflectometer (OTDR) testing on each fiber optic conductor.

Measured results shall be plus/minus 1 dB of submitted loss budget calculations.

Submit printout for each cable tested.

Submit 3.5 in. disks with test results and program to view results.

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

5. BROCHURES AND TECHNICAL LITERATURE

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

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

SECTION E

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.

2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.

3. The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.

4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of equal and approved quality will be accepted.

5. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all all taxes applicable at the time of tender.

E-1

SCHEDULE OF UNIT RATES

(To be completed by the Tenderer)

ITEM	DESCRIPTION	QTY/UNIT	RATE(KSHS)

1.	48 port PoE Edge Switch	1No.	
2.	24 Port PoE Edge Switch	1No.	
3.	24 port PoE Core Switch	1No.	
4.	24 Port Patch panel	1No.	
5.	Wireless Access Point	1No.	
6.	12 core Single mode fiber cable	1Metre.	
7.	45U Data Cabinet	1No.	
8.	6 core Single mode fiber cable	1Metre.	
9.	4 core Multi mode fiber cable	1Metre.	
10.	6 core Multi mode fiber cable		

Compliance to Technical Specifications

ITEM	Description	COMPLIANCE	
		√	×
1	PATCH CORDS i) RJ45-RJ45 ii) Cat6A iii) UTP factory terminated		
2	DATA CABLE i) Cat6A ii) Pulling force should support up to 50N/mm2 iii) 4-pair cables with 100-ohm impedance		
3	NETWORK CORE SWITCH i) 24x10/100/1000Base-T Ethernet ports ii) 4x10GE SFP+ Ports iii) Switching Capacity: At least 128 Gbps/672 Gbps iv) Forwarding Performance: At least 96 Mpps v) Full Power over Ethernet Plus (PoE+) capability vi) At least 2GB RAM Memory vii) At least 1GB Flash Memory		
4	UPS i) 4U Rack Mount ii) Max Configurable Power (Watts) of 3Kva iii) Topology: Line Active iv) Waveform Type: Sine Wave v) Control Panel: Multifunction LCD status and control console vi) Battery Type: Lead-Acid Battery vii) Interface Port(s) : RJ-45 Serial, SmartSlot, USB		
5	Wireless Access Point i) (2)10/100/1000 Ethernet Ports Networking Interface ii) Simultaneous Dual-Band iii) Full Power over Ethernet Plus (PoE+) capability iv) 450Mbps at 2.4GHz Radio Rate v) 1300Mbps at 5GHz Radio Rate vi) 3x3 5GHz MIMO vii) Supports Wireless Uplink		
	RESPONSIVENESS		

E-3

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 F

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:

(a) Preliminaries – Bill No.1

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

(b) Installation Items – Other Bills

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

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

(c) Summary

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

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

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all all taxes applicable at the time of tender.

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.

4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of equal and approved quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the MAIN Summary Page.

6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer e.g. Standby Battery and UPS, Data Switches, Routers and IP-PBX.

   The brochures are to be used to ascertain the suitability of the components offered by the bidders. Bidders not complying with this requirement shall be considered technically nonresponsive and shall subsequently be disqualified.

BILL NO. 2 : STRUCTURED CABLING, IP PABX, CCTV & ACCESS CONTROL WORKS					
SCHEDULE 1: STRUCTURED CABLING					
1.0	**28TH FLOOR**				
ITEM	**DESCRIPTION**	**QTY**	**UNIT**	**RATE**	**TOTAL**
	Supply, install, test and commission the following complete as specified. **HORIZONTAL CABLING**				
1.01	Siemon Category 6A angled faceplate, twin port(Data and Voice) white colour complete with fixing screws or approved equivalent.	70	No.		
1.02	Siemon Category 6A, 4pair stranded UTP 3 metre factory terminated patch cords or approved equivalent. Colour to be selected by client.	70	No.		
1.03	Siemon Category 6A, 4pair stranded UTP 1metre factory terminated patch cords. One side RJ 45 and the other RJ45 or approved equivalent.	72	No.		
1.04	Siemon Category 6A 4pair, 24 AWG, UTP, 10 ohm cable, must exceed ANSI/TIA/EIA-568-B1 requirement or approved equivalent.	7,000	Lm		
1.05	Siemon 24 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.	1	No.		
1.06	Siemon 48 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.	1	No.		
1.07	Self adhesive Labels for cable labelling(PACKETS OF 200 LABLES EACH)	Lot	Item		
1.08	2U WM series rack mount cable managers	2	No.		

1.09	48 Port PoE Switch-IPBase edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	1	No		
1.10	24 Port PoE Switch-IPBase edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	1	No		
	TOTAL CARRIED FORWARD TO THE NEXT PAGE				
	F-3				
ITEM	**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**TOTAL (KSHS)**
	TOTAL BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Supply, install, test and commission the following complete as specified.				
1.11	Wireless Access point , versatile, high-performance wireless solution that supports t 802.11n wireless connectivity, for applications that demand high bandwidth and operate on either a 2.4-GHz or 5-GHz frequency band asUbiquiti Wireless Access Point or approved equivalent	2	No		
1.12	240V, 50Hz, 1KVA, Rack Mountable Double Conversion APC smart un-interrupted power supply unit (UPS) TRUE online INCLUDING Batteries with USB and Serial Port or an approved equivalent	1	No.		-
1.13	42U free standing metal cabinet/ with glass door complete with fans, power outlet points, grounding kits and castors.	1	No.		
	Total for Structured cabling for 28th floor				
	F-4				

2.0	**FIRST FLOOR**				
ITEM	**DESCRIPTION**	**QTY**	**UNIT**	**RATE**	**TOTAL**
	Supply, install, test and commission the following complete as specified. **HORIZONTAL CABLING**				
2.01	Siemon Category 6A angled faceplate, twin port(Data and Voice) white colour complete with fixing screws or approved equivalent.	16	No.		
2.02	Siemon Category 6A, 4pair stranded UTP 3 metre factory terminated patch cords or approved equivalent. Colour to be selected by client.	16	No.		
2.03	Siemon Category 6A, 4pair stranded UTP 1metre factory terminated patch cords. One side RJ 45 and the other RJ45 or approved equivalent.	24	No.		
2.04	Siemon Category 6A 4pair, 24 AWG, UTP, 10 ohm cable, must exceed ANSI/TIA/EIA-568-B1 requirement or approved equivalent.	1,600	Lm		
2.05	Siemon 24 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.				

2.06	Siemon 48 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.	1	No.		
2.07	Self adhesive Labels for cable labelling(PACKETS OF 200 LABLES EACH)	- Lot	No. Item		
2.08	2U WM series rack mount cable managers	2	No.		
2.09	48 Port PoE Switch-IPBase edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	0	No		
2.10	24 Port PoE Switch- IP Base edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	1	No		
	TOTAL CARRIED FORWARD TO THE NEXT PAGE				

F-5

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL (KSHS)
	TOTAL BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Supply, install, test and commission the following complete as specified.				
2.11	Wireless Access point , versatile, high-performance wireless solution that supports t 802.11n wireless connectivity, for applications that demand high bandwidth and operate on either a 2.4-GHz or 5-GHz frequency band asUbiquiti Wireless Access Point or approved equivalent	1	No		
2.12	21U free standing metal cabinet/ with glass door complete with fans, power outlet points, grounding kits and castors.	1	No		
2.13	240V, 50Hz, 1KVA, Rack Mountable Double Conversion APC smart un-interrupted power supply unit (UPS) TRUE online INCLUDING Batteries with USB and Serial Port or an approved equivalent	1	No.		

	Total for Structured cabling for First floor	
F-6		

3.0	**GROUND FLOOR**				
ITEM	**DESCRIPTION**	**QTY**	**UNIT**	**RATE**	**TOTAL**
	Supply, install, test and commission the following complete as specified. **HORIZONTAL CABLING**				
3.01	Siemon Category 6A angled faceplate, twin port(Data and Voice) white colour complete with fixing screws or approved equivalent.	51	No.		
3.02	Siemon Category 6A, 4pair stranded UTP 3 metre factory terminated patch cords or approved equivalent. Colour to be selected by client.	51	No.		
3.03	Siemon Category 6A, 4pair stranded UTP 1metre factory terminated patch cords. One side RJ 45 and the other RJ45 or approved equivalent.	72	No.		

3.04	Siemon Category 6A 4pair, 24 AWG, UTP, 10 ohm cable, must exceed ANSI/TIA/EIA-568-B1 requirement or approved equivalent.	5,100	Lm		
3.05	Siemon 24 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.	1	No.		
3.06	Siemon 48 port category 6A UTP (19".0) patch panel to ANSI/TIA/EIA-568A, colour black or approved equivalent.	1	No.		
3.07	Self adhesive Labels for cable labelling(PACKETS OF 200 LABLES EACH)	Lot	Item		
3.08	2U WM series rack mount cable managers	4	No.		
3.09	48 Port PoE Switch-IPBase edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	1	No		
3.05	24 Port PoE Switch-IPBase edge switch model as described in the particular specifications and as Cisco CBS 350 series or approved equivalent	1	No		
	TOTAL CARRIED FORWARD TO THE NEXT PAGE				

F-7

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL (KSHS)
	TOTAL BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Supply, install, test and commission the following complete as specified.				
3.06	Wireless Access point , versatile, high-performance wireless solution that supports t 802.11n wireless connectivity, for applications that demand high bandwidth and operate on either a 2.4-GHz or 5-GHz frequency band asUbiquiti Wireless Access Point or approved equivalent	2	No		

3.07	240V, 50Hz, 1KVA, Rack Mountable Double Conversion APC smart un-interrupted power supply unit (UPS) TRUE online INCLUDING Batteries with USB and Serial Port or an approved equivalent	0	No.		
	Total for Structured cabling for Ground floor				
F-8					

	BACKBONE				
Item	**Description**	**Qty**	**Unit**	**Rate(Kshs)**	**Amoun t (Kshs)**
6.01	Supply and install indoor 8 core single mode fiber cable between floors in the building and between floor cabinets	Lm	200		
6.02	42U free standing metal cabinet/ with glass door complete with fans, power outlet points, grounding kits and castors.	1	No		

6.03	24 Port stackable managed core switch as Cisco Catalyst 9300 series complete all the accessories as Cisco and as described in particular specifications	1	No		
6.04	24port Fiber optic patch panel as Siemon or equal and approved equivalent	1	No		
6.05	10G BASE-SR SFP+ Fibre modules as Cisco or equal and approved equivalent	10	No.		
6.06	Labelling and documentation	lot	1		
6.07	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire. The Earthing the system is to be to the approval of the Engineer.	Item	1		
6.08	Allow for preparation of 2 sets of testing and commissioniong documentation in soft and hard copies which includes warranties, cabling layout diagrams and individual test results (for each point and for all point to be submitted as a bound report).	lot	1		
6.09	240V, 50Hz, 3KVA, Rack Mountable Double Conversion APC smart un-interrupted power supply unit (UPS) TRUE online INCLUDING Batteries with USB and Serial Port or an approved equivalent to be installed in the server room	1	No		
	Total for Backbone				
	F-9				

STRUCTURED CABLING PRICE COLLECTI N PAGE					
Item	**Description**				**Amount (Kshs.)**
1.0	Sub total for **28th Floor** B/F				
2.0	Sub total for **1st Floor** B/F				

3.0	Sub total for **Ground Floor** B/F				
4.0	Sub total for **Backbone Cabling** B/F				
	TOTAL FOR STRUCTURED CABLING CARRIED TO COLLECTION PAGE				
	F-10				

SCHEDULE No. 2: IP PBX AND TELEPHONY INSTALLATION WORKS

(A) IP PBX EQUIPMENT

Item	Description	Qty	Unit	Rate	Amount (Kshs.)
	Supply, Install, Test and Commission the following items:				

2.01	Supply, install, test and commission a 300 user rack mountable IP PBX as Yeaster or equal and approved equivalent complete with call management software(video & audio) as specified in paticular specifications.	1	No.		
2.02	Supply, Install, Test and commision VoIP GSM Gateway with built-in 4 GSM ports, 2 * 10/100 Mbps LAN ports for GSM/CDMA/UMTS connectivity to your VoIP phone,NAT traversal, OpenVPN, firewall, VLAN and DDNS Security protocols	1	No.		
2.03	Supply, Install, Test and commision a Modem for ISDN PRI for the IP PBX	1	No.		
	(B) IP TELEPHONE INSTRUMENTS				
2.04	**IP Standard telephone** instruments complete with telephone cord and all other necessary accessories as Cisco or equal and approved equivalent as specified in paticular specifications	34	No.		
2.05	**IP Executive telephone** instruments complete with telephone cord and all other necessary accessories as Cisco or equal and approved equivalent as specified in paticular specifications in section ''F''.	24	No.		
2.06	**IP Conference telephone** instruments complete with telephone cord and all other necessary accessories as Cisco IP Phone or equal and approved equivalent as specified in paticular specifications in section ''F''.	2	No.		
	Sub-total for IP PBX& Telephone Instruments C/F to IPPBX Collection Pg				

(C)TELEPHONE CALL MANAGEMENT SYSTEM

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, Install Test and Commission the following items:-				
2.07	Call Management Software capable of supporting the proposed Call Server and with ample call handling capacity, automatic call distribution as described in paricular specifications.	1	Item		
2.08	Rack Mountable Call server with Gen10 Intel® Xeon processor, 3.4 GHz speed, 16GB memory, HPE embedded 1Gb 2-port 361i network Adapter, HPE Smart Array S100i SR Gen10 SW RAID,500W redundant Power Supply as HP Proliant DL20 or equal and approved equivalent	1	Item		
2.09	Allow for Telephone Termination at all Outlets, Labelling, Testing and Commissioning of the Telephone Network.	1	Lot		
2.10	Allow for Termination of Incoming Service Provider to the IP-PABX	1	Item		
2.11	Allow for Training of 2No. Technical Staff.	1	Item		
2.12	Allow for Training of 2No. Telephone Supervisors/operators	1	Item		
2.13	Any other items necessary to complete the structured cabling satisfactorily. (List and give quantities of the items) a)…… …….. b)…… …… c) ….....				
	Total for Telephone Call Management System C/F to IP-PABX's Price Collection Page				

