REPUBLIC OF KENYA

COUNTY GOVERNMENT OF KILIFI
DEPARTMENT OF ROADS, TRANSPORT AND PUBLIC WORKS

PROJECT: PROPOSED CONSTRUCTION OF AN ACCIDENT AND EMERGENCY CENTRE

AT

GEDE HEALTH CENTER IN DABASO WARD– KILIFI COUNTY

FOR THE

DEPARTMENT OF HEALTH SERVICES.
TENDER NO. KCG/KCDHSS/OT/2654357/2026/2027

TENDER DOCUMENT

QUANTITY SURVEYOR
County Quantity Surveyor
Kilifi County
P. O. Box 409-80108
KILIFI

ARCHITECT
County Architect
Kilifi County
P. O. Box 409-80108
KILIFI

MECHANICAL ENGINEER
County Mechanical Engineer (B.S)
Kilifi County
P. O. Box 409-80108
KILIFI

ELECTRICAL ENGINEER
County Electrical Engineer (B.S)
Kilifi County
P. O. Box 409-80108
KILIFI

STRUCTURAL ENGINEER
County Structural Engineer
Kilifi County
P. O. Box 409-80108
KILIFI

PROJECT MANAGER
County Works Officer
Public Works-Kilifi County
P. O. Box 409-80108
KILIFI

(OCTOBER - 2026)

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INVITATION TO TENDER

PROCURING ENTITY: COUNTY GOVERNMENT OF KILIFI

CONTRACTNAMEANDDESCRIPTION: PROPOSED CONSTRUCTION OF AN ACCIDENT AND EMERGENCY CENTRE AT GEDE HEALTH CENTER IN DABASO WARD

The CountyGovernmentofKilifiinvitessealedtenders for the Proposed Construction of an Accident and Emergency Centre at Gede Health Center in Dabaso Ward.

Tendering will be conducted under Request for Quotations using a standardized tenderdocument.

1. Tendering isopen to eligible bidders selected from the **Kilifi County Government Prequalification list**

2. The Tenderer will submit any request for clarifications in writing addressed to supplychain@kilifi.go.ke to reach the Procuring Entity to **later than 5 working days before the Tender Opening Date.**

3. Tender documents may be obtained electronically from the Websites http://www.tenders.go.ke and www.kilifi.go.ke. Tender documents obtained electronically will be free of charge.

4. Tender documents may be viewed and downloaded for free from the website http://www.tenders.go.ke and www.kilifi.go.ke . Tenderers who download the tender document must forward their particulars immediately to supplychain@kilifi.go.ke 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 **150 days** from the date of opening of tenders.

6. All Tenders must be accompanied by a tender Security of ***Kenya Shillings One Million (Kshs.1,000,000.00) only*** from a Commercial Bank or Insurance Company.

7. The Tenderer shall chronologically serialize all pages of the tender documents submitted. Completed tenders must be uploaded electronically tothe IFMIS on or before **11TH NOVEMBER, 2026** at **11:00AM**(*Date and time)*. Manual Tenders will not be permitted.

8. Tenders will be electronically opened

9. Late tenders will be rejected

[Authorized Official (name, designation, Signature and date)]

Name: **DR. DAVID MULEWA – HEALTH AND SANITATIONSERVICES** (Official of the Procuring Entity issuing the invitation)

Designation **: ACCOUNTING OFFICER** Signature_____Date _____

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 ATenderer 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. Atenderer 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

3.1 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.

3.2 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

3.3 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 RevenueAuthority.

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 anyAddenda 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 specifiedin the TDS beforethe 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 Documentsin 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 ATenderer 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. ATenderer 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 ofthe Tender; and

c) ifalternative 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. Amaterial deviation, reservation, or omission is one that, if accepted, would:

a) affect inanysubstantial waythescope, quality, or performance of the Worksspecifiedin 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 intheir 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) priceadjustmentduetodiscountsofferedin accordance with ITT16;

b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT39;

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 toAcceptAny 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 ofContract

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 theAdjudicator.

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 containthe 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 Tenderopening.

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 CONSTRUCTION OF AN ACCIDENT AND EMERGENCY CENTRE AT GEDE HEALTH CENTER IN DABASO WARD** The reference number of the Contract is **KCG/KCDHSS/OT/2654357/2026/2027**
ITT 2.3	The Information made available on competing firms is as follows: a. **Bills of Quantities** b. **Drawings** c.
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: _ The firms that provided consulting services for the contract being tendered for are: **DEPARTMENT OF ROADS, TRANSPORT AND PUBLIC WORKS, P.O BOX 409-80108-; The Roles are defined as follows'-** **Project Manager – County Works Officer** **Architect – County Architect** **Quantity Surveyor – County Quantity Surveyor** **Electrical Engineer – County Electrical Engineer (B.S)** **Structural Engineer – County Structural Engineer** **Mechanical Engineer – County Mechanical Engineer (B.S)**
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: **Three**
B.	**Contents of Tender Document**
8.1	(A) Pre-Tender conference SHALL NOT take place at the following date, time and place: Date: n/a Time: n/a Place: n/a (B) A pre-arranged pretender visit of the site of the works SHALL NOT take place at the following date, time and place: Date: n/a Time: n/a Place: n/a
ITT 8.2	**i.** The Tenderer will submit any request for clarifications in writing addressed to **supplychain@kilifi.go.ke** to reach the Procuring Entity to **later than 5 working days before the Tender Opening Date** ii. The Procuring Entity shall publish its response to all tenderers using **supplychain@kilifi.go.ke**
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 www.kilifi.go.ke
ITT 9.1	For Clarification of Tender purposes, for obtaining further

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	information and for purchasing tender documents, the Procuring Entity's address is: (1) Name of Procuring Entity: **COUNTY GOVERNMENT OF KILIFI** (2) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) **N/A.** (3) Postal Address: **P.O Box 519 – 80108, KILIFI** (4) **Email address – supplychain@kilifi.go.ke**
C. **Preparation of Tenders**	
ITP 13.1 (h)	The Tenderer shall submit the following additional documents in its Tender: 1. Evidence of Personnel Academic & Professional Qualifications 2. Evidence of completed projects of similar nature, complexity or magnitude 3. Evidence of ongoing projects of similar nature, complexity or magnitude 4. Proof / Evidence of Ownership for all the relevant equipment and transport 5. Audited Financial Reports for the last three (3) years (2023, 2022 & 2021) 6. Evidence of Financial Resources (Cash in hand, lines of credit, overdraft etc)
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 not be permitted.
ITT 16.5	The prices quoted by the Tenderer shall be: _____[insert "subject to adjustment" or "fixed"]
ITT 20.1	The Tender validity period shall be **150 days**.
ITT 20.3 (a)	(a) The delayed to exceeding 30 number of days. (b) The Tender price shall be adjusted by the following percentages of the tender price: (i) By 0% of the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and (ii) By 0% the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.
ITT 21.1	A Tender Security shall be required. If a Tender Security shall be required, the type of Tender security shall be **Bank Guarantee** in the amount of ***Kenya Shillings One Million (Kshs. 1,000,000.00).***
ITT 21.2 (d)	The other Tender Security shall be **NONE**
ITT 21.5	On the Performance Security, other documents required shall be **N/A**
ITT 22.1	In addition to the original of the Tender, the number of copies is: _____ **NONE**

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 **written power of attorney**
D. Submission and Opening of Tenders	
ITT 24.1	(A) For Tender submission purposes only, the Procuring Entity's address is: (1) Name of Procuring Entity: **COUNTY GOVERNMENT OF KILIFI** (2) Postal Address **P.O Box 519 -80108, KILIFI.** (3) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) **N/A.** (4) Date and time for submission of Tenders **as in the Tender Advertisement or subsequent addendums.** (5) Tenderers **Shall** submit tenders electronically.
ITT 27.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: (1) Name of Procuring Entity: **COUNTY GOVERNMENT OF KILIFI** (2) Physical address for the location (City, Street, Building, Floor Number and Room) **N/A** (3) State date and time of tender opening **as in the Tender Advertisement or subsequent addendums.**
ITT 27.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below The tenderer shall upload the filled and chronologically serialized bid documents to the IFMIS portal The tenderer shall not alter or modify any part of the tender document.
ITT 27.6	The number of representatives of the Procuring Entity to sign is **ONE**
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 **N/A**
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 20% 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: **1. ELECTRICAL SUB-CONTRACTOR** **2. MECHANICAL SUB-CONTRACTOR** 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 _____of _____(pride tel. no. full postal and email addresses) at an hourly fee of Shs._____per day.
ITT 52.2	Other documents required are **N/A**
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: 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.

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) Valueof 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.