(D)CALL CENTRE EQUIPMENT

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, Install Test and Commission the following items:-				
A	All-in-One 10th Generation desktop computers, with Intel Core i7 8GB RAM, 1TB HDD internal hard drive, 21.5" FHD IPS anti-glare Panel, 1 Year Warranty as HP or other equal and approved equivalent	14	No.		
B	Call centre headset with noise cancelling function, stereo or USB connectivity, padded headphones as Logitech H151 or equal or approved equivalent	14	No.		
C	Computer Telephony Integration (CTI) system with customer relationship management software, call recording and monitoring	1	Item		
D	Allow for preparing and presenting warranty and documentation, indelible point labels and preparing and submitting individual test results (for each point and for all point to be submitted as a bound report).	1	Item		
	TOTAL FOR CALL CENTRE EQUIPMENT C/F TO PRICE COLLECTION PAGE				

IP PBX, TELEPHONE AND CALL CENTRE PRICE COLLECTION PAGE

Item	Description				Amount (Kshs.)
1.0	Sub total for **IP PBX & TELEPHONE EQUIPMENT** B/F				
2.0	Total for **Telephone Call Management System**				
3.0	Call Centre Equipment				
	TOTAL FOR TELEPHONY C/F TO COLLECTION PAGE				

SCHEDULE 4: CCTV INSTALLATION

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
	Supply, install, test and commission the following complete as specified.				
4.01	**IP Cameras** a) Indoor 4Megapixel Bullet Camera with Motorized Varical lens focus as described in the technical specifications as Wisenet or equal and approved equivalent	10	No.		
	b) Indoor 4Megapixel Dome Camera as described in the technical specifications as Wisenet or equal and approved equivalent	10	No		
4.02	Cat 6A, 4 pair STP terminated in RJ 45 as appropriate and drawn in new conduits	2000	LM		
4.03	24 port full PoE+ Switch, modular uplink configuration, with Network Advantage software as Cisco Catalyst C9200 series or Approved equivalent	1	No		
4.04	24 Port Patch panel as SIEMON or Approved Equivalent.	2	No.		
4.05	Cable Managers as SIEMON or Approved Equivalent.	2	No.		
4.06	Printed Self Laminated Wrap Cable Markers	24	No.		
4.07	1M RJ45 - RJ45 Cat 6A STP Factory Terminated Patch Cord as **SIEMON or Approved Equivalent** for Cabinet Use.	20	No.		

4.08	32 Channel IP Network Video Recorder as described in the particular specifications and as Wisenet or approved equivalent	1	No.		
4.09	HDMI-HDMI High Speed Cable, 4K Resolution Support, Audio Return Channel	20	LM		
4.10	LED HD panel display 65" HDMI input component video input composite video input,S-video input,VGA input and output,composite Video ouput in the reception	0	No		
	TOTAL CARRIED FORWARD TO THE NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL (KSHS)
	TOTAL BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Supply, install, test and commission the following complete as specified.				
4.11	24" operator workstation as described in the particular specifications	1	Item		
4.12	21U free standing metal cabinet/ with glass door complete with fans, power outlet points, grounding kits and castors.	0	No		
4.13	240V, 50Hz, 1KVA, Rack Mountable Double Conversion APC smart uninterrupted power supply unit (UPS) TRUE online INCLUDING Batteries with USB and Serial Port or an approved equivalent.	0	No		

4.14	IP Surveillance Centra Management software for viewing and Recording live video of premises with option for remote recording and Viewing Live and Map monitoring simultaneously, System events log messaging, Alarm Monitoring, Device Management Upto 16 simulteneous videos playback.	1	Lot		
	TOTAL FOR CCTV CARRIED TO COLLECTION PAGE				
F-16					

SCHEDULE NO. 5- ACCESS CONTROL					
Item	**Description**	**Qty**	**Unit**	**Rate (Ksh)**	**Amount (Ksh)**
	Supply, install, test and commission the following ;-				
	ACCESS CONTROL				
5.01	Access Control Module complete with Integrated Power Supply and batteries as specified in Particular Specifications as Impro IPS Combo Cluster box or approved equivalent.	1	No.		
5.02	Electric strike complete with door closer	18	No.		

5.03	IP Based Door Fingerprint and pin biometric & card reader as specified in Particular Specifications as Impro Imprint Biometric Reader or approved equivalent.	18	No.		
5.04	Push to exit button	18	No.		
5.05	Override Key switch	18	No.		
5.06	Emergency Break glass	18 1	No.		
5.07	Desk mounted tag registration reader USB, 125kHz/ 13.56 MHz as Impro or approved equivalent	36	No.		
5.08	Proximity Cards for delegates and staff as specified in Particular Specifications.		No.		
5.09	Access control software complete with license as described in the particular specifications	1	No.		
5.10	Mylair cable for access control system	1800	LM		
5.11	Access control Power supply module with necessary lead acid batteries to support a 12 hours runtime for the access control system as described in particular specification as SECO-LARM Cat. No. EAP-5D5Q or equal and approved equivalent.	18	No.		
5.12	Allow for training of three client personnel on how to operate the system.	1	Item		
	TOTAL FOR ACCESS CONTROL CARRIED TO COLLECTION PAGE				

SCHEDULE NO. 6: AUDIO VISUAL INSTALLATION WORKS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, Install, test and commission the following:				

A	4k 65" UltraHD Smart LED panel display with HDMI input component video input composite video input, S-video input, VGA input and output, composite Video ouput and voice control in the boardrooms with mounting accessories	1	No.		
B	Automatic Voltage Switcher 13A (AVS 13)	1	No.		
C	Cables & Accessories	1	Item		
TOTAL FOR AUDIO-VISUAL INSTALLATION WORKS					
TOTAL FOR AUDIO-VISUAL INSTALLATION WORKS FOR 2 BOARDROOMS (28TH & GROUND FLOOR) C/F TO PRICE COLLECTION PAGE					

PRICE COLLECTION PAGE

Item	Description	Amount (KShs)
1	Schedule 1: Structured Cabling Works	
2	Schedule 2: IP PABX & Call Centre	
4	Schedule 4: CCTV	
5	Schedule 5: Access Control	
6	Schedule 6: Audio Visual Works	
	GRAND TOTAL CARRIED FORWARD TO MAIN SUMMARY PAGE	

IP PBX, TELEPHONE AND CALL CENTRE PRICE COLLECTION PAGE

Item	Description				Amount (Kshs.)
1.0	Sub total for **IP PBX EQUIPMENT** B/F				
2.0	Sub total for **TELEPHONE INSTRUMENTS** B/F				
3.0	Total for **Telephone Call Management System**				
4.0	Call Centre Equipment				
	TOTAL FOR TELEPHONY C/F TO COLLECTION PAGE				

MAIN SUMMARY PAGE		
ITEM	DESCRIPTION	AMOUNT
1.00	**Bill No. 1: ICT WORKS**	
	TOTAL AMOUNT CARRIED FORWARD TO FORM OF TENDER	

Amount of tender in words: Kenya Shillings……..……..

…….....

Domestic Subcontractor's Signature and Stamp……..……

Address……
.

Date……

Witness: Name and Signature……..

Address……

Date ……

SECTION G

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.

2. 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 equipment they intend to offer to the employer in this schedule.

3. Any bid returned with unfilled Technical Schedule shall be considered technically nonresponsive, 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	MODEL	COUNTRY OF ORIGIN

1	PoE Switches			
2	Patch panels			
3	Patch cords			
4	CAT 6A Cables			
5	Cable managers			
6	Faceplate			
7	Wireless Access Points			
8	IP Cameras			
9	IP NVR			
10	Display Monitor			
11	Operator Workstation			
12	IP Access Controller			
13	Reader			
14	Electromagnetic Lock			
	Override Key			

SECTION H

STANDARD FORMS

CONTENTS OF SECTION H

TITLE PAGE

1.	Key Personnel	H-1
2.	Schedule of Contracts completed in the last five (5) years	H-2
3.	Schedule of on-going projects	H-3
4.	Contractor's Equipment	H-4
5.	Details of Litigation or Arbitration Proceedings	H-5

NOTE:

1. Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part the evaluation criteria.

2. Any tender returned with unfilled Standard Forms shall be considered non-Responsive and shall automatically be disqualified.

KEY PERSONNEL

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

POSITION	NAME	HIGHEST QUALIFICATION (Attach proof)	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

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

I certify that the above information is correct.

…….. …… ……

Title Signature Date

H-1

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature, complexity and volume over the last 5 years.

PROJECT NAME	NAME OF CLIENT	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

H-2

SCHEDULE OF ON-GOING PROJECTS

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

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

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?)

H-4

DETAILS OF LITIGATION OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER HAS BEEN INVOLVED AS ONE OF THE PARTIES IN THE LAST 5 YEARS

1. .....

2. .....

3. .....

4. .....

5. .....

6. .....

7. .....

8. .....

9. .....

10. .....

H-5

MECHANICAL WORKS

MINISTRY OF FOREIGN AND DIASPORA AFFAIRS

STATE DEPARTMENT FOR DIASPORA AFFAIRS

PROPOSED INTERIOR FITOUT FOR STATE DEPARTMENT FOR DIASPORA AFFAIRS AT OLD MUTUAL BUILDING, UPPERHILL

WP. ITEM D1052 NB/NB/2202 JOB NO 11169A

TENDER SPECIFICATIONS AND BILL OF QUANTITIES

FOR

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF SANITARY FITTINGS, PLUMBING, DRAINAGE, FIRE ENGINEERING, AIR-CONDITIONING AND MECHANICAL VENTILATION SYSTEM INSTALLATION WORKS

PROJECT MANAGER
WORKS SECRETARY,
STATE DEPARTMENT FOR PUBLIC WORKS
P.O. BOX 30743-00100
NAIROBI

VOLUME III OF III

ARCHITECT
Chief Architect,
State Department for Public Works
P.O. Box 30743-00100 NAIROBI

ELECTRICAL ENGINEER
Chief Engineer (Electrical),
State Department for Public Works,
P.O. Box 41191-00100 NAIROBI

QUANTITY SURVEYOR
Chief Quantity Surveyor,
State Department for Public Works
P.O. Box 30743-00100
NAIROBI

MECHANICAL ENGINEER
Chief Engineer(Mechanical-BS)
State Department for Public Works
P.O. Box 41191-00100
NAIROBI

STRUCTURAL ENGINEER
Chief Engineer(Structural),
State Department for Public Works
P.O. Box 30743-00100
NAIROBI

CLIENT
The Principal Secretary,
State Department for Diaspora Affairs,
P.O. Box 30551-00100,
NAIROBI

MAYl, 2023

1. ADD TO CLAUSE 1.3 AND 2.0
The evaluation criteria BELOW shall form part of the evaluation.

a) PRELIMINARY EVALUATION

Bidders must provide the following;

S/No	MANDATORY REQUIREMENTS(MR)
MR1	Valid Copy of certificate of incorporation/ Registration.
MR2	Valid Current Tax Compliance Certificate - Statement of tax compliance from Bidding Company, and if Consortium, from each member of the consortium.
MR3	Valid CR12 form showing the list of directors /shareholding (issued within tendering period) or National Identity Card(s) for Sole Proprietorship / Partnership
MR4	Valid copy of NCA Registration Certificate, NCA 4. and above in: Mechanical Building Services Installations; 1. Air-conditioning and Mechanical Ventilation systems AND 2. Plumbing and Drainage Installations
MR5	Valid annual contractors practicing license from NCA for works listed in MR4
MR6	Valid Manufacturers Authorization Certificate from a Manufacturer of a reputable brand with comprehensive local dealership for Variable Refrigerant Volume (VRV) Air-conditioning
MR7	Copy of valid Current NCA Practising License – delete
MR8	Dully filled, signed & stamped form of tender
MR9	Dully filled signed and stamped Confidential business questionnaire
MR10	Duly filled, signed and stamped Statement of compliance (Page 66).
MR11	Valid Copy of Current Single Business permit
MR12	Tenderers shall submit One Original and One Copies of the completed tender document in one packages/Envelope.
MR13	Dully filled, signed and stamped Certificate of Independent Tender Determination

MR14	Dully filled, signed and stamped Self-Declaration Forms SD1
MR15	Dully filled, signed and stamped Self-Declaration Form SD2 (Corruption or Fraudulent Practices)
MR16	Tenderers Information Form ELI -1.1 and form ELI 1.2 [For JV Partners] dully filled, signed and stamped.
MR18	Certified copies of Audited accounts (Signed by Auditors and directors for the last three (3) years (2019, 2020 & 2021). (Certified by an advocate).

N/B

1. Full compliance by the tenderers shall be required to proceed to the next stage of evaluation. Failure to provide any of the listed requirements shall lead to disqualification.
2. All Copies of original certificates submitted must be certified as a true copy of the original

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

b) EVALUATION OF TECHNICAL ASPECTS OF THE TENDER

At this stage technical evaluation shall be done by comparing each tender to the technical requirements in the tender document

No	DESCRIPTION		SCORE
1.	Key Personnel experience (Max 38 marks) Qualification –Relevant engineering fields; Mechanical Engineering/ Air-conditioning or Mechanical Ventilation The following is required for Evaluation (All academic documents must be certified by commissioner of oaths or an advocate of the High Court) i. Key personnel schedule ii. Certified CVs. iii. Certified Academic certificates.		Max.38
a.	Site Manager • Holder of degree in relevant Engineering field ---- 10 • Holder of diploma in relevant Engineering field -- 5	Score	Max 10
b.	Site Supervisor –a degree/diploma holder in relevant field • With over 10 years' relevant experience ----------10 • With over 5 years' relevant experience----------5 • With under 5 years relevant experience ----------3		10
c.	Experience of Site Manager • Degree holder with above 3 yrs. experience (any experience below 3 yrs. give 0 marks) ----------10 • Diploma holder with above 3 yrs. experience (any experience below 3 yrs. give 0 marks) ---------- 8		10

d.	• Foreman (Minimum qualification is artisan in related engineering field) –4 Marks. (2 marks for certificates, 2 marks for C.V) • Plumber – 1 Marks (attach CV) • Welders– 1 Marks (attach CV) • HVAC Technician – 1 Mark (attach CV) • Safety officers/Marshals – 1Mark (Attach CV)		8
2.	PLANT AND EQUIPMENT (For item (a) and (b) below Attach certified copies of Log books and other evidence of ownership. Cash receipts shall bear name of bidder. For leases, proof of leasing agreement required certified by commissioner of oaths. For item (c) below, bidder to provide list of items)		Max. 12
a.	List of 15 relevant tools and equipment for HVAC and AC installation works		15
b.	1 crane – 15 marks for owned,12 marks for leased.		15
c.	1No. Minimum 7 tonner Tipper truck,6 marks for owned or leased.		6
3.	WORK METHODOLOGY		Max. 10
a.	Signed work programme Gantt chart showing critical activities and the total duration of completing the project.		5
b.	Detailed method statement on how to carry out the intended works as detailed in the scope.		5
4.	WORK SAFETY MANAGEMENT		Max. 15
a.	Comprehensive documentation on the Job Safety Analysis detailing all potential hazards and mitigation related to this job.		10
b.	Signed Contractor's HSE policy.		5
5.	RELEVANT EXPERIENCE		Max. 25
	At least five (5) projects in the installation of, Air-conditioning and Mechanical ventilationon systems in the last five (5) years with five (5) different clients of a minimum value of Ksh. 15 Million each The bidder must provide proof of project completion in form of completion certificates OR LPOs with corresponding recommendation letters OR contracts with corresponding recommendation letters showing works were carried out to successful and satisfactory completion. Each relevant completed project is awarded 5 marks. (The 5 years Threshold is from 2017 to 2022)		
	TOTAL SCORE		100
	COMPLIANCE WITH THE TECHNICAL SCHEDULE		

	There is Technical schedule of items to be supplied under this tender. The tenderer is expected to decipher the items in the Technical schedule and comply to the requirements as follows:- 1. Fill in the Technical Schedule as attached 2. Provide legible and clear supporting catalogues/brochures for all items listed in the Technical schedule 3. Highlight the specific items intended for supply in the Technical catalogues NOTE Failure to execute instructions 1, 2 and 3 above shall constitute a nonconformity and the tender will be declared non responsive and therefore not qualified for further evaluation.		
	CONFORMITY TO THE TECHNICAL SCHEDULE		

N/B

1. Full compliance by the tenderers shall be required. Failure to provide any of the listed requirements shall lead to disqualification. Hence the tenderer shall not proceed to financial evaluation.
2. The tenderer shall also be evaluated for Technical compliance against the items proposed for installation against the specifications in the Bills of Quantities, General Specifications and Particular specifications in the bid document. Failure to comply to this specifications shall be considered non compliance to the technical requirements and shall be ineligible for award of the tender

c) FINANCIAL EVALUATION

Upon completion of the technical evaluation, a detailed financial evaluation shall follow consistent with and in addition to the criteria listed in ITT 31.0, ITT 37.0, ITT 38.0 and its sub paragraphs. Bidders who qualify at the technical evaluation shall be evaluated this stage. The successful bidder shall be the tenderer with the lowest evaluated tender price subject to the procuring entity's right to exercise due diligence relating to confirmation of information submitted by the bidder before the award of the tender pursuant to Section 83 of the Public Procurement and Asset Disposal Act, 2015.

RECOMMENDATIONS FOR AWARD

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Procuring Entity's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded.

Arithmetical Errors Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive.

The tenderer with the lowest price that meets all the above requirements at financial evaluation stage will be awarded the contracts

BILL NO. 01 - PRELIMINARY ITEMS

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF SANITARY FITTINGS, PLUMBING, DRAINAGE, FIRE ENGINEERING, AIR-CONDITIONING AND MECHANICAL VENTILATION SYSTEM INSTALLATION WORKS

ITEM No.	DESCRIPTION	AMOUNT
1.	Scope of contract works; The 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 subcontractor shall supply all accessories, whether of items or equipment specified by the Builders Works Contractor but to be fixed and commissioned under this contract.	
2	Samples and materials generally: The subcontractor 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.	
3	Identification of plant components: The subcontractor 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.	
4	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 Subcontract works.The Contract Drawings are not intended to be Working Drawings and shall not be used unless exceptionally they are released for this purpose	

5	Working Drawings: The subcontractor shall prepare such Working Drawings. 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 contractor indicating approval or amendment therein.	
	Total Carried forward to Next Page 69	

Item	DESCRIPTION	Amount (KES.)
	Total Brought forward from Previous Page 68	
6	Record Drawings (As Installed) drawings 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.	
7	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 subContractor or his representative shall also attend. For the purpose of supervising the project, provisional sums are provided to cover for transport and allowances. The subContractor 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.	150,000.00

8	Maintenance Manual Upon Practical Completion of the Sub-contract Works, the Subcontractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Subcontract Works.	
	Total Carried forward to Next Page 70	

Item	DESCRIPTION	Amount (KES.)
	Total Brought forward from Previous Page 69	
9	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 subcontractor 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 subcontractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the contractor's expense.	
10	Testing and Inspection –Installation Allow for testing each section of the contract Works installation as described hereinafter to the satisfaction of the Engineer.	

11	Initial Maintenance The subcontractor 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 subcontractor 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 subcontractor shall allow in the 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	
	Total Carried forward to Next Page 71	
Item	DESCRIPTION	Amount (KES.)
	Total Brought forward from Previous Page 70	
12	Protection The subcontractor 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.	
13	PAYMENT FOR MATERIALS ON SITE All materials for incorporation in the works must be stored on site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers.	
	TOTAL CARRIED TO GRAND SUMMARY PAGE -92	

BILL NO. 2 AIR CONDITIONING WORKS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)

	VRF AIR CONDITIONING SYSTEM - 28TH FLOOR Supply and instal the following air conditioning installations complete with the associated accessories. The system shall comprise of one outdoor unit connected to appropriately sized and distributed Indoor units with cooling capacities as indicated below; Ducted type air-cooling unit The indoor unit shall be ceiling ducted and cassette type air-cooling unit with the following:- . A wired and wireless remote controller . A refrigerant (R410A) initial charge . Thermostat to control room temperature . condensate drain pump . 5m long insulated drain hose of 25mm diameter . Auto restart function . Sound pressure level of 35 db (A) The indoor unit to be mounted in the ceiling with prefabricated hanging supports comprising of hanging bolts, nuts, spring washer and plate washer on the position shown on the approved working drawings. The indoor unit to be as Toshiba, Airedale, Stulz or approved equivalent.				
A	Cooling capacity: 2.0 kW (7,000 Btu/hr) ducted unit as Toshiba Model MMD-AP0071BH or approved equivalent	5	No.		
B	Cooling capacity: 2.8 kW (9,000 Btu/hr) ducted unit as Toshiba Model MMD-AP0091BH or approved equivalent	22	No.		
C	Cooling capacity: 3.55 kW (12,000 Btu/hr) ducted unit as Toshiba Model MMD-AP0091BH or approved equivalent	9	No.		
D	Cooling capacity: 5.3 kW (18,000 Btu/hr) ducted unit as Toshiba Model MMD-AP0091BH or approved equivalent	4	No.		
E	Cooling capacity: 7.1 kW (24,000 Btu/hr) High Static ducted unit as Toshiba Model MMD-AP0241H or approved equivalent	1	No.		
	Total Carried Forward to Collection Page 77				

Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
F	Outdoor Unit roof mounted inverter controlled outdoor unit connected to balanced internal loaded indoor units as described above. It shall have a nominal cooling load of 53.25kW (180,000 Btu/hr) and capacity control in the range of 10 - 130% according to the indoor cooling load. The unit will operate with R410A refrigerant or any other non-ozone depleting refrigerant. It shall be provided with anchoring accessories including securing steel brackets, bolts, nuts, complete with anti-vibration rubber mountings. The outdoor unit to be as Toshiba model MMY-MAP3211T8, Airedale, Stulz or approved equivalent. Supply, deliver and instal copper tubing to BS 2871: part1 and capillary and compression fittings to BS 864: part 2. Tubing must be solid drawn round, clean, smooth and free from defects and from deleterious films in the bore. The fittings must be free from internal fins or other irregularities. Compression fittings shall be Type A (nonmanipulative). Allow in pipework prices for pipe support, clips and cradles, bends, tees, 20mm thick fire resistant insulation, branches, joining fixing and any other acessories for proper and satisfactory functioning of the system.	3	No.	-	
	Copper Pipework and Fire Resistant Insulation				
A	34.9mm diameter insulated copper pipe	144	Lm		
A	28.6mm diameter insulated copper pipe	78	Lm		
A	22.225mm diameter insulated copper pipe	108	Lm		
B	15.875mm diameter insulated copper pipe	252	Lm		
C	12.70mm diameter insulated copper pipe	117	Lm		
D	9.525mm diameter insulated copper pipe	288	Lm		
E	6.50mm diameter insulated copper pipe	78	Lm		
	Bend	0			
F	34.9mm diameter copper bend	24	No		
G	28.6mm diameter copper bend	36	No		
F	22.225mm diameter copper bend	48	No		
G	15.875mm diameter copper bend	48	No		
H	12.7mm diameter copper bend	54	No		

I	9.525mm diameter copper bend	84	No		
J	6.5mm diameter copper bend	84	No		
	Total Carried Forward to Collection Page 77				

Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
	Y-Branches			-	
K	Copper Y-branches complete with reducers and tees to connect indoor units from/to both gas and liquid main refrigerant pipe. To be as Toshiba Model or approved equivalent.	48	No		
	Simple Central Controller Unit				
A	Central controller unit complete with operational switches shall be installed in the reception area or any other convinient place. The unit shall be capable of controlling 16 indoor units. The unit shall incorporate pilot lamps to enable operating conditions to be checked. The system casing shall be of mild steel and anodized and shall be complete with all other accessories necessary to automatic operations of the air conditioning system. The controls system functions shall be:- . Controlling indoor units (16No. maximum) . Individual operation and monitoring and Group Management . set lock/lock release for remote control of each indoor unit . Schedule automatic operation management/energy saving . Self diagnosing function (display system errors) The controls system shall be complete with:- . Central control network interface unit (CNU) . 5No. product interface unit (PI485), . Independent built-in battery (minimum 2 hours) . Ethernet (Cross UTP Cable) . 30 meters long 0.75mm^2 x 2C (shield) cable The controls system shall be Simple Central Controller Unit BMS compatible as manufactered by Toshiba, Airedale, Stulz or approved equivalent.	3	No.		
	Refrigerant				
B	Allow R410A extra refrigerant for charging all the VRF air conditioning systems described above.	3	Item		
	Electrical Works				

C	Allow for associated electrical works including but not limited to wiring with fire rated cable and steel conduit from local isolators provided by others within one meter to all indoor units, two meters from outdoor units and control system. Allow for labelling all the circuits and equipment.	3	Item		
	Cleaning and Flushing the Installation				
D	Allow for cleaning and flushing the whole installation with appropriate medium before charging the system with refrigerant.	3	Item		
	Total Carried Forward to Collection Page 77				

Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
	Insulation				
E	20mm thick fire resistant aerofoam thermal insulation	78	sm		
	Trunking				
F	100x50mm approved powder coated finish steel trunking with steel cover for supporting and concealing the refrigerant pipework alng the roof and in the vertical duct complete with supports and drop-in anchors for srewing the trunking on the concrete walls/floors.	144	LM		
	Labelling				
G	Allow for marking and labelling all the equipment and pipework Ductwork	3	Item		
A	Galvanized mild steel ductwork 1.0mm (SWG 20) thick complete with bends, transformation pieces to 100mm diameter flexible ducts, hangers, supports, sleeves, flexible connections, etc. Flexible Duct	28	Sm		
B	100mm diameter insulated flexible duct complete with connections to duct and supply grilles	82	Lm		
C	150mm diameter insulated flexible duct complete with connections to duct and supply grilles	72	Lm		
	Insulation				
D	20mm thick fire resistant aerofoam thermal insulation, class O with antifungus characteristics as Aerofoam NBR Clad or approved equivalent. To be complete with gauge 24 aluminium sheet cladding	84	Sm		
	Air Return Grille				
E	500mm x 500mm air return aluminium grille/register with damper	1	Item		
	Indoor Units Valves				

F	Allow for for 15No. Gas and 15No. liquid connection pipework valves to the indoor units. The valves to be suitable for air conditioning connection and use.	3	Item		
G	Electrical and Control Cable Installation Works Allow for wiring and steel conduit works including but not limited to interconnecting cable between the outdoor unit, indoor units, wired remote control and control system. The transmission cable to be CVV-SB 1.25mm^2 x 2C and t be fire rated type of the cable. PVC cables and PVC cnduits shall not be acceptable.	1800	Lm		
	Linear Air Grille for Executive Offices 150mm wide linear aluminium grille with slots, mitred edges, adjustable flow directional flaps and anchorage framework. To be complete with plenum box and damper as per proposed design and installation schedules	96	LM		
	Total Carried Forward to Collection Page 77				

Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
	Air Dampers			-	
J	100mm diameter air volume control damper	84	Item		
	Insulated GMS class B Drain Pipework				
K	25mm diameter GMS Class B pipework with fire resistant insulation	216	LM		
L	25mm diameter tee	45	No		
M	25mm diameter bend/elbow	48	No		
N	25mm diameter bend and U-trap	9	No		
	Fire Rated Sealant Foam				
A	Self-expanding, ready to use polyurethane foam that uses 'green' propellants, harmless to the ozone layer and without greenhouse gas effects. It shall have a fire rating of up to 240 minutes (tested according to EN1366-4). This will be used to seal all ducts after installation in the four floors.	1	Item		
	Associated Builders Works				
B	Allow for all associated builders works such as making holes, sealing holes, fixing of support brackets in walls, roof slabs and steel floor, scafolding, ladders, hoisting of the air conditioning equipment including the outdoor units to the 33rd floor roof space Wired Controller Unit	1	Item		

D	Fully wired wall mounted remote controller panel, wiring and conduit works including but not limited to interconnecting cable between the outdoor and indoor units. The controls system shall be Toshiba based controller Unit or equal and approved.	27	No.		
	Surge Protector				
E	Allow for suitable power surge protector for the air conditioning machines as Solatek to suite or equal and approved.	44	No.		
F	Allow for suitable power surge protector for the outdoor air conditioning machines as Solatek to suite or equal and approved.	3	No.		
	As-built Drawings and Maintenance Manuals				
G	Allow for preparation of as-built drawings and maintenance manuals. All these will be handed to project Engineer in three hard copies and soft copy in 16Gb flash disk.	1	Item		
	Total Carried Forward to Collection Page 77				
Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
	Training of Maintenance Staff and Operators			-	
H	Allow for training of three personnel on the operation and maintenance of the air conditioning installation. The training to be structured such that the personnel will undergo a course on the working of the machines, operations, settings, trouble shooting and maintenance of the machines.	1	Item		
	Testing and Commissioning				
I	Allow for testing and commissioning of all VRF air conditioning works to the satisfaction of the project engineer. This shall include temperature measurements in the air conditioned rooms and submitting the data to the project engineer.	1	Item		
	Total Carried Forward to Collection Page 77				

COLLECTION PAGE FOR EXECUTIVE OFFICES AIR CONDITIONING WORKS

Item	Description		Amount (Kshs)

1	Total Carried Forward From Page 72	
2	Total Carried Forward From Page 73	
3	Total Carried Forward From Page 74	
4	Total Carried Forward From Page 75	
5	Total Carried Forward From Page 76	
6	Total Carried Forward From Page 77	
	Total for Offices Air Conditioning Works Carried Forw ard to Summary Page	

BILL NO. 03: SPLIT AIR CONDITIONING FOR SERVER ROOM.