This stage of evaluation shall involve determination of compliance with minimum conditions set out in the **Tender Document and Tender Invitation Notice for the main Contractor and All sub-contractors.**

These conditions shall include the following but not limited to: -

*a) A certified copy of Registration with **National Construction Authority in NCA 5** and above (Building works) with a valid annual practicing license for the Main Contractor,*

*b) The bidder must have a Domestic Electrical Subcontractor for Electrical Works registered with **National Construction Authority in NCA 7** and above for electrical works with a valid annual practicing license and Energy Petroleum Regulatory Authority (EPRA) registration category 'C-1' and above, who **must** sign and stamps the bid document. (A signed commitment letter from the Sub-contractor to the main contractor indicating that they will undertake the works must be attached).*

*c) The bidder must have a Domestic Mechanical Subcontractor for Mechanical Works registered with **National Construction Authority in NCA 6** and above for Mechanical works with a valid annual practicing license. (A signed commitment letter from the Sub-contractor to the main contractor indicating that they will undertake the works must be attached).*

d) A certified Copy of Certificate of registration/ incorporation

e) A certified Copy of VAT/ PIN certificate from KRA

f) A certified Copy of Valid Tax compliance certificate
g) A certified Copy of CR12 of not more than one year
h) The Bid has been submitted in full and in the original format/order as issued by the Procurement Entity (Distortion of the Tender Document is NOT allowed, distorted Tender Documents will LEAD TO DISQUALIFICATION
i) Dully filled, signed and stamped form of tender
j) Dully filled, signed and stamped Business Questionnaires
k) Tender documents must be clearly digitally serialized (no manual serialization)
l) A Bid Bond of ***Kenya Shillings One Million (Kshs. 1,000,000.00) Only*** *of the bid price in form of a bank guarantees from reputable bank or approved insurance firm and must remain valid for 150 days from the date of tender opening in the prescribed format. Note: The original bid bond must be attached.*

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, if 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; if 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 Optionslisted 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 **N/A**

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 toconfirmation of pre-qualification data, ifso required.

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

i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means

(independent of any contractual advance payment) sufficient to meet the construction cash flow of **Ke nya Shillings Forty-Nine Million (Kshs. 49,000,000.00)** only.

ii) Minimum average annual construction turnover of **Kenya Shillings One Hundred and Ninety-Seven Million (Kshs. 197,000,000.00) Only** equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 5 (Five) years.

iii) At least 5 No. 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 of **Kenya shillings Ninety-Eight Million (Kshs.98,000,000.00) Only** 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 listedas [specify requirements foreachlot 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 5 years. 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 3 years. 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 years 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 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 [insert year]	Form CON – 2	

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 **Ke nya Shillings Forty-Nine Million (Kshs. 49,000,000.00)** Only equivalent 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 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 One Hundred and Ninety-Seven Million (Kshs.197,000,000.00) Only** equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 3 years, divided by 2023, 2022 and 2021 years	Form FIN – 3.2	

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)
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 5 years, starting 1st January 2017.	4. Form EXP – 4.1 Experience	
	Specific Construction & Contract Management Experience	A minimum number of 5 similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2017 and tender submission deadline i.e., 5 contracts, each of minimum value **Kenya shillings Ninety-Eight Million (Kshs.98,000,000.00) Only** 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)	

i) Details Technical Examination

Tenders shall be examined based on the Instruction to Tenderers which states as follows: -
'' In accordance to Instruction to Tenderers, the tenderers shall be required to prove evidence of eligibility of award of the tender by satisfying the Employer of their eligibility and adequacy of resources to effectively carry out the subject contract. The tenderer shall be required to fill the Standard Forms provided for the purpose of providing the required information. The tenderer may attach the required information, if they so desire.''
The award of points for the Standard Forms considered in the section shall be as follows:

Parameter	Maximum Points
1. Key Personnel	20
2. Contracts completed in the last five (5) years	40
3. Schedule of Contractor's equipment	10
4. Financial Report/ Evidence of financial resources …….…	20
5. Detailed work program	10
TOTAL	**100**

Note: The sheets on pages 61 and 62 shall be used to score each tenderer, based on the foregoing parameters. Pass mark shall be 70 points and above. Tenderers who score below 70 points shall be disqualified from further evaluation. Bid/Tender Security and Form of Tender bearing the Tender Amount or Figure shall be scanned together with the Proposal.

ii) Details Financial Examination

The rates will be subjected to examination to check for the following:
a) Evidence of front-loading
b) Reasonability of the rates, and
c) Consistency of the rates

NOTE: Failure of A, B or C above, will lead to automatic disqualification

TECHNICAL EVALUATION CRITERIA

Item	Description	Point Scored	Max. Point	
TEC1	**Key Personnel (Attach evidence)**		5	**20**
	Director of the firm			
	Holder of degree in relevant Engineering field = 5marks			
	Holder of diploma in relevant Engineering field = 3marks			
	Holder of certificate in relevant Engineering field = 2marks			
	Attach relevant certificates from a recognized institution ofhigher learning			
	Technical Staff		15	
	Key Technical Personnel in relevant engineering field			
	Key Technical Personnel in relevant engineering field			
	· 1 No. Project Manager, Degree holder with over 10years' relevant experience = 5 marks			
	· 1 No. Site Manager, Degree holder with over 5 years'relevant experience = 5 marks			
	· 1No. Site Supervisor, Diploma holder with 5 years'relevant experience = 5 marks.			
	Attach relevant academic certificates from higher learning institutions.			
TEC2	Must have completed three (3) projects with similar nature, complexity and magnitude in the last Five (5) years from the date of tender opening. Each of the completed projects must be of a value of at least		30	**40**
	a) **98** million and above @ 10 marks			
	b) **49** million but less than **98** million @ 5 marks			
	c) Less than **49** million Zero (0) marks			
	Attach a copy of signed contracts/letter of award or completion certificates of each project clearly indicating the contract price of each			
	Must also submit an additional two reference or recommendation letters from two clients other than the companies listed above under TEC 2 confirming satisfactory performance.		10	
	Attach two signed letters from the clients written on their letterhead @ 5 marks			
TEC3	Schedule of contractor's equipment and transport ownership/Lease)Please attach proof e.g. Valid Lease Agreements or Ownership or Logbooks.		10	**10**
	· Means of transport (2No. Trucks/Tippers/Lorries@2marks	4		
	· 1 No. Pickup Truck @2marks	2		
	· 1 No. Concrete mixer@2marks	2		
	· Poker vibrators (2No.poker vibrators@1	2		
	· No means of transport 0	0		

Item	Description	Point Scored	Max. Point	
TEC 4.	**Financial Report**			
	(i) Bidders must submit Audited Financial Statement for the last three (3) years (2023, 2022 and 2021). The Audited financial statements submitted must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long- term profitability (as demonstrated by Financial Evaluation ratios).		15	**20**
	Bidders must submit the two years Audited Financial Statements attached with the Auditor's valid Practicing License from ICPAK. All pages including the Financial Ratio Form must be signed by the Auditor/Accountant and at least by one of the Directors **@ 2.5 marks each year**			
	(ii) Bidders shall demonstrate that they have 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 at a minimum **as Ke nya Shillings Forty-Nine Million (Kshs 49,000,000.00)** for the subject contract(s) net of the tender's other commiments **@ 5 Marks**			
	(iii) The Tenderers shall also demonstrate, to the satisfaction of the County Government of Kilifi, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. The tenderer shall compute own Financial Ratios for the following ratios and avail necessary supporting documents:			
	a) Working Capital. @ 1Marks			
	b) Debt to Equity Ratios @ 1 Marks			
	c) Current Ratio @ 1 Marks			
	d) Operating Cash Flow Ration. @ 2 Marks			
	b) Evidence of Financial Resources		5	
	Attach certified bank statement or lines of credit or over draft facility etc from your bank indicated in the Audited Financial Statement			
	over draft facility etc. from your bank indicated in the Audited Financial Statements ***@ 5 marks***			
	The certification must be done by the bank issuing thedocument.			
	Work program		10	**10**
	Detailed work program outlining critical activities from the expected dateof commencement to the fixed duration of the contract for **(64 weeks)** in acompany letterhead signed and stamped by the officer authorized to sign the tender.			
	TOTAL			**100**

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 QUALIFICATIONWITHOUTPRE-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 –

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, Sub-Factor 2.3. ☐ Pendinglitigationin 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)					
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

[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.

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

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	
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:				

[2] If applicable

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

2. Activity No. Two
3. ……

5. FORM OFTENDER

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 isto help Tendererin preparingthis 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 Tendershall includethe following Forms duly completed and signed bythe Tenderer.

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

Date of thisTender submission..... [insert date (as day, month and year) of Tender submission]

Request for Tender No.: ……

Name and description of Tender**: The works to be carried out under this contract involves; The works to be carried out under this contract involves; Erection and completion of Gede Accident and Emergency Centre; substrucures, concrete structure, coral stone walling, roof structure and roofing, external and internal finishes, associated mechanical and electrical services and external works (Foul water drainage, Septic tank, Soak pit, storm water drainage, landscaping.).**

Alternative No.: None

To: **COUNTY GOVERNMENT OF KILIFI, Dear Sirs**,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above-namedWorks, 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 MostAdvantageous 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, copyavailable from _ (specify website) during the procurement process and the execution of any resulting contract.

xxi) We, the Tenderer, have completed fully and signedthe 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 andAsset 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]

Datesigned_____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- CONFIDENTIALBUSINESS 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.		
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 INDEPENDENTTENDERDETERMINATION

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 orexperience;

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 theAct.

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. THATwhat is deponed to herein aboveis trueto 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 thisAct.

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[1] 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[2] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

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

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

Beneficiary:_____

Request for Tenders No:

_____

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

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

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

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

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

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

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

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

_____

[signature(s)]

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 processes]
To:..... [insert completenameof Purchaser] I/We, the undersigned, declare that:

1. I/Weunderstand 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 everyWorks 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.

1. 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

ELEVATION 07 & 08 PERSPECTIVE

ELEVATION 05 & 06 PERSPECTIVE

NOTES

GENERAL

All dimensions are in mm unless otherwise specified.
Drawing are not to scalled, only figured dimensions to be used

The contractor must check and verify all dimensions before commencement of any work. Any discrepancies to be clarified with the Project Architect.