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
	SPLIT AIR CONDITIONING SYSTEM Supply , Installation, testing and commissioning, upon approval of working drawings, of the following items. NB: Outdoor units shall be mounted externally on existing slabs SPLIT AIR CONDITIONING SYSTEM FOR SERVER ROOM				

A	The indoor unit shall be ceiling cassette type air-cooling unit of capacity 7.1KW (24,000 Btu/hr). The air conditioning unit shall be supplied complete with room thermometer, room thermostat controls and remote control device. It shall charged with R410A refrigerant or any other non ozone depleting refrigerant. The unit shall be such that if the power supply goes off, it will start automatically after power is restored with three minute delay. The outdoor unit shall have matching capacity with the indoor unit. The unit shall be "Carrier" Model or equal and approved.	2	No.		
	Refrigeration Pipework				
C	Refrigeration liquid line pipework including 25mm Amaflex insulation.	54	LM		
D	Refrigeration gas line pipework including 25mm Amaflex insulation.	54	LM		
	Refrigerant				
E	Allow R410A refrigerant for charging air conditioning system. Drain	2	Item		
F	50mm PVC condensate drainage pipework, class D, including bends, clips, joints and tees in the running lengths of the pipe.	72	LM		
	Surge Protector				
G	Power surge protector as Solatek to suite or equal and approved.	2	No.		
	Electrical Works				
H	Allow for associated electrical works from the local isolator provided by others within one meter to the air conditioning units and wiring from indoor unit to outdoor unit.	2	Item		
	TOTAL CARRIED FORWARD TO NEXT PAGE 79				
Item	Description	Qty	Unit	Rate (KES)	Amount (KES)

	TOTAL BROUGHT FORWARD FROM PREVIOUS PAGE 78				
	Mounting Bracket				
I	Mounting bracket for the outdoor unit complete with a cage and provided with purpose-made protective steel iron angle frame and all other anchoring accessories including rawl bolts and anti-vibration rubber mountings to engineer's approval.	2	Item		
	Wall Mounted Wired Remote Controller				
	Fully wired wall mounted remote controller panel, wiring and conduit works including but not limited to interconnecting cable between the outdoor and indoor units.	2	No.		
J	Trunking				
K	75x50mm approved PVC trunking for concealing the refrigerant pipework.	60	LM		
	TOTAL CARRIED FORWARD TO MAIN SUMMARY PAGE 92				

BILL NO.04 MECHANICAL VENTILATION SYSTEM

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	AIR SUPPLY SYSTEM				
	Air Supply fan				
	Supply, deliver, Install, test and Commission the following Aerofoil axial fan capable of extracting 7,5m3/s of air against a static pressure of 650N/m2. The fan to come complete with mounting brackets, anti vibration mountings and flexible connector. Fan to be as 'WOODS' Model or equivalent.	2	No.		
	Ductwork				
A	Galvanized mild steel ductwork 1.2mm thick, complete with bends, transformation pieces, offsets, joints, branches, gaskets, supports, sleeves, stiffeners, splitters, turning vanes, test holes, access doors and any other accessories necessary for the complete laying of the ductwork. Transformation Pieces	368	SM		
B	Allow for various sizes of transformation pieces in Galvanised mild steel thickness 1.0mm as indicated on the contract drawings and necessary for complete ductwork installation.	Sum	Item		
	Volume Control Dampers				
	Variable volume control dampers suitable for the following duct sizes				
C	400mm x 400mm	16	No		
D	550mm x 550mm	8	No		
E	650mm x 650mm	8	No		
	Supply Air Diffusers with damper				

F	Egg crate grill 500mm x 500mm with a damper of 350x350 with capable of supplying.3.75m3/s Sound level less than NC 17m from the outlet.The diffuser shall have an approximate throw of 7.4m for terminal velocities of 2.85m/s respectively.	22	No		
	Supply Silencer				
G	Circular silencer casing constructed from cold formed pre-galvanized sheet steel and absorbent material of acoustic grade resin bonded mineral fibre with erosion resistant lining. The silencer shall be fitted with absorption pod and shall match the flow capacity of the supply fan..As type "WOODS" cylindrical silencer or equivalent	2	No		
	Total Carried to Collection Page for Air Conditioning Page 84				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Thermal Insulation				
A	Allow for supply ductwork thermal insulation to 25mm thickness and finish painting all as described in the General mechanical specification and cladding of all ductwork with SWG 24 aluminium sheet.	368	SM		
	Duct Work Painting				
B	Allow for painting (2No coats) of the ductwork internally and externally with suitable matt black paint.	368	SM		
	Acoustic Insulation				
C	Allow for the lining of the ductwork with a 25mm thick flame attenuated fiber glass, bonded with thermal setting frame. The inside lining to be done on sections of ductwork as will be pointed out by the engineer on site and shall act as the acoustic insulation.	368	SM		
	Flexible Connector				
D	Allow for flexible connections of rubber bellows or Neoprene for connection of the Air conditioning unit to the ductwork	20	Set		
E	Antivibration Mounting				
	Neoprene mounts for isolation of fan's vibration from the building structure.	Item	Lot		

	Fan Control Panel A splash proof fan control panel complete with operational switches shall be installed in a room remote from the fan. It shall incorporate isolator, contactors, phase failure relay, overheat safety controls and fuses and pilot lamps to enable operating conditions to be checked. The panel shall be cut of mild steel and anodized after manufacture.	2	No		
	Total Carried to Collection Page for Air Conditioning Page 84				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	EXTRACT SYSTEM				
A	EXTRACT DUCTWORK Galvanised mild steel ductwork 18 SWG, 1.2mm thick, complete with joints, bracing, gaskets, supports, sleeves, stiffness, splitters, training vanes, test holes, access doors, and any other necessaries necessary for the complete laying of the ductwork.	245	SM		
B	Transformation Pieces Allow for various sizes of transformation pieces in Galvanised mild steel thickness 1.2mm as indicated on the contract drawings and necessary for complete ductwork installation.	Sum	Item		
	Volume Control Dampers Variable volume control dampers suitable for the following duct sizes				
C	500mm x 500mm	10	No		
D	550mm x550mm	10	No		
E	650mm x 650mm	10	No		
	Extract Air Register				

F	Eggcrate aluminium register size 450 x 450mm. Capable of extracting 0.535m^3/s of air while producing direct noise level of less than NR 20 at 3m distance from the terminal.	15	No		
	Thermal Insulation				
F	Allow for supply ductwork thermal insulation to 25mm thickness and finish painting all as described in the General mechanical specification and cladding of all ductwork with SWG 24 aluminium sheet.	240	SM		
	Duct Work Painting				
G	Allow for painting (2No coats) of the ductwork internally and externally with suitable matt black paint.	250	SM		
	Extract Fan				
A	Supply, deliver, Install, test and Commission the following Aerofoil axial fan capable of extracting 6.75m3/s of air against a static pressure of 500N/m2. The fan to come complete with mounting brackets, anti vibration mountings and flexible connector. Fan to be as 'WOODS' Model or equivalent.	2	No		
	Total Carried to Collection Page for Air Conditioning Page 84				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Fan Control Panel				
B	A splash proof fan control panel complete with operational switches shall be installed in a room remote from the fan. It shall incorporate isolator, contactors, phase failure relay, overheat safety controls and fuses and pilot lamps to enable operating conditions to be checked. The panel shall be cut of mild steel and anodized after manufacture.	2	No		
	Extract Silencer				
C	Circular silencer casing constructed from cold formed pregalvanized sheet steel and absorbent material of acoustic grade resin bonded mineral fibre with erosion resistant lining. The silencer shall be fitted with absorption pad and shall match the flow capacity of the extract fan To be as woods or equivalent.	2	No.		
	Flexible Connections				
D	The flexible connections shall be rubber bellows or neoprene and not canvas to isolate vibrations from the air conditioning unit or fans from the inter-connecting ductwork.	6	Set		
	Anti vibration mountings				

A	Neoprene mounts for isolation of the fan's vibration from the building structure.	6	Item		
B	Fire Damper 900 x 900mm fire damper of the "off set hinged single blade type held in position by a fusible link, set to release at a temperature of 85ºC. The damper blade shall be held in position by means of rollers. In case of fire within the auditorium, this system shall close the duct and switch off the supply fan	4	No		
C	External Weather Louvres 900mm x 900mm high external weather louvers with a weather resistant external cover for fresh air inlet openings complete with galvanized coated wire mesh screen on the front face and frame and blades fabricated from extruded aluminium sections. As "TROX" or equivalent.	4	No		
D	Room Thermostat Room thermostat for room temperature control to maintain a temperature of 23ºC±1º C.	2	No		
E	DOOR REPLACEMENT GRILLE 500mm x 500mm air replacement lourved grilles.	6	No.		
F	Electrical works Allow for electrical works including wiring and fitting from the local isolator provided by others within 2 metres on the roof slab to the packaged air conditioning units.It shall include a push and turn safety switch near the air conditioning machine on the roof for isolation during maintenance.	4	Item		
	Total Carried to Collection Page for Air Conditioning Page 84				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Balancing of the Systems The system's air flow to the diffusers shall be balanced such that the air conditioned spaces shall be balanced to the designed flowrates indicated in the drawings. The onus will be on the tenderer to make sure that the inflows are adjusted to meet these requirements.	4	Item		
B	Training of Maintenance Staff and Operators Allow for training of personnel on the operation and maintenance of the air conditioning installation. The training to be structured such that the personnel will undergo a course on the working of the machines, operations, settings, trouble shooting and maintenance of the machines.	Item	Sum		
C	As-built Drawings and Maintenance Manuals Allow for preparation of as-built drawings and maintenance manuals. All these will be handed to project Engineer in three hard copies and soft copy in 8Gb flash disk and compact disk.	2	Item		

D	Testing and Commissioning Allow for testing and commissioning of the Mechanical ventilation installations to the satisfaction of the Engineer.	2	Item		
	Total Carried to Collection Page for Air Conditioning Page				

COLLECTION PAGE FOR MECHANICAL VENTILATION SYSTEM

Item	Description	Total Amount (Kshs)
1	Total B/f Frm Page 81……..	
2	Total B/f Frm Page 82……..	
3	Total B/f Frm Page 83……..	
4	Total B/f Frm Page 84……..	
	TOTAL CARRIED FORWARD TO MAIN SUMMARY PAGE – 92	

BILL NO 05: SANITARY FITTINGS, PLUMBING, DRAINAGE AND FIRE PROTECTION WORKS

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)

	BILL NO. 04: SANITARY FITTINGS Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors. (i) All sanitary fittings shall be in colour. (ii) The Model and Ref No. indicated is only a guide to the type and quality of fittings. (iii) Equivalent and models may be acceptable.				
A	Water Closet (WC) Suite - Ensuite Offices Two piece WC suite ('S' or 'P'-trap) in lustrous white colour complete with horizontal outlet to BS 3402 with 7.5 litre Top action Dual flush low level ceramic cistern and fittings including siphon, 15mm diameter bottom float control inlet, 20mm diameter inward overflow plastic flush bend, dual flush system, inlet connection, and heavy soft close plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as "Duravit P3 Comforts" water closet or equivalent	5	No		
B	Bidet Spray Kit (Arabic Shower) Power spray bidet kit c/w 1/2" female inlet x 1/2" Male Outlet. Spray Kit to be embed on wall mount water supply. Cradle to have positive shut off . Complete Kit to comprise of Bidet Handshower, Water supply elbow with shut off, Chrome plated hose, Dual check valve, backflow preventer and 49" hose. The Hand held bide rose to be as "Paloma Bidet Spray Kit- 2.0 GPM" or equivalent	5	No		
C	Countertop Wash Hand Basin (WHB) Over Counter Wash basin of size 550 x 440mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal. All to be as "Duravit D Code 26" or equivalent	5	No		
	Total carried Forward to Summary Page 87				

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
A	Granite Worktops on concrete slabs				-
	Construct Worktops for above Countertop wash basins in Class 20 concrete and hickness 75mm in including all walling to bear the Worktops. The countertops to have width of 600mm and length 1100mm an finished in "Black" Granite of Galaxy pattern of similar dimensions and thickness 15mm.	5	No		
B	Mixer Faucets				
	Executive Lever Action Luxury Basin Mixer Faucet for Hot and Cold with Flow rate of 4.5L/min . Tap to to have Aerated spray and Cartdridge to be made of Ceramic . Faucet to be as "Hansgrohe- Talis S Single-Hole Faucet 80" or equivalent	28	No		
C	Robe Hook				
	Robe hook in Satin Aluminium to be mounted by concealed screws to wall wedges. To be as "Twyfords Spectrum 2000" accessories or equivalent	25	No		
D	Toilet Brush and Holder				
	Wall mounted toilet brush holder and brush of colour as Ideal Standard or equivalent.	25	No.		
E	Toilet Roll Holder				
	Wall mounted chrome plated toilet roll holder with flap as "Jaguar Continental CAT No. 1153N" or equivalent	25	No		
F	Mirrors				
	5mm thick polished plate glass silver backed mirror with bevelled edges, size 900 x 610mm, plugged and screwed to wall with 4No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam. Mirrors to be as "Impalatuf" or equivalent	28	No		

	Total carried Forward to Summary Page 87				
Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
D	Flexible Tubing 15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve for connecting the sanitary fitting to water supply. To be as Cobra or equal and .	10	No		
F	Hand Drier Sensor operated Plus hand dryer, in steel and in epoxy white finish compact and very robust design, energetically, providing great energy savings and ultra-fast hand drying. Strongly recommendedfor high traffic places. The drier to have an adjustable power motor that regulates energy consumption (between 420 and 1,500W) and provides a maximum air output speed of 325 km/h and a drying effect on hands of between 10 and 15 seconds The hand dryer to be as "Mediclinics Machflow M09A/M09A-FIL/M09A-I" or equivalent	5	No		
A	Soap Dispenser 1 litre Automatic soap dispenser infra red sensor activated manufactured in AISI 304 stainless steel. Liquid soap dispenser with “Touch-free” operation on Infra-Red detection with a 50mm hand detection. Casing to be of AISI 304 stainless steel c/w vandal resistant construction with lock and Frontal content viewer. The valve to be anti drip and corrosion resistant. Removable Inner plastic tank. Hinged cover for operator convenience and speed of service. Opening to be from top with provided standard key. The dispenser to be powered on appropriate sized alkaline batteries. Soap dispenser to be as "Mediclinics DJ0037A" or equivalent	19	No		
	Total carried Forward to Summary Page 87				

SUMMARY PAGE FOR SANITARY FITTINGS

Sr No.	Description	Amount (KES)
1	Total for Sanitary Fittings B/F Page 85	

2	Total for Sanitary Fittings B/F Page 86	
3	Total for Sanitary Fittings B/F Page 87	
	TOTAL FOR SANITARY FITTINGS C/F TO GRAND SUMMARY PAGE 92	

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
	Internal Plumbing Works Supply, deliver and install Poly Propylene Random (PPR) pipes, tubing and fittings as described and shown on the drawings. The pipes and fittings shall be produced as per DIN16962. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	PPR PIPES				
A	20mm diameter pipework	64	Lm		
B	25mm diameter pipework	24	Lm		
C	32mm diameter pipework	18	Lm		
D	40mm diameter pipework	12	Lm		
	Bends				
G	20mm diameter bend	28	No.		
H	25mm diameter bend	8	No.		
I	32mm diameter bend	6	No.		
J	40mm diameter bend	4	No.		
	Tees				
L	20mm diameter Tee	12	No.		
M	25mm diameter Tee	6	No.		
N	32mm diameter Tee	4	No.		

O	40mm diameter Tee	3	No.		
	Reducers				
Q	25 x 20mm diameter reducer	14	No.		
R	32 x 25mm diameter	8	No.		
S	40 x 25mm diameter	6	No.		
T	40 x 32mm diameter	6	No.		
	Total carried Forward to Summary Page 89				

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
1	Unions				-
i	20mm diameter pipe unions	14	No.		
ii	25mm diameter pipe unions	12	No.		
iii	32mm diameter pipe unions	8	No.		
iv	40mm diameter pipe unions	8	No.		
2	Threaded Fittings				
i	20mm male/female threaded tee	124	No.		
ii	25mm male/female threaded tee	12	No.		
iii	20 male/female threaded 90° bend/Elbow	12	No.		
3	Plugs				
i	25mm diameter PPR plugs	6	No.		
ii	32mm diameter PPR plugs	6	No.		
iii	40mm diameter PPR plugs	4	No.		
4	Valves				
i	40mm diameter medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or equivalent.	3	No.		
ii	20 mm ditto	8	No.		
iii	25mm ditto	4	No.		
iv	30mm ditto	2	No.		
	Total carried Forward to Summary Page 89				

SUMMARY PAGE PLUMBING PIPEWORK AND FITTINGS

Sr No.	Description				Amount (KES)
1	Total for Plumbing B/F From Page 88				
2	Total for Plumbing B/F From Page 89				
	TOTAL FOR PLUMBING PIPEWORK AND FITTINGS C/F TO GRAND SUMMARY PAGE 92				

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
	<u>INTERNAL FOUL WATER DRAINAGE</u>				
	Supply, deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.				
1	MuPVC and uPVC Waste and Soil pipework				
i	100mm diameter heavy gauge grey mUPVC pipe	84	Lm		
ii	50mm diameter waste pipe	44	Lm		
iii	40mm diameter waste pipe	32	Lm		
iv	32mm diameter waste pipe	38	Lm		
	Bends				
2	100mm diameter bend with access	5	No.		
i	100mm diameter short radius bend	15	No.		
ii	50mm diameter sweep bend	16	No.		
iii	40mm diameter sweep bend	28	No.		

iv	32mm diameter sweep bend	24	No.		
	Tees				
3	100mm diameter sweep tee	6	No.		
i	50mm diameter sweep tee	12	No.		
ii	32x 40mm diameter sweep tee	20	No.		
iii	32mm diameter sweep tee	24	No.		
4	Access Caps				
i	100mm diameter access cap	6	No.		
ii	50mm diameter access cap	8	No.		
iii	40mm diameter access cap	12	No.		
iv	32mm diameter access cap	12	No.		
5	Reducing Sockets				
i	50 x 40 reducing socket	12	No.		
ii	40 x 32 reducing socket	14	No.		
6	WC Connectors				
i	100mm diameter WC connector	5	No.		
	Total carried Forward to Summary Page for Sanitary Fittings Page 91				
Item	Description	Qty	Unit	Rate (KES)	Amount (KES)
	Traps				-
A	100 x 50mm diameter floor trap and with chrome plated grating	6	No.		
	Total carried Forward to Summary Page 91				

SUMMARY PAGE FOR DRAINAGE

Sr No.	Description	Amount (KES)
1	Total for Drainage B/F Frpm Page 90	
2	Total for Drainage B/F Frpm Page 91	
	TOTAL FOR FOUL WATER DRAINAGE INSTALLATIONS C/F PAGE 92	

BILL NO.5: FIRE ENGINEERING AND PROTECTION WORKS

Item	Description	Qty	Unit	Rate (KES)	Amount (KES)

	Fire Protection Supply and install the following fire fighting installation and equipment as described and shown on the contract drawings or as shall be instructed by the Engineer. Tenderers should allow for all fittings, jointings couplings including unions and clamps where necessary for the proper functioning of the installation when pricing. Portable Fire Extinguishers Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.				
A	Water/Carbon Dioxide Gas Fire Extinguisher 9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	12	No		
B	Carbon Dioxide Gas Fire Extinguisher 5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	12	No		
C	Dry Chemical Powder Fire Extinguisher 9kg dry chemical podwer portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	12	No		
E	Fire Notices Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.	18	No		
	TOTAL FOR FIRE FIGHTING C/F TO SUMMARY PAGE 92				

SUMMARY PAGE FOR SANITARY FITTINGS, PLUMBING, DRAINAGE AND FIRE PROTECTION WORKS,

Item	Description	Amount (Kshs)
1	Sanitary Fitting B/f From Page F- 11	
2	Internal plumbing B/f From Page F-14	
3	Fowl water drainage B/f From Page F- 16	

4	Fire protection installations B/f From Page 92	
	TOTAL C/F TO MAIN SUMMARY PAGE FOR MECHANICAL BUILDING SERVICES WORKS PAGE 93	

SUMMARY PAGE FOR SANITARY FITTINGS, PLUMBING, DRAINAGE FIRE PROTECTION, MECHANICAL VENTILATION AND AIR CONDITIONING WORKS

Item	Description	Total Cost (Kshs)
1	Total for Preliminaries and General Items Carried Forward from Bill No. M01 ……	
2	Total Carried Forward from Collection Page for Executive offices Air Conditioning Works on floor No. 28 from Bill No. M02……	
3	Total Carried Forward from Collection Page for Server Room Air Conditioning Works from Bill No. M03……	
4	Total Carried Forward from Collection Page for Mechanical Ventilation Installation works from Bill No. M04……	
5	Total Carried Forward from Collection Page for Sanitary Fittings, Plumbing, Drainage, and Fire Engineering works from Bill No. M05……	
6	Contingecy Sum ……	500,000.00
	Total for Mechanical Engineering Building Services Installation works carried forward to main summary	

Amount in words…….....

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Tenderer's Name and Stamp
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Telephone No
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Mobile Phone No. ….……...…….
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Tenderer's V.A.T No
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Tenderer's P.I.N No
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Tenderer's Signature ……
Date…….……...……

Witness Signature ……...
Date…….……...……

SECTION VI – SPECIFICATIONS

A. GENERAL MECHANICAL SPECIFICATIONS

2.1 GENERAL

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

2.2 STANDARD OF MATERIALS

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

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

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

2.3 WORKMANSHIP

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

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractors expense.

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

2.4 PROCUREMENT OF MATERIALS

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

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

2.5 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.

2.6 REGULATIONS AND STANDARDS

All work executed by the contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, Electric Power Act, Kenya Bureau of Standards (KEBS), Institution of Electrical Engineers (I.E.E) Wiring Regulations, Current recommendation of CCITT
and CCIR, and with the Regulations of the Local Electricity Authority and the Communications Authority of Kenya
(CA)

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.

2.7 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.

2.8 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 No.1 and No. 2, the Electric Supply Company's By-Laws, Communications Authority of Kenya (CA) requirements or any other supplementary Regulations as may be produced by the engineer

(a) 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.

2.9 FACTORY INSPECTION

The employer shall be entitled to have the quantity and quality of the imported lifts materials inspected by two number (2No.) engineers appointed by the Project Manager, and two (2No.) representative for the employer.

The said inspection shall be carried out at the factory of manufacture of the lifts materials during normal working hours and the successful tenderer shall give written notice to the Project Manager at the latest thirty (30) calendar days in advance of the date that the lifts materials are ready for inspection.

Travel (including ground, air travel and airport passage taxes) and full board accommodation expenses in at least a three (3) star hotel incurred by the engineers appointed by the Project

Manager, and the employer's representative shall (see clause 17.1) be borne by the contractor. The contractor shall also meet out of pocket expenses for the officers at Government of Kenya rates for the duration of the factory inspection. The costs incurred shall be re-imbursed to the contractor from the provisional sum allowed in the Bills of Quantities.

The inspection period shall be five (5) working days excluding travelling time.

If as a result of the inspection any of the lift materials are found to be defective, the successful tenderer shall replace the defective materials and determine a new date as when a new inspection shall be performed at the expense of the contractor.

The successful tenderer shall only ship the lift materials after the said factory inspection.

SECTION D

GENERAL MECHANICAL SPECIFICATION

2.01 General

This section specifies the general requirement for plant, equipment and materials forming part of the Sub-contract Works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

2.02 Quality of Materials

All plant, equipment and materials supplied as part of the Sub-contract Works shall be new and of first class commercial quality, shall be free from defects and imperfections and where indicated shall be of grades and classifications designated herein.

All products or materials not manufactured by the Sub-contractor shall be products of reputable manufacturers and so far as the provisions of the Specification is concerned shall be as if they had been manufactured by the Sub-contractor.

Materials and apparatus required for the complete installation as called for by the Specification and Contract Drawings shall be supplied by the Sub-contractor unless mention is made otherwise.

Materials and apparatus supplied by others for installation and connection by the Sub-contractor shall be carefully examined on receipt. Should any defects be noted, the Sub-contractor shall immediately notify the Engineer.

Defective equipment or that damaged in the course of installation or tests shall be replaced as required to the approval of the Engineer.

2.03 Regulations and Standards

The Sub-contract Works shall comply with the current editions of the following:

a) The Kenya Government Regulations.

b) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.

a) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.

d) British Standard and Codes of Practice as published by the British Standards Institution (BSI)

e) The Local Council By-laws.

f) The Electricity Supply Authority By-laws.

g) Local Authority By-laws.

h) The Kenya Building Code Regulations.

i) The Kenya Bureau of Standards

2.04 Electrical Requirements

Plant and equipment supplied under this Sub-contract shall be complete with all necessary motor starters, control boards, and other control apparatus. Where control panels incorporating several starters are supplied they shall be complete with a main isolator.

The supply power up to and including local isolators shall be provided and installed by the Electrical Sub-contractor. All other wiring and connections to equipment shall form part of this Sub-contract and be the responsibility of the Sub-contractor.

The Sub-contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval.

The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power and Lighting Company (KPLC) By-laws.

All electrical plant and equipment supplied by the Sub-contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1phase.

Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

2.05 Transport and Storage

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimise the possibility of damage and to prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

Adequate measures shall be taken by the Sub-contractor to ensure that plant and equipment do not suffer any deterioration during storage.

Prior to installation all piping and equipment shall be thoroughly cleaned.

If, in the opinion of the Engineer any equipment has deteriorated or been damaged to such an extent that it is not suitable for installation, the Sub-contractor shall replace this equipment at his own cost.

2.06 Site Supervision

The Sub-contractor shall ensure that there is an English-speaking supervisor on the site at all times during normal working hours.

2.07 Installation

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 Testing

2.08.1 General

The Sub-contractor's attention is drawn to Part 'C' Clause 1.38 of the "Preliminaries and General Conditions".

2.08.2 Material Tests

All material for plant and equipment to be installed under this Sub-contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned.

For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

The Sub-contractor shall prepare specimens and performance tests and analyses to demonstrate conformance of the various materials with the applicable standards.

If stock material, which has not been specially manufactured for the plant and equipment specified is used, then the Sub-contractor shall submit satisfactory evidence to the Engineer that such materials conform to the requirements stated herein in which case tests of material may be partially or completely waived.

Certified mill test reports of plates, piping and other materials shall be deemed acceptable.

2.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer.

The Sub-contractor shall give two week's notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Sub-contractor.

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

Plant and 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 and inspection certificates not be approved, new tests may be ordered by the Engineer at the Sub-contractor's expense.

2.08.4 Pressure Testing

All pipework installations shall be pressure tested in accordance with the requirements of the various sections of this Specification. The installations may be tested in sections to suit the progress of the works but all tests must be carried out before the work is buried or concealed behind building finishes. All tests must be witnessed by the Engineer or his representative and the Sub-contractor shall give 48 hours notice to the Engineer of his intention to carry out such tests.