CONSTRUCTION

All slab at ground level to be cast over 1000 gauge polythene sheet on 50mm thick murram blinding on hardcore.

All soil under slab around and under foundation to be treated for termite control.

CIVIL

All soil on cut embankment to be stabilized.The slope not to exceed 45 degree.

STRUCTURAL

All black cotton soil to be removed from all buildings and paved surfaces

For all R.C work,refer to stuctural Engineer's details.

Depth of foundation to be determined on site to S.E's aproval

All walls to be reinforced with loop iron at every every alternate course.

All adjacent R.C. work and masonry walls to be tied with loop iron at every alternate course.

MECHANICAL

All plumbing and drainage to comply with relevent local authority

SVP denotes soil vent pipe to be provided at the head of the drainage system

Drains pass beneath buildings & driveways to be encased in 150mm concrete surround.

The storm drain pipes to comply with BS 556 specification.

All underground foul and waste drain pipes shall be uPVC to comply with BS 5255.

All inspection chambers covers and framing shall be cast iron.

Minimum slope in the drains pipes to be 1 in 100

No chases will be allowed for pipes. Sleeves will be allowed with written approval of structural Engrs. No cutting of concrete without express approval of the Architect or structural Eng.

All testing of pipes must be completed before plastering.

All mechnical works must be co-ordinated with electrical and any conflict must be clarified before work begin.

PV denotes permanent ventilation

ELECTRICALS

All conduits must be laid before plastering

REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

ARTISTIC RENDER

Client

HEALTH AND SANITATION - KILIFI COUNTY

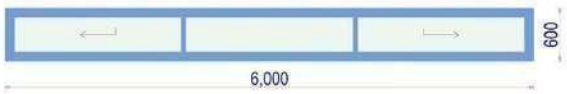
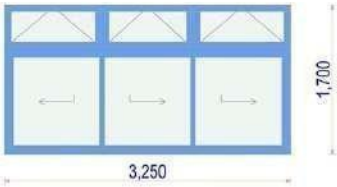
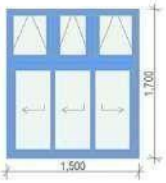
SCALE:	As shown	DATE	April,2025

		Name	Signature
	Design & Draw	**E. SEKIONDO**	
	Design/ Checked Architect	**WAZIRI K. J**	
	CWO AFE	**QS. D. MURITHI**	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO:

ACCIDENT AND EMERGENCY

Element ID	W16	W17	W18
Quantity	1	9	18
W x H Size	6,000×600	3,250×1,700	1,500×1,700
Window sill height	2,100	1,000	1,000
Window head height	2,700	2,700	2,700
2D Symbol			
3D Front View			

01 WINDOW SCHEDULE 1:0.97

NOTES

GENERAL

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PV denotes permanent ventilation

ELECTRICALS

All conduits must be laid before plastering

REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

Client

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	E. SEKIONDO	
Design/ Checked Assisted	WAZIRI K. J	
CWO-KFI	QS. D. MURETHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO

ACCESS ROAD

GROUND FLOOR
1021 M²

NOTES

GENERAL

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REVISIONS

Project Title
PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title
GROUND FLOOR PLAN

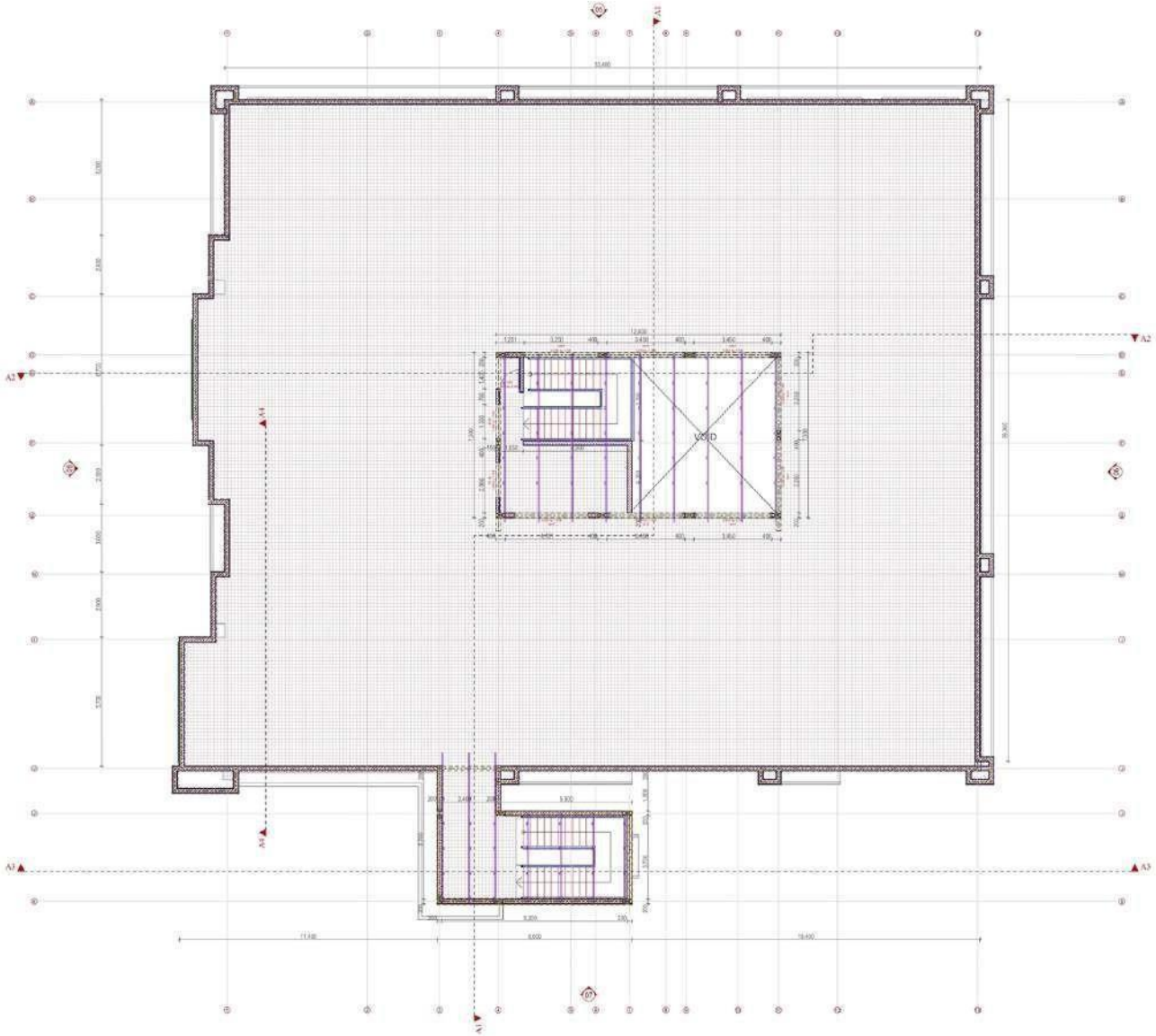
Client
HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

		Name	Signature
	Design & Drawn	E. SEKIONDO	
	Design Checked Assisted	WAZIRI K. J	
	CWO-KFE	QS. D. MURETHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO



1. ROOF/ TERRACE 1:100

NOTES

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REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

FIRST FLOOR PLAN

Client

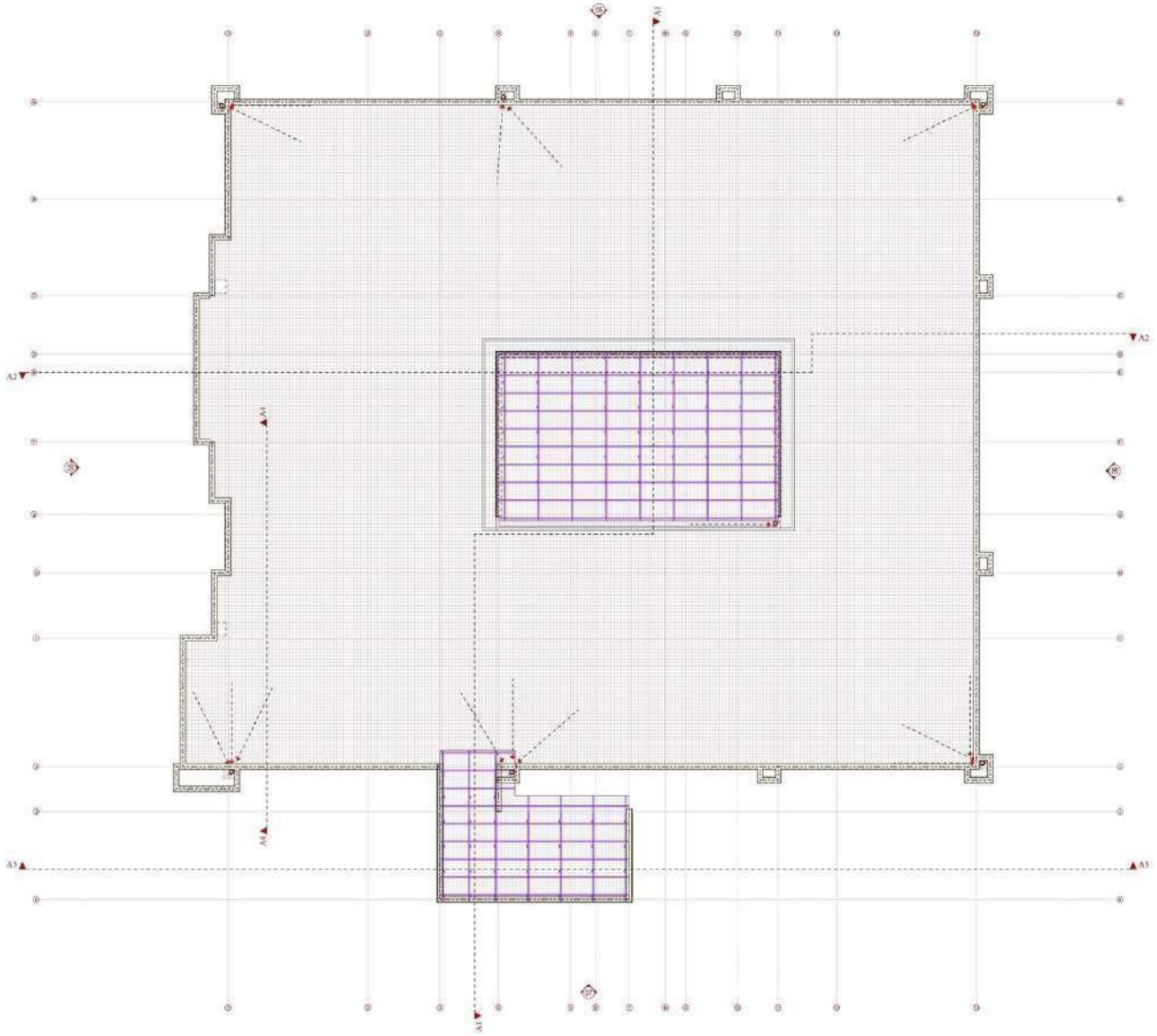
HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	**E. SEKIONDO**	
Design/ Checked Assisted	**WAZIRI K. J**	
CWO-KFI	**QS. D. MURETHI**	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO:



2 ROOF 1:100

NOTES

GENERAL

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CONSTRUCTION

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PV denotes permanent ventilation

ELECTRICALS

All conduits must be laid before plastering

REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

SECOND FLOOR PLAN

Client

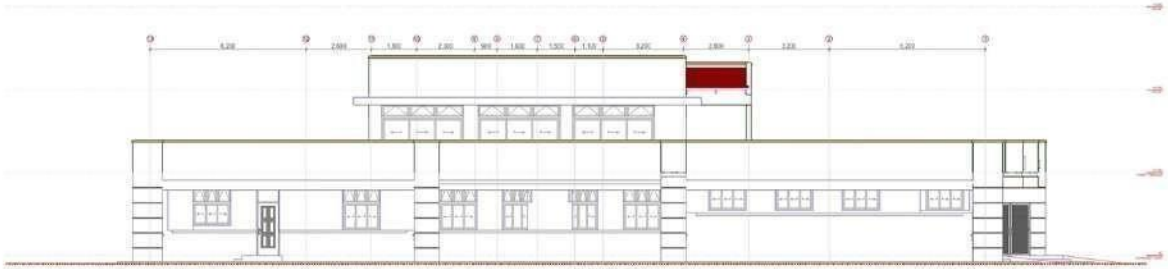
HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

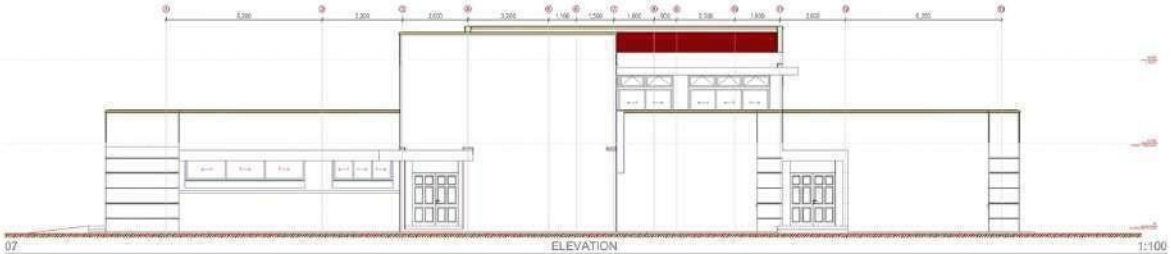
	Name	Signature
Design & Drawn	**E. SEKIONDO**	
Design/ Checked Assisted	**WAZIRI K. J**	
CWO-KFE	**QS. D. MURETHI**	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO:



05 ELEVATION 1:100



07 ELEVATION 1:100

06 ELEVATION 1:100

08 ELEVATION 1:100

NOTES

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REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

ELEVATIONS

Client

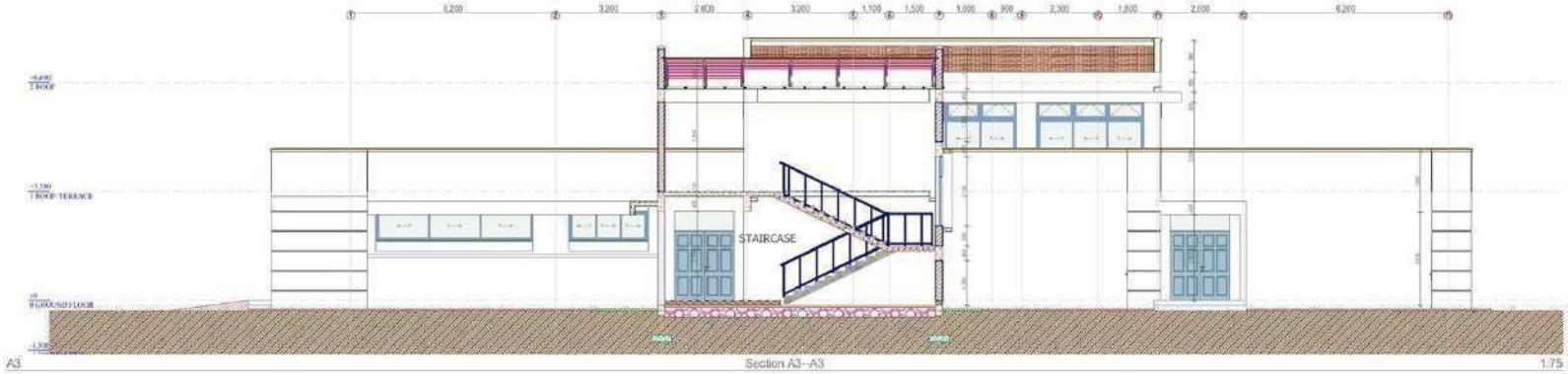
HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

		Name	Signature
	Design & Drawn	**E. SEKIONDO**	
	Design Checked Assisted	**WAZIRI K. J**	
	CWO KFE	**QS. D. MURITHI**	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO



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REVISIONS

Project Title
PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title
SECTIONS

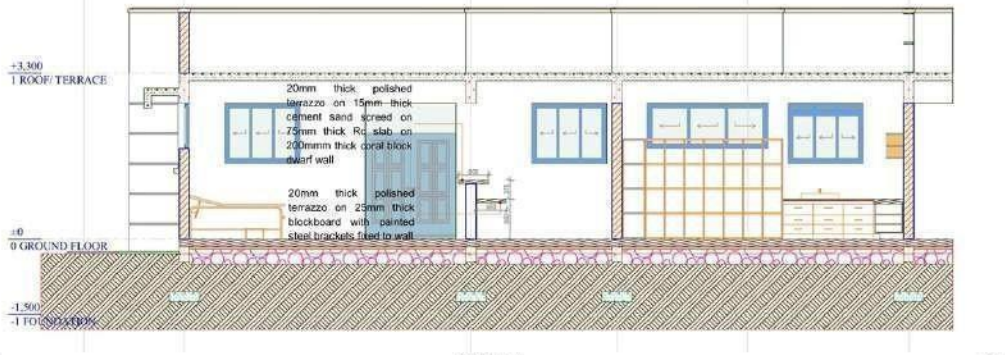
Client
HEALTH AND SANITATION - KILIFI COUNTY

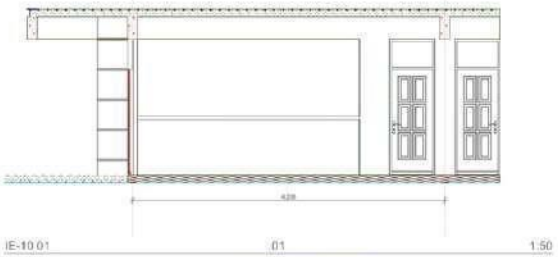
SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	E. SEKIONDO	
Design/ Checked Assisted	WAZIRI K. J	
CWO KFI	QS. D. MURITHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO:





NURSE STATION COUNTER

KITCHENNETTE COUNTER & SHELVES

NOTES

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ELECTRICALS

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REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

DETAILS

Client

HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	**E. SEKIONDO**	
Design/ Checked Assisted	**WAZIRI K. J**	
CWO KFI	**QS. D. MURITHI**	