Any pipework that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Sub-contractor and the specified tests shall then be applied.

The Sub-contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

2.09 Colour Coding

Unless stated otherwise in the Particular Specification all pipework shall be colour coded in accordance with the latest edition of B.S 1710 and to the approval of the Engineer or Architect.

2.10 Welding

2.10.1 Preparation

Joints to be made by welding shall be accurately cut to size with edges sheared, flame cut or machined to suit the required type of joint. The prepared surface shall be free from all visible defects such as lamination, surface imperfection due to shearing or flame cutting operation, etc., and shall be free from rust scale, grease and other foreign matter.

2.10.2 Method

All welding shall be carried out by the electric arc processing using covered electrodes in accordance with B.S. 639.

Gas welding may be employed in certain circumstances provided that prior approval is obtained from the Engineer.

2.10.3 Welding Code and Construction

All welded joints shall be carried out in accordance with the following Specifications:

a) Pipe Welding

All pipe welds shall be carried out in accordance with the requirements of B.S.806.

b) General Welding

All welding of mild steel components other than pipework shall comply with the general requirements of B.S. 1856.

2.10.4 Welders Qualifications

Any welder employed on this Sub-contractor shall have passed the trade tests as laid down by the Government of Kenya.

The Engineer may require to see the appropriate to see the appropriate certificate obtained by any welder and should it be proved that the welder does not have the necessary qualifications the Engineer may instruct the Sub- contractor to replace him by a qualified welder.

GENERAL SPECIFICATION FOR MECHANICAL VENTILATION INSTALLATIONS

1.0 SCOPE OF WORK

The scope of the works comprises Installation, Testing, and Commissioning of Mechanical Ventilation and Air Conditioning systems in accordance with Specifications and drawings.

All the necessary elements and details for complete system are to be included.
Excluded from the specifications are the following:-

- All concrete works
- All block work
- Electrical wiring, isolators and switch boards, except internal wiring for control system from a local isolator.

2.0 SYSTEM COMPONENTS

Dimensions and capacities of ducts and fans are calculated and based on a specific requirements of air, and on an assumed resistance through grilles, silencers etc. However

the installer shall be responsible for the correct functioning of the system. Subsequently it is therefore his duty to size the systems' components with consideration to his offered equipment.

3.0 DRAWINGS

The Engineer's drawings show the main layout and principles for the Ventilation and Air Conditioning Systems. If need for further detailing is required in order to carry out the work, working drawings and details shall be produced for approval by the Engineer before the work is executed.

In preparation of the working drawings are care should be taken to coordinate the Ventilation and Air Conditioning works with other services involved and avoid any interference with these.

4.0 MATERIALS AND WORKMANSHIP

In the specification, equipment is generally described according to capacities and a given standard in order to aid in identification of the particular equipment to satisfy specifications. The equipment selected shall be of reputable manufacture with adequate Back-Up service.

If the Engineer finds it necessary, samples of the materials will be submitted for approval before placing an order. The Engineer shall reject any materials which he finds to be of unsatisfactory quality.

Works shall be carried out by competent workmen under experienced supervision. The Engineer shall have the authority to have any substandard work or equipment redone and/or equipment replaced.

5.0 DUCTWORK

5.1 General Ductwork

All seams, joints and connections to plant shall be so made as to reduced air leakage to a minimum. Internal roughness and obstructions to airflow will not be accepted. Sharp edges or corners on the outside of ductwork, flanges, supports, etc, will not be accepted. Any part of galvanized ductwork where the galvanizing is damaged during manufacture or erection shall be painted with two coats of aluminium, zinc or other corrosion – resisting paint to the approval of the Engineer.

Where ducts pass through roofs (and external walls where applicable) these shall be fitted with angle flanges and weather cravats to ensure a weather-proof fitting to the building structure.

Connections to equipment shall be made with angle flanged joints. Ductwork which may have to be moved to enable plant to be removed shall incorporate angle flanged joints. For long duct runs, angle flanged joints shall be included at intervals to facilitate any subsequent alternations.

Bends and offsets shall have a minimum throat radius equal to the width of the duct. Where short radius elbows are indicated or agreed by the Engineer as necessary due to site limitations the dimensions and internal vane (s) shall be in accordance with HVCA publication DW/121.

Ductwork shall be constructed by galvanized, cold rolled, close annealed patent flattened sheets. Tests holes shall be provided in branch ducts from grilles and there shall be three or four tests holes on side of duct according to duct depth at each test position. At branch positions there shall be one test hole. Air tight swivel type metal covers shall be fitted over the test holes in such a manner that they shall be readily removed as required.

5.2 Rectangular ductwork

Construction of ductwork shall be as per the following Guidelines: Up to 300mm longer side – 22 S.W.G.

- over 300mm and up to 460mm longer size – 20 S.W.G.
- over 460mm and up to 900mm longer side 18 S.W.G (stiffening to be 25mm x 25mm x 3mm. M.S angle at slip joints at 180mm spacing)
- Over 900mm and up to 1370mm. longer side 16 S.W.G. (stiffening to be 30mm x 30mm x 3mm M.S angle at 900mm spacing).
- Over 1370mm longer side – 14 S.W.G. (Stiffening to be 40mm x 40mm x 5mm M.S angle at 900mm. spacing).

Ductwork constructed from 22 and 20 S.W.G sheet shall have folded locked seams and ductwork constructed from 18, 16 and 14 S.W.G. sheets shall have riveted seam with 8 S.W.G rivets at 2” pitch.

Joints for ductwork having a side greater in width than 610mm shall be flanged by means of 30mm x 30mm x 3mm mild steel angles. Mild steel used as flanges or stiffeners shall be riveted to the ductwork, with 8 S.W.G rivets at 2” pitch. The joint faces of flanges shall be drilled for 10mm bolts at 75mm pitch.

Air tight access doors shall be provided on the ductwork wherever indicated on the drawings. The access doors, of sufficiently heavy construction to avoid distortion, complete with handles, shall be secured by brass wing nuts screwed into studs provided, on galvanized mild steel stiffening frames riveted, or bolted to the ductwork. The access doors shall be provided with felt or rubber gaskets to ensure that when closed they are perfectly tight.

The ductwork shall be installed with all joints air tight and adequately stiffened and braced shall have the largest radius possible with a minimum throat radius of one diameter if possible. Square or miter elbows will only be allowed where shown on the drawings. Turning vanes shall be fitted in square or miter elbows.

Transformer pieces except where situated on fan suction shall be constructed so that the angle on any side does not exceed 15° to the axis of the duct where possible.

Branch ducts shall enter main ducts expansion sections where possible. Where branch ducts occur, at taper or transformation pieces, the length of such pieces in the main duct shall be symmetrical about the axis of the branch.

6.0 BRACKETS AND SUPPORTS

Supports and brackets for ductworks shall be made adjustable for height, spaced to ensure support and where practicable shall be fitted at each joint of the ductwork. Vertical

ductwork shall be supported at each floor level, horizontal ducts at intervals not exceeding 2280mm and adjacent to fans, canvas joints and other equipment. All members of supports in contact with metal ductwork shall be galvanized after fabrication.

Socketed joints shall have a minimum overlap of 50mm in the direction of flow. The joint shall be made with an approved type jointing compound with bolts or rivets at centres not exceeding 50mm. wherever access cannot be made for riveting or bolting self tapping screw of the shortest length which will give a satisfactory joint shall be used in lieu of the rivets or bolts, on size or diameters up to 530mm. All slip joints on circular ductwork are to have a spigot carefully swaged damper leaves shall be multi leaf type. The quadrants shall be of robust construction and securely fixed to the ductwork. The leaves shall be linked with a connecting rod and the ends of the spindle shall be housed in bearings. Dampers are to indicate the full and closed positions and are to be marked and then locked after air Volume has been set.

7.0 JOINTS

7.1 Flexible Joints

Flexible joints shall be provided on fan inlet and outlet connections and elsewhere on the ductwork where indicated. They shall be over the full cross-sectional area of the mating fan inlet or outlet section. The ends of the duct and fan connections shall be in line.

Flexible joints shall consist of, or be protected by, material having a fire penetrating time of at least fifteen minutes when tested in accordance with BS 476 Part 1 Section 3. The material shall be of the glass fibre cloth type, canvas or other approved material. The width of joints from metal edge to metal edge shall not be less than 80mm and more than 250mm.

All flexible joints other than fan inlet connections shall be between flanged ends. The flexible material flange shall be backed by an angle or flat iron flange and the flexible joint flat iron bar used with fan inlets shall not be less than 5mm thick.

7.2 Flexible Connections.

Where flexible connections are indicated or required between rigid ductwork and particular components or items of equipment, the internal diameter of the flexible duct shall be equal to the external diameter of the rigid ductwork and of the spigot type. The use of flexible duct between rigid sections of sheet metal ductwork to change direction or plane will not be permitted except where indicated or expressly authorized by the Engineer.

The flexible duct shall have a liner a cover of tough tea-resistant fabric equal in durability and flexibility to glass fibre shall be impregnated and coated with plastics. It shall be reinforced with a bonded galvanized spring steel wire helix or glass fibre cord or equal and shall be bonded to cover to ensure regular convolutions.

Alternatively the flexible duct shall consist of flexible corrugated metal tubing of stainless steel, aluminium, tinplated steel or aluminium coated steel. The metal may be lined on the inside or the outside or both with plastics materials.

The joints to rigid spigots shall be sealed with a brush coat of pipe jointing paste or mastic compound. Ducts up to 150mm diameter shall be secured with a worm drive type hose

clip complying with BS 3628. Ducts over 150mm diameter shall be secured with band clip.

The frictional resistance to air flow per unit length of the flexible duct shall not exceed 50% more than the frictional resistance per unit length of galvanized steel ducts of equivalent diameter. The radius ratio R/D for bends shall not be less than 2, where R is the centre line radius and D is the diameter of the flexible duct.

Flexible ducts shall be suitable for an operating temperature range of 18oC to 120oC and shall comply with BS 476 Part 1, Section 2, Clause 7 (Clause 1; surface of very low flame spread).

8.0 FINISH PAINTING

Upon completion of the installation and after all tests have been carried out to the satisfactory of the Engineer, the plant, equipment, supports, etc. shall be examined and all priming coats damaged during erection made good.

Any plant or equipment, ductwork, etc., which is to be insulated, shall have had the priming paint protection made good before the application of the insulation. After the above procedures have been carried out to the satisfaction of the Project Manager, the various surface shall be given the necessary preparation as recommended by the paint and insulation manufacturers and finish painted in colours to be agreed between the Sub-Contractor and Project Manager, at a later date.
For the purposed of the Specification, however, it shall be deemed that the sub-contractor's tender price was based on the identification requirements for the various services detailed in Code of Practice DW/161 Identification of Ductwork as published by the H.V.A.

9.0 AIR INTAKES AND OUTLETS

Unless otherwise indicated fixed louvers on external walls will be fitted at air intake and outlet positions. A galvanized steel wire mesh screen of 20mm diamond mesh and at 2mm diameter wire and complete with a frame of galvanized steel rod with securing lugs or of flat iron shall also be fitted on the inner side of the louvers.

10.0 FANS

10.1 General

Fans shall capable of giving the specified performance when tested in accordance with BS 848. Although estimated values of the resistance to airflow of items of equipment may be indicated, this does not relieve the Contractor to the responsibility for providing fans capable of delivering the required air volume flow through the system.

The make and design of fans shall be approved by the Engineer and evidence supporting noise levels and fan efficiencies shall be provided. Where fans are supplied with noise attenuations, full details of the attenuations shall be given.

Belt driven fans shall be fitted with pulleys suitable for V-belts; pulleys of the taper lock type may be used for drivers up to 30KW output. Alternatively, and in any case above 30KW output, pulleys shall be secured to the fan and the motor shafts by keys fitted into machined keyways. Pulleys shall be keyed to the fan shaft in the overhung position. Keys shall be easily accessible so that they can be withdrawn or tightened and they shall be accurately fitted so that the gib head does not protrude beyond the end of the shaft.

Machined bolts, nuts and washers only shall be used for the assembly of fans; all bearing surfaces for the heads of bolts or washers shall be count faced. Holding down bolts for fans and meters shall be square section under the head or be fitted with snugs to prevent them tuning in the fan base plate when the nuts are tightened.

Any fan which is too large or too heavy for safe manhandling shall provided with eyebolts or other lifting facilities to enable mechanical lifting equipment to be used.

10.2 Axial Flow Fans

Axial flow fans shall be of either the single stage type or the multi-stage contra-rotating type with each impeller mounted on an independent motor. Casings shall be rigidly constructed of mild steel stiffened and braced to obviate drumming and vibration. Cast iron of fabricated steel feet shall be provided where necessary for bolting to the base or supports. Inlet and outlet ducts shall terminate in flanged rings for easy removal. The length of the fan (s) and motors(s) shall also terminate in flanges in order that the complete section may be removed without disturbing adjacent ductwork. Electrical connections to the motor(s) shall be through an external terminal box secured to the casing. Impellers shall be of steel or aluminium, the blades shall be secured to the hub or the blades and the hub shall be formed in one piece. The hub shall be keyed to a substantial mild steel shaft and the whole statically balanced. Blades shall be of aerofoil section. Shafts shall be carried in two bearings which may be ball roller or sleeve type. Lubricators shall be extended to the outside of the casing.

Where axial flow fans are driven by a motor external to the casing the requirements for pulleys and for V-belt drives and guards shall be met. Unless otherwise indicated a guard is not required for any part of a drive which is within the fan casing. An access door of adequate size shall be provided.

Where axial flow fans of the bifurcated type are indicated the motors shall be out of the air stream. Motors may be placed between the two halves of the casing in the external air or may be placed within the fan casing provided that effective ventilation is given to the motor. Where hot gases or vapours are beings handled the motor and the bearings shall be suitable for operation at the temperature they may experience.

11.0 DAMPERS

11.1 General

Sufficient dampers shall be provided to regulate and balance the system. Dampers on grills or diffusers shall be used for fine or secondary control. All dampers shall be sufficiently rigid to prevent fluttering. Unless otherwise indicated, the air leakage past dampers in the fully-closed position shall not exceed 5% of maximum design air flow in the duct. All duct dampers except fire dampers and self-closing flaps shall be fitted with locking devices and position indicators. Dampers shall be generally in accordance with the appropriate HVCA Specification.