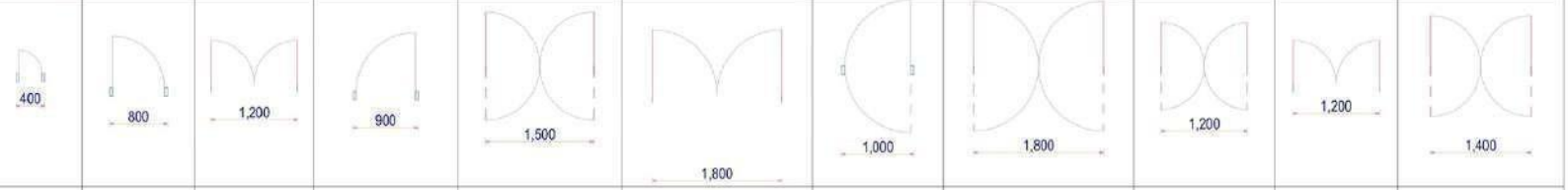
DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO:

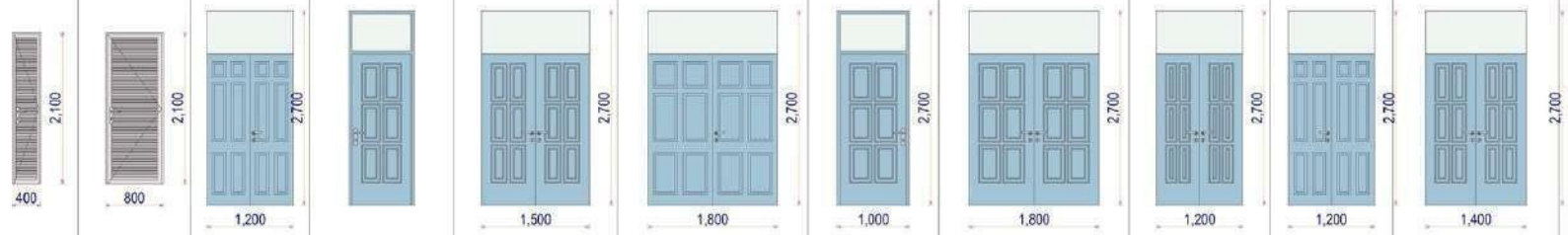
ACCIDENT AND EMERGENCY

Element ID	D01	D02		D03	D04	D05	D06	D07	D08	D09	D10
Quantity	15	2	1	39	2	3	2	2	2	1	4
W x H Size	400×2,100	800×2,100	1,200×2,700	900×2,700	1,500×2,700	1,800×2,700	1,000×2,700	1,800×2,700	1,200×2,700	1,200×2,700	1,400×2,700
Door sill height	100	300	0	0	0	0	0	0	0	0	0
Door head height	2,200	2,400	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700

2D Symbol



3D Front View

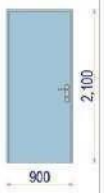


ACCIDENT AND EMERGENCY

Element ID	D11
Quantity	6
W x H Size	900×2,100
Door sill height	0
Door head height	2,100

2D Symbol

3D Front View



01 DOOR SCHEDULE 1:0.69

NOTES

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ELECTRICALS

All conduits must be laid before plastering

REVISIONS

Project Title
PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KEIFI COUNTY

Drawing title
DOOR SCHEDULE

Client
HEALTH AND SANITATION - KEIFI COUNTY

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	E. SEKIONDO	
Design Checked Assisted	WAZIRI K. J	
CWO KFI	QS. D. MURETHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO

ACCIDENT AND EMERGENCY

Element ID	W01		W02	W03	
Quantity	1	1	2	2	3
W x H Size	1,800×1,700	2,500×1,700	1,400×1,700	1,200×600	1,500×1,200
Window sill height	1,000	1,000	1,000	2,100	1,500
Window head height	2,700	2,700	2,700	2,700	2,700
2D Symbol	1,800	2,500	1,400	1,200	1,500
3D Front View	1,700 / 1,800	1,700 / 2,500	1,700 / 1,400	600 / 1,200	1,200 / 1,500

ACCIDENT AND EMERGENCY

Element ID	W04	W05	W06	W07
Quantity	1	4	1	1
W x H Size	1,500×1,700	2,400×900	1,500×2,100	1,200×1,700
Window sill height	1,000	1,800	600	1,000
Window head height	2,700	2,700	2,700	2,700
2D Symbol	1,500	2,400	1,500	1,200
3D Front View	1,700 / 1,500	900 / 2,400	2,100 / 1,500	1,700 / 1,200

01 WINDOW SCHEDULE 1:0.57

NOTES

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ELECTRICALS

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REVISIONS

Project Title
PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title
WINDOW SCHEDULE

Client
HEALTH AND SANITATION - KILIFI COUNTY

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	E. SEKIONDO	
Design Checked Assisted	WAZIRI K. J	
CWO KFI	QS. D. MURETHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO

ACCIDENT AND EMERGENCY

Element ID	W07	W08	W09	W10
Quantity	1	2	1	1
W x H Size	4,800×900	2,100×1,700	650×900	900×1,700
Window sill height	1,800	1,000	1,800	1,000
Window head height	2,700	2,700	2,700	2,700
2D Symbol	4,800	2,100	650	900
3D Front View	900 / 4,800	1,700 / 2,100	900 / 650	1,700 / 900

ACCIDENT AND EMERGENCY

Element ID	W11	W12	W13	W14
Quantity	2	4	8	7	2
W x H Size	1,500×1,500	1,500×900	1,200×1,700	750×900	1,800×900
Window sill height	1,200	1,800	1,000	1,800	1,800
Window head height	2,700	2,700	2,700	2,700	2,700
2D Symbol	1,500	1,500	1,200	750	1,800
3D Front View		900 / 1,500	1,700 / 1,200		900 / 1,800

01 WINDOW SCHEDULE 1:0.57

NOTES

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REVISIONS

Project Title

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY BLOCK
COUNTY GOVERNMENT OF KILIFI COUNTY

Drawing title

Client

SCALE:	As shown	DATE	April,2025

	Name	Signature
Design & Drawn	E. SEKIONDO	
Design/ Checked Assisted	WAZIRI K. J	
CWO-KFS	QS. D. MURETHI	

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF KENYA

SHEET NO

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 thefollowing:

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.

5. The Summary tothe Bills of Quantities willtake 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 ContractAmount 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 ofthe 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 works 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) ADefect is any part ofthe Works not completedin accordance withthe 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 isthe period named inthe 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) Equipment 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 is 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 Siteis 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.

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

ac) 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.

ad) 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.

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

af) A Variation is aninstruction given by the Project Manager which varies the Works.

ag) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Procuring Entity, as definedin the SCC.

2. Interpretation

21 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.

22 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).

23 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, includingAppendices,
f) Specifications,
g) Drawings,
h) Bill of Quantities[6], and
i) any other document listed in the SCC as forming part of the Contract.

3. Language andLaw

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

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 andEquipment

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'sRisks

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,

ab) an event occurring beforethe Completion Date, which was not itself a Procuring Entity's risk, or

ac) 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 theWorks 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 withthem.

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 islocated.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants 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 Sub-Clause

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) ArchitecturalAssociation 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 Theinstitutionwrittentofirstbytheaggrievedpartyshalltakeprecedence overall other institutions.

24.6 AlternativeArbitration 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 withArbitrator'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 andCorruption

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.

372 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

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

382 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.

383 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.

384 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.

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

386 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

387 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) adescription of any effect(s) ofthe change on performance/functionality.

388 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.

389 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 FlowForecasts

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.

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: Pis the adjustment factor for the portion of the Contract Price payable.

A and B are coefficients[13] specified in the SCC, representing the non-adjustable and adjustable portions, 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 specifiedin 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 theContract

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. FinalAccount

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.

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 oramalgamation;

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 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

h) 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 ornot.

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 **COUNTY GOVERNMENT OF KILIFI**
GCC 1.1 (u)	The Intended Completion Date for the whole of the Works shall be **...** .....**[**insert date]
GCC 1.1 (x)	The Project Manager is **The County Works Officer, Department of Roads Transport and Public Works- County Government of Kilifi**.
GCC 1.1 (z)	The Site is located at **GEDE HEALTH CENTER IN DABASO WARD** and is defined in drawings No..... [insert numbers]
GCC 1.1 (cc)	The Start Date shall be..... [insert date].
GCC 1.1 (gg)	The Works consist of: **The works to be carried out under this contract involves; The works to be carried out under this contract involves; Erection and completion of Gede Accident and Emergency Centre; substructures, concrete structure, coral stone walling, roof structure and roofing, external and internal finishes, associated mechanical and electrical services and external works (Foul water drainage, Septic tank, Soak pit, storm water drainage, landscaping.).**
GCC 2.2	Sectional Completions are: ……..…… …..... [insert nature and dates, if appropriate]
GCC 5.1	The Project manager may delegate any of his duties and responsibilities.
GCC 8.1	Schedule of other contractors**: N/A**
GCC 9.1	Key Personnel GCC 9.1 is replaced with the following: 9.1 Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Special Conditions of Contract. 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. [insert the name/s of each Key Personnel agreed by the Procuring Entity prior to Contract signature.]