Each Primary control damper shall be fitted with a non-corrodible label stating the actual air flow in M3/S and the cross-sectional area. Alternatively, these figures shall be painted in a visible position on the adjoining ductwork or insulation. The position of a damper as set after final regulation and balancing be indelibly marked on the damper quadrant

11.2 Butterfly dampers

Butterfly dampers shall each consist of two plate's edge seamed, and of the same thickness of material as that from which the associated duct is made, and rigidly fixed to each side of a mild steel operating spindle, the ends of which shall be turned and housed in non-ferrous bearings.

11.3 Bifurcating dampers

Bifurcating dampers shall be of 2mm thick sheet for sizes up to 450mm square. For larger sizes, the thickness shall be as indicated. Damper plates shall be rigidly fixed to square section mild steel spindles the ends of which shall be turned and housed in non-ferrous bearings.

11.4 Multi-leaf dampers

Multi – leaf dampers shall consist of two plates of material of the same thickness as the associated duct and rigidly fixed to each side of an operating spindle, the ends of which shall be housed in brass, nylon, oil impregnated sintered metal, PTFE impregnated or ball bearings. The ends of the spindles shall be linked such that one movement of the operating handled shall move each leaf an equal amount. An inspection door shall be provided adjacent to each multi-leaf damper.

On low velocity systems only, multi-leaf damper blades may be of a single plate, at least 1.6mm thick and suitably stiffened, and the blade linkages may be within the duct. Those dampers shall have bearings and inspection doors as specified above.

11.5 Damper Quadrants and Operating Handles

Quadrants and Operating handles shall be of die-cast aluminium with the words "OPEN" and "SHUT" cast on the Quadrants. Quadrants shall be securely fixed to the damper spindles and shall be close-fitting in the quadrants hubs to prevent any damper movement when the damper levers are locked.

11.6 Self-closing dampers

Self-closing dampers shall be designed so as to present the minimum of resistance to airflow under running conditions, to take up a firm, non-fluctuating position under running conditions and to give a tight shut-off when closed. They shall incorporate rubber stops to prevent rattling and to give a tight shut-off when closed. They shall incorporate rubber stops to prevent rattling.

11.7 Sliding Dampers

Sliding dampers shall be provided only where indicated. They shall be of 2mm. thick sheet steel for size up to 450mm square. For larger sizes the thickness shall be as indicated. They shall run in guides lined with felt.

11.8 Iris type dampers.

Iris type dampers may be used in ducting up to 600mm, dia. Or 450mm square. The control shall be on the outside of the damper. The design shall be such that the leaves of the damper can be easily moved for adjustment.

12.0 GRILLES

12.1 Supply & Return Registers

Supply registers shall be manufactured from high grade, extruded Aluminium sections with lacquered finish and fixing shall be 32mm with bevelled edges.

The registers shall have a front set of blades parallel to the long dimension, of rear set of blades parallel to the short dimension, the blades being at 17mm centres and individually adjustable with opposed blade dampers.

12.2 Extract grilles

Extract grilles shall be similar to the Supply Registers described above with the exception that they have only one set of blades parallel to the long dimension.

12.3 Fresh Air Grilles

These shall be manufactured from sheet steel with steel fixing flanges and shall be galvanized after manufacture. An insect screen shall be fixed downstream.

12.4 Diffusers

These shall be manufactured from high grade extruded sections with lacquered finish, bevelled flanges and removable core. Fixing shall be by self-tapping screws through the duct into neck of the diffuser.

12.5 Louvers

Discharge and Fresh air Intake louvers shall be manufactured from mild steel and be galvanized after manufacture. A screen shall be fixed to the back of the louvers

13.0 ATTENUATORS

13.1 General

Purpose made attenuators and sound absorbing material shall be designed to air flow, have adequate strength and cohesion to resist erosion by air flow and do not produce dust. They shall be free of odour and proof against rot, damp and vermin and shall comply with the requirements as to fire and smoke hazards. Adhesives shall be compatible with the sound absorbent material and should preferably be non-flammable.

Where sound absorbent material and /or special attenuators are indicated they shall either reduce the sound level in the space, due to the equipment, to the specified value or shall give the specified sound level attenuation over the specified range of frequencies. Purpose made attenuators shall be tested in accordance with HVRA Laboratory Report No. 55 (Code for the measurement of the performance of unit silencers). The insertion loss and generated noise level for each octave band and the pressure loss of the silencer shall be stated.

Attenuators shall be suitable for internal air pressure of 100N/m2, air stream temperatures of up to 40oc and free from air stream erosion for velocities up to 25m/s. The mineral wool lining shall be rot, vermin and fire-proof. Attenuator casing shall be pre-galvanized sheet steel with galvanized pre-drilled flanges.

13.2 Rectangular Attenuators

These shall be rectangular in section with splitters forming air passages in parallel. The mineral wool lining shall be resin bonded.

13.3 Circular Attenuators

Circular section attenuators will have a central pod. The mineral wool lining shall be retained by expanded steel. The end flanges shall be match drilled to suit the fan which they are fixed to.

13.4 Acoustic lining

Where indicated on the contract drawings, the ductwork shall be acoustically lined. The lining shall consist of resin bonded mineral wool 25mm, thick fixed to the ductwork by a suitable adhesive.

14.0 INSTRUMENTS

14.1 General

The instruments, gauges etc, detailed in this section shall be provided in addition to those associated with specific items of plate and detailed elsewhere, they shall be mounted in accessible positions and shall be easily read.

14.2 System Static Pressure Gauge

A system static pressure gauge shall be provided for the system. It shall consist of a small inclined manometer gauge similar to a filter gauge. The edge of the gauge shall be connected to the system and the other end shall be left open to the plant room but where fluctuation of the static pressure in the plant room may occur the gauge shall be connected across the main fan. Such fluctuations may be caused by wind pressure affecting large open air intakes to the plant room.

15.0 VIBRATION, NOISE AND SOUND INSULATION

15.1 Anti-Vibration Mountings

Fans, compressors, motors and any other vibration-inducing equipment shall be isolated from the building structure by anti-vibration mountings which shall be compressed machinery cork, spring or rubber dampers or rubber/metal bearers as indicated.

15.2 Noise

The noise produced by the installation in the spaces served, in any adjacent buildings and in the open air surrounding plant rooms shall be kept as low as possible. This shall be specially considered in the selection of fan motors, grilles and the internal finish and arrangements of extraction ducting.

Noise level information for fans based on octave analysis data, shall be stated. The reference level and the testing technique shall be stated.

The sound level in the spaces served, due to the equipment shall comply with the recommended design criteria given in the IHVE Guide (Table 13.1 of 1965 Edition). The maximum sound pressure level due to ventilation system must not exceed value mentioned below measured by a reference value of $2 \times 10 \times 10^{-5}$ N/m^2 transferred to a logarithmic scale, and measured at any point 1.5 meters above the floor and 1.0 meters from the walls.

The maximum sound pressure level measured at any point 4 metres from the extract point must not exceed 55dB.

The maximum sound pressure level measured at any point 4 metres from fans must not exceed 60dB.

16.0 THERMAL INSULATION

16.1 General Description

All heated, cooled, and re-circulated air ductwork shall be insulated.

Insulation shall be of 25mm thick expanded polystyrene sheet, or spray applied polyurethane foam to a uniform thickness of 25mm. Polystyrene shall be fixed so that the edges butt closely without gap and the insulation shall overlap at corners by the thickness of the insulation. The sheet shall be fixed by means of a suitable adhesive and plastic impingement pines attached to the ductwork.

16.2 Ductwork in Plant Room

The insulation described above in Clause 5.1 above shall be finished by the application of a 15mm thick layer of hard setting finish. Insulation shall bevelled thick to angle of 45o at all connecting flanges, access hatches and all other places where operation or maintenance is likely to cause the breaking of the insulation.

The insulation shall then be given a vapour sealing by the application of two coats of anticondensation paint.

16.3 Ductwork External to plant Rooms

The insulation described in Clause 5.1 above shall finish by the application of two coats of bitumastic.

17.0 ELECTRICAL EQUIPMENT AND WIRING

17.1 Scopes

The responsibility for electrical equipment and wiring shall be as defined as below-:

An on-off starter shall be provided and placed in the appropriate position for connection of the fans required for the installation and within a time agreed with the Engineer fully detailed wiring diagrams for all connections to them shall be availed.

The Installer shall be responsible for the accuracy of all wiring diagrams provided by him and for the correct internal wiring of all pre-wired equipment supplied. The Installer shall reimburse the full cost of abortive or remedial work arising from any error in these aspects.

17.2 General

Unless otherwise indicated all electrical equipment and installation shall be suitable for use in ambient temperatures up to 40°C and relative humidity up to 90%. For tropical climates, electrical equipment shall be suitable for use in the temperature and humidity as indicated; it shall be proof against atmospheric corrosion, including that of saline air where relevant, and materials shall not be susceptible to mould growth or attack by termite and similar hazards.

17.3 Electrical Motors

Electrical motors shall comply with BS 170 2048 or with BS 2613 and BS 3979 as appropriate. All motors shall have Class E insulation (BS2757) and can be continuously rated.

They shall be screen protected (BS2817) unless otherwise indicated under all normal conditions, without being overloaded. All motors larger than 0.75kw output shall be three phase, for motors above 15kw output the type of motor and method of starting shall be such as to limit the starting and run-up currents to three times the rated full

load current unless otherwise indicated. No motor shall run faster than 25rev/s unless otherwise indicated.

18.0 INSPECTION, COMMISSION AND TESTING

18.1 General

Unless otherwise indicated tests shall be carried out in accordance with the appropriate BS or CP. Test certificates for works tests, site tests and tests required by BS shall be submitted in duplicate to the Engineer.

18.2 Testing

Where an individual inspection or tests take place at outside the site of the works representatives of the Engineer will be required to be present.

Unless otherwise indicated the contract shall include the cost of all tests, necessary instruments, plant supervision and labour both at work and on site. The accuracy of the instruments shall be demonstrated where so directed by the Engineer.

The site test shall be of at least six hours duration. Any defects or workmanship, materials and performance maladjustments or other irregularities which become apparent during the tests shall be rectified by the supplier at his expense and the tests shall be repeated at his expense to the satisfaction of the Engineer.

The Supplier/Installer's representative present at the site tests shall be fully conversant with the operation of the thermostatic controls and shall be expected to explain the operation and safety controls forming part of the installation to the employer's representatives.

18.2.1 Site Tests

The Installer shall supply all instruments and equipment necessary to carry out site tests and shall arrange with other parties for the testing of associated equipment which may affect the performance of the plants installed under these works.

18.2.2 Site Tests-Fans

All fans shall be charged with suitable lubricant and shall be tested upon completion of the auxiliary system erection to ascertain that the performance of each fan complies with the requirements of the specification.

18.2.3 Completion of Works – Balancing and Commissioning

Following the site tests and prior to handover, Mechanical Ventilation or Air-Conditioning systems shall be balanced by means of grills, dampers and other special controls installed so to give the required air flow rates and where applicable the required temperatures, pressures and humidity conditions in all areas served by the said systems.

The complete system shall be balanced and commissioned as a whole. Sectional balancing and commissioning on any part of the system where this excludes, final complete system balancing and commissioning shall not be accepted.

Test volumes within ducts shall be within +5% of the design volumes, and volumes at grills and diffusers shall be within +10% of the design volumes.

When the system has been balanced to the satisfaction of the project manager, it shall be run under complete automatic control for 72 hours continuous operation to ascertain any faults in operation before acceptance and handover. Any faults discovered during this time shall be corrected and another test or tests of 72 hours duration shall be carried out to ensure satisfactory operation, all at the expense of the Supplier/Installer..

During this phase, particular attention shall be paid to:

- The maintenance of cleanliness of all plant and extraction systems during construction and ensuring that extraction systems are cleaned through as part of commissioning.

- The protection of plant, particularly sensitive or fragile items, from the activities of other trades during construction and from dirt and mal operation during commissioning.

- The protection of electrical of electrical equipment from damp during construction and commissioning.

19.0 CONTROL SYSTEM

Particular attention shall be paid to the following features:

- Satisfactory operation of any automatic or manually operated sequence to be used in the event of fire.
- Safety in the event of failure and of sudden resumption of electricity supply.
- Satisfactory operation of safety interlocks designed for the protection of personnel, such as those associated with the high voltage electrically operated plant.

The following items shall be checked and/or tested and recorded on the site Test Certificate:-

- Set devised value of all control devices
- Satisfactory operation of equipment protection devices.
- Satisfactory operation of all sequencing operations and alternate working selections and automatic or manual change-over of duplicate plant.

20.0 NOISE AND SOUND CONTROL

Sound level reading shall be taken with a simple sound level meter using the ‘A’ scale weighting network. The spaces in which readings shall be taken shall be as agreed with the Engineer but will in general be the following:-

- Plant rooms
- Occupied rooms adjacent to plant rooms
- Outside plant rooms facing air intakes and exhaust to assess possible nuisance to adjacent accommodation. If the adjacent accommodation is private residential building tests may be required at night.
- In the space served by the first grille or diffuser after a fan outlet.
- In any space where, by the addition of special silencing material or techniques of by classification of use, a low level of noise is clearly required.

Alternatively, sound level reading shall be taken using a sound analyser to give an octave band analysis of the ground spectrum and to pinpoint the frequency values of peak sound

levels. The spaces in which readings shall be taken shall be as agreed with the Engineer but will in general be as detailed in paragraph above.

21.0 OPERATING AND MAINTAINANCE INSTRUCTION

The Supplier/Installer shall demonstrate and explain the plant and the method of starting, running and stopping to such staff as the Engineer shall nominate.

He shall provide three sets of operating and maintenance instructions which shall be enclosed in durable covers. The operating and maintenance instructions shall include;-

A brief outline of the operation of the plant.

- Instructions on how to start and stop the plant, noting any safety and / or sequencing arrangements.
- Details of required maintenance with suggested frequency of action
- Details of all lubricating oils and greases required and filter replacement
- Details of each item of plant including the name and address of the manufacturer, type and model, serial number, duty and rating.

The operating and maintenance instructions shall be handed to the Engineer not later than at the end of the commissioning period.