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: [insert amounts]. (b) For loss or damage to Equipment: [insert amounts]. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract [insert amounts]. (d) for personal injury or death: (i) of the Contractor's employees: [amount]. (ii) of other people: [amount].
GCC 14.1	Site Data are: **[NOT APPLICABLE]**
GCC 20.1	The Site Possession Date(s) shall be: shall be agreed by the **Client and Project Manager.**
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: **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**
	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: To be agreed upon by the parties.
B. **Time Control**	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within **14 days** from the date of the Letter of Acceptance.
GCC 26.3	The period between Program updates is **60 days**. The amount to be withheld for late submission of an updated Program is **Kshs 10,000.00**
C. **Quality Control**	
GCC 34.1	The Defects Liability Period is: **180 days.**
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 _____% (insert appropriate percentage. The percentage is normally up to 50%) of the reduction in the Contract Price.
GCC 44.1	The currency of the Procuring Entity's Country is: **Kenya Shillings**
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. The coefficients for adjustment of prices are: (a) [insert percentage] percent nonadjustable element (coefficient A).

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	(ib) [insert percentage] percent adjustable element (coefficient B). (c) The Index I for shall be [insert index].
GCC 46.1	The proportion of payments retained is **10%**
GCC 47.1	The liquidated damages for the whole of the Works are **0.10%** 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 **0%** per day. The maximum amount of Bonus for the whole of the Works is 0% of the final Contract Price.
GCC 49.1	The Advance Payments shall be: [insert amount(s)] and shall be paid to the Contractor no later than [insert date(s)]. **NOT APPLICABLE**
GCC 50.1	The Performance Security amount is ***Kenya Shillings Four Million (Kshs. 4,000,000.00)*** denominated in the types and proportions of the currencies in which the Contract Price is payable, or in a freely convertible currency acceptable to the Procuring Entity] (a) Performance Security – Bank Guarantee: in the amount(s) of [insert related figure(s)] percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount. (b) Performance Security – Performance Bond: in the amount(s) of [insert related figure(s)] percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is on **practical completion.** The date by which "as built" drawings are required is **before the expiry of the defects liability period**
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 **Kenya Shillings Fifty Thousand (Kshs. 50,000.00).**
GCC 57.2 (g)	The maximum number of days is: **50 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 **20%.**

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'sAuthorized 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 words_____)

   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 toAward.

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, wewill provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the ContractAward Notice.

6. How to make a complaint

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

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

i) Attention: [insert full name of person, if applicable]

ii) Title/position: [insert title/position]

iii) Agency: [insert name of Procuring Entity]

iv) Email address: [insert email address]

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

d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website 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) Youmust 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 hesitateto 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 thematter 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),[1] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

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

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

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

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

[1]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.

[2]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

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 BONDNo.:_____

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 behalfof 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 PAYMENTGUARANTEE No.:_____[Insert guarantee reference number]

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

letterhead]

1. We have been informed that_____(hereinafter called "the Contractor") has entered into Contract No._____dated_____with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____(in words) is to be made against an advance payment guarantee.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(in words _____)[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
   a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which theApplicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number __at ___.

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____day of_____, 2 ,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

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

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

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[1]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.

[2]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 fro m the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM NO. 8 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

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

Date:_____[Insert date of issue]

Advance payment guarantee no. [Insert guarantee reference number]

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

1. We have beeninformed that_____[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Contractor") has entered into Contract No. _____[insert reference number of the contract] dated_____with the Beneficiary, for the execution of_____[insert name of contract and brief description of Works] (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of [insert the second half of the Retention Money] is to be made against a Retention Money guarantee.

3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures] ([insert amount in words_____])[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or 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.....…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

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

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

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

[2]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 theguarantee.

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]

Public Procurement Regulatory Authority (PPRA)
National Bank Building, 11th Floor, Harambee Avenue
P.O Box 58535- 00200, Nairobi Kenya
Telephone: +254 020 3244000, 2213106/7
Email: info@ppra.go.ke Website: www.ppra.go.ke

SECTION V

SPECIFICATIONS AND PRICING NOTES

The contractor should read carefully the following specification for workmanship prepared in accordance with standard specifications for building works 1976

The contractor should read carefully the following specification for workmanship Edition prepared by the Department of Public Works

GENARAL ITEMS

A.1. Materials Generally

All materials used on the works shall be new and of the qualities and kinds specified herein and equal to approved samples. Deliveries shall be made sufficiently in advance to enable samples to be taken and tested if required. No materials shall be used until approved and all materials which are not approved or which are damaged, contaminated or have deteriorated in any way or do not comply in any way with the requirements of this specification shall be rejected and shall be immediately removed from the site at the Contractors expense.

A.2 Material for which there is a Kenya Bureau of Standard specification

All materials used in the works for which a Kenya Bureau of Standards Specification has been published shall conform with the latest edition thereof in every way. The Architect reserves the right to demand that the Contractor shall obtain at his own expense a certificate in respect of any materials to state that is in accordance with the Kenya Bureau of Standard specification.

A.3 Materials for which there is no Kenya Bureau of Standards specification

All materials used in the works for which no Kenya Bureau of Standards specification has been published shall conform with the British Standards Specification for such materials. If there are no published standards as specified for any materials, the quality of such materials shall be generally of a standard equal to those for which there is a Kenya Bureau of Standards or British Standard specification.

EXCAVATION AND EARTHWORK

B.1 Site Clearance

Site Clearance shall include the cutting down of all trees, stumps, bushes, vegetation and rubbish, burning the debris arising in approved locations and carting remaining material to a tip provided by the Contractor.

B.2 Nature of the Soil

The Contractor is advised to visit the site and ascertain the nature of the ground to be excavated and he shall price accordingly and no claim will be allowed for want of knowledge in this respect.

Rates for excavation shall include for excavation in soil, earth, black cotton, sandy soil, Murram, tuff, soft rock, boulders or whatever other subsoil is encountered except hard rock as defined below.

B.3 Foundation Excavations

a) The foundation trenches and column bases shall be excavated to the widths and depths of the concrete foundations shown on the drawings or to such widths and depths as the Engineer may instruct after examination of the excavations. Quantities of all excavations shall be measured and valued by the Quantity Surveyor and any difference between such measurements and the measurements herein given shall be dealt with as a variation to the Contract.

If however, the Contractor excavates to any greater depths than shown in the drawings or as instructed by the Engineer, then he shall at his own expense fill in such extra depth of excavation with concrete as specified for the foundations to the satisfaction of the Engineer. The Contractor shall not be paid for the cost of any excavation executed deeper or wider than shown on the drawings or instructed by the Engineer nor the cost of back filling such excavation or disposing of surplus.

B.4 Surplus Soil Disposal

Excavated material not required for subsequent refilling shall be removed to areas off site which shall be approved by the Architect.

B.5 Top Soil for Spreading

Where required in the Bills of Quantities, top soil required for subsequent spreading over finished work shall be especially selected and shall be dumped in special heaps as indicated by the Architect. Such top soil shall be reasonably free from vegetation to the

satisfaction of the Architect and shall be compacted as little as possible in the heaps.

B.6 Filling under Surface Beds in Buildings

i) Murram filling

Murram for filling as base course shall be from an approved source and of the highest quality. It shall be laid in layers not less than 150mm thick and not greater than 230mm thick prior to compaction. Water will be applied to O.M.O. and each layer will be thoroughly compacted by at least 8 passes of a 10 tonne smooth wheeled roller or a 2 tonne vibrating roller until all movement ceases and 100% C.B.R. is obtained.

ii) Hardcore filling

Hardcore filling shall be crushed rock, broken concrete or other approved hard granular materials broken to pass not greater than a 150mm ring or to be 75% of the finished thickness of the layers being compacted whichever is the less and graded so that it can be easily and thoroughly compacted by rolling. The filling is to be laid in layers each of a consolidated thickness not exceeding 230mm.

B.7 Anti-termite treatment

Where described the top surface of filling shall be treated with Gladiator T C Pesticides to be supplied and applied by Rentokil Ltd. P.O. Box 44360, Nairobi or other equal and approved firm strictly in accordance with the satisfaction of the Architect. The Contractor must destroy any termite nests found within the perimeter of the building and within 20 metres from the building externally and take out and destroy queens, impregnate holes and tunnels with approved insecticide and backfill with hard material, well rammed and consolidated. The specialist shall be required to issue a 10 year guarantee to the Employer.

B.8 Polythene Sheeting

Polythene sheeting shall be produced by an approved manufactuer. Joints in sheeting shall be treble folded with a 150mm fold and taped at 300mm intervals with 50mm wide back plastic adhesive tapes. The sheeting shall not stretched but shall be laid with sufficient wrinkles to permit shrinkage up to 15%.

The Contractor shall ensure that the membrane is not pierced buying laying and concreting.

B.9 Existing Services

Before commencing works, the Contractor shall at his own expense ascertain in writing from the relevant Local Authorities and all other Public bodies, companies and persons who may be affected, the position and depths of their respective ducts, cables, mains or pipes and appurtenance. He shall thereupon search for and locate such services.

Active existing services shall be adequately protected from damage or relocated as directed by the Architect. Inactive services shall be removed or sealed off in accordance with the direction of the Architect

B.10 Protection

The Contractor shall protect all graded and filled areas from the actions of the elements. Any settlement or washing away that occur prior to acceptance of the works shall be repaired and grades re- established to the required elevations and slopes.

CONCRETE WORK

C.1 Codes of Practice

All workmanship, materials, tests and performances in connection with reinforced concrete shall be in conformity with the latest edition of the British Standard for concrete works B.S. 8110 parts1 &2, B.S. 8004, B.S. 8007) and any other approved Local and International Standards. Where inconsistency exists between these preambles and these Standards, the Contractor shall notify the Engineer in good time for his Clarification as to which of the two implications on the Contract.

C.2 Supervision

A competent person approved by the Engineer shall be employed by the Contractor whose duty will be to supervise all stages in the preparation and placing of the concrete. All cubes shall be made and site tests carried out under his direct supervision on Consultation with the Engineer.

C.3 Cement

Cement unless otherwise specified shall be ordinary Portland Cement of a brand and source approved by the Engineer and shall comply with the requirements of K.S.02-21. A manufacturers certificate of test in accordance with K.S.02-21 shall be supplied for each consignment delivered to the Site.

C.4 Aggregate

Aggregates shall conform with the requirement K.S.02-95 and all the proposed sources, types and grading test results of all aggregates are to be approved in all respects by the Engineer before work commences.

If in the opinion of the Engineer the aggregate meets with the above requirements but is dirty or adulterated in any manner it shall be screened and/or washed with clean water at the Contractors expense.

Aggregate shall be delivered to the Site in their prescribed sizes or gradings and shall be stock-piled on paved areas to boarded platforms in separate units to avoid intermixing. On no account shall premixed cores aggregates be brought to the patching plant. On no account shall aggregates be stock-piled on the ground.

C.5 Water

The water used for mixing concrete shall be from an approved source, clean, fresh and free from harmful matter and comply with the requirements of B.S.3148

C.6 Quality Control at Works Stage

Once the concrete mix is accepted from preliminary to works stage, the principal basis of control shall be analysis of the cube test results at 28 days.

C.7 Cement

The Quantity of cement shall be measured by weight. Where delivered in bags, each batch of concrete is to contain one or more bags of cement in accordance with the proportions specified. For non-structural concrete, volume batching may be used as indicated below:

Class of concrete	15	10
Nominal mix by volume	1:3:6	1:4:8
Cubic metres of fine aggregate		
Per 50kg bag of cement	0.12	0.16
Cubic metres of coarse aggregate		
Per 50kg bag of cement	0.24	0.32

Max. size of coarse aggregate 40mm* 40mm* *or 20mm for blinding concrete where described.

Where batching is by volume, approved gauge boxes of such a size as will give the correct proportions shall be used, and full account shall be taken of bulking due to high moisture content.

C.8 Construction Joints

Construction joints shall be permitted only at the positions predetermined on the drawings or as instructed on the site by the Engineer. In general they shall be located at points of minimum shear, viz, vertical at, or near midspans of slabs, ribs and deems.

C.9 Faulty Concrete

Any concrete which fails to comply with these Preambles, or which shows signs or setting before it is placed small be taken out and removed from the bite, where concrete is round to be defective after it has set the concrete shall be cut out and replaced in accordance with the Engineers instructions. On no account shall any faulty, honeycombed, or otherwise defective concrete be repaired or patched until the Engineer has made an inspection and issued instructions for the repair.

C.10 Steel reinforcement

The steel reinforcement shall comply with the latest requirements of the following British Standards:

Hot rolled MS for the Reinforcement Concrete KS 02-22

Hot rolled MS for the Reinforcement Concretee KS 4449

Cold worked H.Y. steel for the Reinforcement Concretee BS 4461

Hard drawn steel Wire BS 4482

C.11 Fabric Reinforcement

Fabric reinforcement shall be electrically cross-welded steel wire mesh reinforcement to B.S. 4483 and of the size and weight specified and made of wire to B.S. 4482.

C.12 Fixing Steel Reinforcement

Reinforcement shall be accurately bent to the shapes and dimensions shown on the Drawings and Schedules and in accordance with B.S. 4466 and B.S. 8110. reinforcement must be cut and bent cold and no welded joints will be permitted unless to detailed or directed by the Engineer.

C.13 Formwork

The method and system of formwork which the Contractor proposed to use shall be approved by the Engineer before construction commences.

Formwork shall be substantially and rigidly constructed of timber, steel, plastic, precast concrete or other approved material.

All timber formwork shall be good, sound, clean, sawn, well-seasoned timber free from warps and loose knots and of scantlings sufficiently strong for their purpose.

WALLING

MATERIALS

D.1 Cement

Cement used for making mortar shall be as described in concrete work.

D.2 Lime

The lime for making mortar shall be obtained from an approved source and shall comply with BS 890 Class A for non-hydraulic lime. The lime to be run to putty in an approved lined pit or container. The water to be first run into the pit or container and the lime to be added until it is completely submerged, stirred be first run into the pit or container and the lime to be added until it is completely submerged, stirred stirred for at least four weeks. The resulting milk-lime then to be run through a fine sieve and run into a pit or other container and kept clean and moist for not less than two weeks before being used in the works.

D.3 Sand

Sand used for making mortar shall be clean, well graded siliceous sand of good sharp hard quality equal to samples which shall be deposited with and approved by the Architect. It shall be free from lumps of stone, earth, loam, dust, salt, organic matter and other deleterious substances, passed through a fine sieve and washed with clean water if so directed by the Architect.

D.4 Water

Shall be as described in Concrete work.

D.5 Stone

All stone shall comply with the requirements of CP 121.202 for masonry and rubble walls respectively except where amended or extended by the following clauses.

D.6 Reinforced Walls

Steel reinforcing bars in walls shall be carefully placed and spacers used to ensure that a minimum of 20mm cover is given to the reinforcement unless otherwise specified. Horizontal reinforcement in mortar joints shall be laid such that the reinforcement is not in contact with the blocks or stone.

D.7 Wall Ties

Wall ties shall be provided to connect walls to steel or concrete columns and beams to connect two unbounded leaves of wall. Wall ties shall be provided at 450mm centres both vertically and 900mm centres horizontally and shall be staggered when used to connect two leaves of unbounded wall. Wall ties shall be embedded into each material by a minimum of 50mm

D.8 Fair Face

All concrete and hollow blockwork described as finished with a fair face is to be built to a true and even face with the joints finished as specified hereinafter.

D.9 Pointing

Pointing of walls shall be prepared for pointing by raking out all loose or friable material to a minimum of 15mm to form a square recess. The joints shall then be wetted and new mortar shall be forced into the joints and finished as directed.

GLAZING

MATERIALS

E.1 General

Glass used in glazing and for mirrors shall be best quality clear glass free from visible defects so that to afford uninterrupted vision or reflection as appropriate and without obvious distortion.

E.2 Standards

Glass for glazing and mirrors shall be approved manufacture and is to comply with B.S. 952 in all respects free from flaws, bubbles, specks and other imperfections.

E.3 Clear sheet glass etc.

The clear sheet glass shall be ordinary glazing (OG) quality.

E.4 Obscured Glass

To be of type described and as approved Architect.

E.5 Putty

The putty for glazing to wood sashes is to be linseed oil putty all as B.S. 644.
Workmanship

E.6 General

Glazing of all types in all locations shall be carefully executed by artisans skilled in this type of work and in conformance with the recommendations of CP 152. Glazing shall be carefully fitted so that it is not subject to pressure and stresses imposed by being an overtight fit within framing.

METALWORK

MATERIALS

F.1 Generally

All materials shall be the best of their respective kinds free from defects and all work is to be carried out in the most workmanlike manner and strictly as directed by the Architect. The materials in all stages of transportation, handling and stacking shall be kept clean and prevented from injury by breaking, bending or distortion and weather action.

F.2 Mild Steel

Mild steel shall comply with B.S. 15.

F.3 Hollow Section Tubing

Square and rectangular hollow section tubing shall be hot rolled mild steel in accordance with Grade 43C of B.S.4360.

F.4 Bolts, Nuts and Washers

These shall be fabricated from materials which comply with B.S.15 and each manufactured item shall comply with the appropriate B.S.

F.5 Galvanized Sheet Steel

To be No.24 S.W.G. of approved manufacture to B.S. 2989 of quality mild steel sheets cold rolled close annealed patent flattened and hot dip galvanized.

F.6 Stainless Steel

Stainless steel tube shall be Asthenic steel B.S. comparable to B.S. 1449 Type 316 S 16

F.7 Steel Grilles

Steel Grilles shall be manufactured from section confirming with B.S.990 of heavy-duty sections of the metric W20 range of approved manufacture and design approved by the Architect.

After manufacture and before delivery to site steel windows are to be hot galvanized by dipping in a bath of molten zinc or painted with one coat primer.

WORKMANSHIP

F.8 Welding

All welding is to be in accordance with the requirements of B.S.1856 and 938 and the electrodes shall comply with B.S. 639

F.9 Painting

All steel is to be wire brushed and any loose scale, dirt or grease shall be removed before any painting is commenced. One coat of red oxide primer type A to B.S. 2523 shall be applied at the shop.

Any damage to the printing paint shall be made good to the Architects satisfaction.

F.10 Fixing of Steel Grilles

Fixing of metal grilles shall include for assembling and fixing, including screwing to sub-frames or cutting mortices for lugs in concrete or walling and running with cement mortar 91:4), bedding frames in similar mortar, pointing in mastic, bedding sills, transoms and mullions in mastic, making good finishing's around both sides and fixing, and adjusting all fittings and frames.

FLOOR, WALL AND CEILING FINISHING

PLASTERWORK

G.1 Generally

Render, both internal and external shall be cement and sand in the proportions 1:4 finished to the thickness specified.

Plaster shall consist of an undercoat of 1 part cement to 6 parts sand by volume, and a finishing coat of 1 part cement to 10 parts lime putty. Each coat shall be finished to the thickness specified.