22.0 SPARE PARTS

The Installer shall submit a priced list of any extra materials which he recommends should be purchased for the Ventilating and Air Conditioning Plants and all associated equipment and control gear and extras not supplied as standard. He shall be required to give a guarantee that he will hold sufficient running stock of spare parts for the maintenance of the equipment.

PARTICULAR SPECIFICATIONS FOR AIR CONDITIONING SYSTEMS

SCOPE OF WORKS

The works to be carried out comprises of the supply, delivery, installation, setting to work, testing and commissioning of all materials and equipment called for in this specification and/or shown in the contract drawings.

The tenderer shall include for all appurtenances and appliances not particularly called for in this specification or on the contract drawings but which are necessary for the completion and satisfactory functioning of the system.

No claim for extra payment shall be accepted from the contractor for non-compliance with the above requirements.

If in the opinion of the tenderer there exists difference between the specification and the contract drawings, the tenderer shall clarify the difference with the engineer before tendering.

The Works to be installed under the contract shall comply with the State Department of Public Works requirements for contract works under "GENERAL MECHANICAL SPECIFICATION".

CLIMATIC CONDITIONS

The following climatic conditions apply at the sites of the works and all materials and equipment used shall be suitable for these conditions:-

PARAMETERS	(CONDITIONS) NAIROBI

Maximum mean outdoor dry bulb Temperature, t_o	29.45˚C
Minimum Temperature	14.35˚C
Relative Humidity	38% - 93%
Altitude	1128m ASL
Longitude	37°35′E
Latitude	00°21′N
Max. solar radiation occurs during the month of July	

SYSTEMS DESIGN DATA

The air-conditioning systems are designed to maintain the following internal conditions with ambient conditions of 28ºC DB and 55% RH

Internal Temperature 23 ± 1ºC
Relative Humidity 50± 10%

The equipment described here under covers the specific requirements of equipment to be used for this contractor work and shall be used in conjunction with the accompanying contract drawings.

It shall be deemed that the tenderer has based his tender on plant and equipment which is equal in performance to that stated within the specification.

SPLIT AIR CONDITIONING SYSTEM

This shall be installed in the

The system shall be complete with;

Indoor wall mounted cooling unit (Evaporator)
Each coil unit shall consist of a cooling coil, air circulating fan, fan-guard and a thermostatic expansion valve. A timer unit shall be mounted in the control panel to both the de-frosting intervals and defrosting periods, both of which shall be variable.

The evaporator unit shall be of capacity as specified under the specified conditions, and shall be of the dry expansion type, and preferably of similar make as that of the condensing units. The unit shall be cassette type, high wall mounted or ceiling mounted as will be specified by the Engineer.

The coil shall be manufactured from seamless copper tubing with aluminium fins mechanically bonded to the tubes.

The panel shall be interlocked such, that on energizing the heater, the compressor, condenser and evaporator fan shall be de-energized and only re-energized when the heater is switched off by a evaporator mounted thermostat. A manual overriding switch shall by-pass the timer switch.

The air-circulating fan shall be manufactured from rigid aluminium sheet and finished in white casing. A drip tray with 25mm diameter connections shall be incorporated in the base of the casing.

The Unit shall be complete with the following:

- 1 No. air purifying filter.
- Built in drain pump to automatically drain water.
- Refrigeration pipe work with flared connections
- Fixing brackets/wall mounting kit/ground mounting kit
- Thermostat to control room temperature
- High and low pressure units
- Condensate discharge pipe work in Black PVC, 15mm diameter
- Service access valves
- Voltage Surge Protector

The system shall be suitable for 240V, 1 – Phase, 50Hz power supply

The split air-conditioning system shall be designed to maintain room inside temperature of 23±1º C and relative humidity of 50±10%.

Outdoor Units.

The outdoor units shall be installed and mounted on the wall using appropriate and approved mounting brackets. They shall be complete with hermetically sealed compressors. Safety devices shall include overload/surge protection among others.

The unit shall be connected to power provided by others. It shall also be connected to refrigerant piping and control wiring. It shall have adequate charge of refrigerator oil and R 407 refrigerant. The air conditioning units shall be as York or approved equivalent and shall be provided with approved mounting brackets.

The Unit shall be complete with the following:

- Casing constructed of 18 gauge zinc coated mild steel, zinc phosphate bonderized, coated with oven baked polyester paint and weatherized for outdoor installation. It shall have weep holes on base to allow ease of drainage.
- Hermetically sealed compressor mounted to unit base with rubber isolated hold down bolts, uniform in oil & pressures and shall have internal overload protection.
- Refrigeration pipe work with flared connections
- Distributor with refrigeration control
- Fixing brackets/wall mounting kit/ceiling mounting kit

- Heat exchanger capacity controls
- Precise inverter frequency controls
- New oil returning system (refrigerant oil control system)
- High and low pressure units
- An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity.
- Condensate discharge pipe work
- Service access valves
- Voltage Surge Protector

Refrigeration Piping

Refrigerant pipe work shall be approved copper tubing and fittings, and shall be properly sized in conformity with the system manufacturer specifications. Pipework shall be joined together by soldering/brazing and shall be complete with all necessary joints, reducers and accessories.

The Ozone friendly refrigerant flow shall be controlled with either a capillary tube or thermostatic expansion valve. Installation shall be carried out by competent and qualified craftsmen. The Engineer may demand proof of qualifications and experience in installation of refrigeration systems.

Pipe work shall be tested for leaks after installation to the Engineers satisfaction. It shall be properly anchored, insulated and no vibration of pipes shall be allowed during the running of the systems.

An electronic leak detector shall be used to test for leaks.

VARIABLE REFRIGERANT FLOW (VRF) SYSTEM

The VRF system shall be a dual aspect system (zone heating/cooling) with reduced energy & maintenance costs. The system shall be complete with flexible and user friendly central management system that will be integrated to building management system. The system shall be capable of more personalized & accurate calculations of energy consumption. The required capacity and the relating technical parameters for the indoor units shall be electronically relayed to the system management and outdoor unit.

Inverter Controlled Outdoor Unit

The three-way pipe outdoor units shall be installed and mounted on the 3rd floor sky garden using appropriate and approved anti-vibration mounting/base. They shall be complete with

hermetically sealed compressors. Safety devices shall include overload/surge protection among others.

The air conditioning unit shall allow for maximum 48 indoor units of different capacity & types to be connected to a single refrigerant circuit. It shall have an outdoor unit capacity ratio of 50-130% with nominal cooling load as stated in the bill of quantities and capacity control in the range of 10 - 130% according to the indoor cooling load.

There shall be two outdoor units operating as duty and standby and connected to the same indoor units through control panel.

The Unit shall be complete with the following:

- Casing constructed of 18 gauge zinc coated mild steel, zinc phosphate bonderized, coated with oven baked polyester paint and weatherized for outdoor installation. It shall have weep holes on base to allow ease of drainage. . It shall have permanently attached base rails with 3-way forklift access and lifting holes.
- Hermetically sealed compressors mounted to unit base with rubber isolated hold down bolts, uniform in oil & pressures and shall have internal overload protection.
- Advanced compressor oil management system
- Compact flow selector unit
- TCC link: state-of-the-art communication bus system with automatically configured addressing and shall be Building management system (BMS) compatible.
- Heat exchanger capacity controls
- Precise inverter frequency controls with intelligent power drive unit (IPDU)
- New oil returning system (refrigerant oil control system)
- High and low pressure units
- An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity.
- Condensate discharge pipe work
- Service access valves
- Voltage Surge Protector

Indoor cooling unit (Evaporator)

Each coil unit shall consist of a cooling coil, air circulating fan, fan-guard and a thermostatic expansion valve. A timer unit shall be mounted in the control panel to both the de-frosting intervals and defrosting periods, both of which shall be variable.

The evaporator unit shall be of capacity as specified under the specified conditions, and shall be of the dry expansion type, and preferably of similar make as that of the condensing units. The unit shall be high static pressure ducted unit, cassette type, high wall mounted or ceiling mounted as will be specified by the Engineer.

The coil shall be manufactured from seamless copper tubing with aluminium fins mechanically bonded to the tubes.

The panel shall be interlocked such, that on energizing the heater, the compressor, condenser and evaporator fan shall be de-energized and only re-energized when the heater is switched off by a evaporator mounted thermostat. A manual overriding switch shall by-pass the timer switch.

The air-circulating fan shall be manufactured from rigid aluminium sheet and finished in white casing. A drip tray with 25mm diameter connections shall be incorporated in the base of the casing.

The Unit shall be complete with the following:

- 1 No. air purifying filter.
- Built-in drain pump to automatically drain water.
- Refrigeration pipe work with flared connections
- Fixing brackets/wall mounting kit/ground mounting kit
- Thermostat to control room temperature
- High and low pressure units
- Condensate discharge pipe work in Black PVC, 15mm diameter
- Service access valves
- Voltage Surge Protector
- Pulsed modulating valves (PMV) to permit linear variation of refrigerant flow in any circuit directly proportional to the thermal load.

The system shall be suitable for 240V, 1 – Phase, 50Hz power supply

Control Panel

Each system shall be provided for with a purpose made control panel fabricated from mild steel sheet of minimum SWG18 with a hinged door and then powder coated after manufacture. It shall be provided with an integral lock. It shall be complete with;

- Isolator
- Contactors
- Controlling thermostat with temp range from -10^{0}C to +30^{0}C
- 80mm dial thermometer with temp range from -10^{0}C to +30^{0}C
- Motor starters & current overload relays
- MCBs
- Phase failure relay with over and under voltage protection
- Timer switch for defrost control
- Push buttons for start and stop
- Audible and visual high temperature alarm with manual reset

The panel shall also have green light running indicators, red “door open” light and equipment circuit trip lights.

System Controls Unit

Controls Unit for each system shall incorporate complete controls to ensure continuous system services. Such controls shall include protection against any possible motor overload and over-heat, central control and monitoring for all the indoor units, individual temperature setting for each indoor unit, group control, set lock for each indoor unit and shall have self diagnosis function (display system errors).

The control unit shall control the duty and standby outdoor units to work alternately for twelve hours. This will be achieve by opening and closing of solenoid valves which will close or open the refrigerant pipes to achieve this operation.

The unit shall have a lock release to allow for control of the system by using wireless or wired remote control at the place where the indoor unit is installed. It shall also have a setup of a weekly and detailed schedule of the individual air conditioner.

The control unit shall have an open network controls designed for building management systems. It shall also have diagnostic software that will enable download of all operating parameters and instant analysis for commissioning and service.

The control system shall be complete with;

- Weekly timer for a 7 day timer complete with day omit
- Infrared wireless remote controller
- Remote temperature sensor for all indoor units
- Network/protocol adaptor kit to enable integration with artificial intelligence network
- External master on/off control board
- Error output control board
- Power peak cut control board
- Touch screen controller for full control of up to 64 indoor unit including electric billing
- Intelligent server and software package to allow connection to touch screen controller
- Energy monitoring interface

Testing and Commissioning Standards

The system shall be balanced to the satisfaction of the project engineer. It shall be run under complete automatic controls for 72 hours continuous operation to ascertain any faults in operation before acceptance and handover.

Any faults discovered during this time shall be corrected and a further test or tests of 72 hours duration shall be carried out to ensure satisfactory operation, all at the expenses of the contractor.

All accessories/equipment have to tested for capacity, efficiency, leakages and other human errors and shall meet standards and specifications.

As-Built-Drawings and maintenance manuals

Once the air conditioning system has been tested and commissioned, drawings and maintenance manuals shall be provided. They shall be a true and accurate representation of what has been commissioned.

Training

Adequate personnel shall be trained to perform normal operations and routine maintenance of the air conditioning system. The number of personnel to be trained shall be specified for particular pool.

TESTING & COMMISSIONING

All the pipe work and connections herein described shall be tested in the presence of the Engineer and to the hydraulic pressure the Engineer deems satisfactory and for a minimum period of 1 hour.

These tests must be before any insulation work is undertaken or any pipe work is finally enclosed in any ducts, etc and due allowance is to be made in the tender for these tests.
The tenderer is to include for providing for all the testing equipment, temporary plugging and refilling etc.

ELECTRICAL WORKS

The tenderer shall include for supply, installation and commissioning of all starters, control apparatus, control panels and interconnecting wiring and conduits for equipment that the tenderer is supplying.

Power points shall be provided within 5 metres of the equipment installation point and the tenderer shall connect his equipment from this point.

BUILDERS WORKS

The tenderers shall allow for perforation of holes, hacking of walls etc. All disturbed surfaces shall thereafter be made good by the tenderer upon satisfactory completion of the works.

SECTION VIII - DRAWINGS

1.0 The drawings shall be submitted during the implementation of the project

PROVISIONAL SUMS

ITEM	DESCRIPTION	UNIT	RATE	AMOUNT
	PROVISIONAL SUMS The following provisional sums are to be measured on completion and priced in accordance with the rates contained in these bills of quantities or prorata thereto or deducted in whole if not required			

A	Allow a Provisional Sum of Kenya Shillings Two Million (Kshs. 2,000,000.00) only for Contigencies to be expended in whole or on the instruction of the project manager and with approval of the client	SUM		2,000,000.00
	TOTAL CARRIED TO GRAND SUMMARY			

GRAND SUMMARY

ITEM		Page	FOR TENDERER USE ONLY	FOR OFFICIAL USE ONLY
	GRAND SUMMARY			
A	PARTICULAR PRELIMINARIES FROM PAGE	PP/9		
B	GENERAL PRELIMINARIES FROM PAGE	GP/11		
C	BUILDERS (PARTITIONING) WORKS FROM PAGE	BW-SUM/1		
D	ELECTRICAL WORKS	F/16		
E	STRUCTURED CABLING, IP PBX, CCTV, & ACCESS CONTROL WORKS.	F/21		
F	MECHANICAL WORKS FROM PAGE	68-93		
G	PROVISIONAL SUMS FROM PAGE	PS/1		
	TOTAL CARRIED TO FORM OF TENDER	**KSH**		

AMOUNT IN WORDS :
……..……..CENTS ……

TENDERER'S NAME ……
ADDRESS ……..……

DATE ……..

TENDERER'S SIGNATURE …….

WITNESS'S NAME ……..
ADDRESS ……..……

DATE ……..

WITNESS SIGNATURE ……..