G.2 Cement

Ordinary Portland cement and shall comply with K.S. 02-21. White and coloured cements shall comply with B.S. 12 and be obtained from an approved manufacturer.

G.3 Lime

Lime shall be prepared from hydrated lime complying with B.S. 890, Part 2.

G.4 Sands

Sands for cement and lime mixes shall comply with B.S. 1199, Table 1.

G.5 Water

Water shall be clean and kept free from all impurities.

G.6 Mixing of materials

All materials shall be thoroughly mixed in the proportions described. No mixes of plasters, other than described shall be used.

G.7 Period between coats

Cement - lime undercoats shall be allowed to dry out thoroughly before a further coat is applied.

G.8 Surfaces of beds and backings

Screeded beds for insitu finishings of floor finishings bedded in mortar, shall be left rough from the screeding board.

Floated beds for inflexible floor finishings bedded in mastic, shall be left with a plain untextured surface.

Trowelled beds for flexible finishings shall be finished smooth and free from score marks, grooves or depressions.

Screeded backings for insitu wall finishings or wall finishings bedded in mortar shall be scratched for key.

Floated backings for inflexible wall finishings fixed with adhesive shall be left with a plain surface.

Trowelled backings for flexible wall finishings shall be finished smooth and free from score marks or depressions.

Beds and Backings for finishings by specialists shall be to the approval of the specialist.

G.9 Preparation of surfaces

All surfaces to receive the finishings in this section shall be thoroughly cleaned. Screeds to receive finishings bedded in mortar shall be well wetted before laying is commenced

PAINTNG AND DECORATING

MATERIALS

H.1 Colour range

Painting and decorative schemes shall be carried out in colours selected by the Architect from the approved range of colours.

H.2 Approval of brands

The Contractor shall seek, in writing, approval from the Architect for all brands of paint he wishes to use.

H.3 Quality of Products

Where a type of paint is produced by the Manufacturer in more than one quality, only paints and materials of the first or best quality shall be used in the works. The container label shall indicate clearly the quality of the paint being used.

Where it is not evident that the first or best quality of paint is being used, the Architect will order the removal of such materials from the site and rectification of any work executed with those materials, all at the Contractors expense.

H.4 Same makers materials used for coating

While materials for the work may be obtained from several makers, undercoats and finishing coats for a particular surface must be obtained from the same maker, (i.e. one makers undercoat).

H.5 Remedying defects due to defective materials

All materials, which in the opinion of the Architect are unsatisfactory shall be immediately removed from the site and any work executed with such defective materials shall be made good by the Contractor, at his expense, to the satisfaction of the Architect.

H.6 Emulsion paint

Emulsion paint (interior and/or exterior), shall have a P.V.A. base and shall be of an approved brand. The first coat shall be thinned in accordance with the manufactures instructions. Where described as applied externally, the paint shall incorporate an approved fungicide to prevent fungus growth.

H.7 Black bituminous paint

Black bituminous paint shall comply with B.S. 3416, Type 1 for general use, Type ii for drinking water tanks.

H.8 Primer for iron and steelwork

Primer for iron and steelwork shall be:-

A. **Lead based priming paint complying with B.S. 2523, Type B.**

B. **Calcium plumbate priming paint complying with B.S. 3698, Type A.**

H.9 Primer for woodwork

Primer for internal woodwork, other than the internal surfaces of external doors, windows and their frames and backs of frames and linings, etc. in contact with masonry, concrete or plaster, shall be leadless white or light grey priming paint not darker than 9-093 of B.S. 4800 which shall be compatible with the subsequent coats and obtained from the same maker.

H.10 Oil paints

Hard gloss, semi-gloss matt and flat oil paints, and respective undercoats, shall be approved quality, as appropriate.

H.11 Polyurethane lacquer

Polyurethane lacquer shall be an approved single pack or two pack lacquer as described of interior or exterior quality, as appropriate.

H.12 Plaster, rendering, concrete blockwork and brickwork

All plaster or mortar splashes, etc shall be removed from plaster rendering, concrete, block work and brickwork by careful scraping; all holes, cracks, etc., shall be stopped and the whole of the surfaces shall be brushed down to remove dust and loose materials. In addition, all traces of mould oil shall be removed from concrete surfaces by scrubbing with water and detergent and rinsing with clean water to remove all detergent.

H.13 Iron and steel

Before fixing, all rust and scale shall be removed from iron and steel surfaces by wire-brushing, scraping, hammering, flame cleaning etc.

H.14 Hardwood

All dirt and grease shall be removed from hardwood surfaces. After priming, all nail holes and other imperfections shall be stopped.

H.15 Fibreboard

All dirt shall be brushed off from fibreboard surfaces. After priming all nail holes and other imperfections shall be stopped.

H.16 Plywood

Surfaces of plywood to be painted shall be filled as required with a plaster based filler for internal work, and a filler as described in stopping here before for external work, and then rubbed down and all dust and loose materials brushed off.

H.17 Woodwork to be painted

Before fixing woodwork, all surfaces which will be visible after fixing shall be rubbed down and all knots and resin pockets shall be scorched back and coated with knotting.

After priming and fixing, all nail holes and other imperfections shall be stopped and the whole surface shall be rubbed down and all dust brushed off.

H.18 Woodwork to receive clear finish

All holes and other imperfections in surfaces to receive a clear finish shall be stopped and the whole surface shall be rubbed down to a fine satin finish and all dust brushed off.

Workmanship

H.19 Standard of workmanship

Prior to the commencement of internal or external decoration, areas not exceeding 50 square metres in total area, and designated by the Architect, shall be completely decorated, and after approval shall be used as a standard for the whole of the works. Any additional cost involved in carrying out such decoration in advance of the general work shall be deemed to be included in the Contract Sum. Such

decorated surfaces shall be made good and touched up as necessary prior to the handing over of the works.

H.20 Stirring of materials

The contents of all cans and containers of all materials must be properly and thoroughly stirred before and during use and shall be suitably strained as and when necessary.

H.21 Manufacturer's instructions

All materials shall be used strictly in accordance with instructions issued by the manufacturers concerned. The addition of thinners, driers or other materials will only be permitted when specially required by the maker and the procedure approved by the Architect.

H.22 Brush work

Unless otherwise described, all coatings shall be applied by Brush. Written permission must be obtained from the Architect for the application of coatings by spray or roller where not so described, and if permission is granted, such application shall not result in extra cost to the Employer.

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.

F. 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.

G. 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.

H. PLASTERWORK AND OTHER FINISHES

All finishing's shall be as described in the general specifications and in these Bills of Quantities. Prices for pavings 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.

I. 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.

J. 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	K.SHS
	PARTICULAR PRELIMINARIES	
A	**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.	
B	**DESCRIPTION OF THE WORKS** The works to be carried out under this contract involves; The works to be carried out under this contract involves; Erection and completion of Gede Accident and Emergency Centre; substrucures, concrete structure, coral stone walling, roof structure and roofing, external and internal finishes,associated mechanical and electrical services and external works (Foul water drainage, Septic tank, Soak pit, storm water drainage, landscaping.).	
C	**FLOOR AREAS** The total gross floor areas are approximately:**1260 square metres;** The total gross floor area is given without warranty but for guidance only.	
D	**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 22 of the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 22 of the said Conditions.	
E	**LOCATION OF SITE** The site of the proposed works is located Gede Health Centre in Dabaso ward, Kilifi county. 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.	
F	**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.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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	
B	**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.	
C	**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 contract period.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
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 23 of the 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 COUNTY GOVERNMENT OF KILIFI. The Contractor shall allow in his rates the cost of transporting the demolished materials as directed.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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.	
B	**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.	
C	**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. 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.	
D	**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.	
E	**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.	
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.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**PERFORMANCE BOND** A bond of 5% of the contract sum will be required in accordance with clause 6.00 (as amended) 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.	
B	**TENDER DOCUMENTS** Tender documents are as listed in Clause 2.1 of the Instruction to Tenderer's Page STD/8	
C	**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.	
D	**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. **NB**: VAT shall be added at the Grand Summary page	
D.	**CAPACITY BUILDING LEVY BY PPRA** The Contractor's attention is drawn to Section 24(5) d and 180 of the PPAD Act, Public Procurement Capacity Building Levy Order, 2023, legal notice No. 206 of 6th Novemebr 2023, which provides that "a procuring entity is mandated to ensure that there shall be a paid levy by the supplier on all procurement contacts signed between the supplier and procuring entity at the rate of 0.03% of the value of the signed contract exclusive of applicable taxes."	
E.	**Allow for taxes, profits, overheads & Attendance on Item D above .....%**	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
	PROJECT MANAGERS EXPENSES **The funds reffered to items PP/6A, PP/6B , PP/6C, PP/6D and PP/6E below shall be disbursed to the concerned officers in advance in every month by the contractor for the duration of the contract. Please note that a Petty Cash Voucher must be signed by the receiving officer on reciept of the monies to anable reinbursement of the monies on the subsequent payment certificate.**	
A	Provide **mobile phone airtime** worth Kenya Shillings Three thousand (Kshs 3,000.00) only per person per calender month for Seven (8 No.) Public works Officers (Chief Officer,County Works Officer, Architect, Quantity Surveyor, Structural Engineer, Mechanical Engineer, Electrical Engineer and Clerk of Works) for the duration of the contract period. Allow for Contractor's profit and overheads (…….%)	**360,000.00**
B	Provide **Lunch** worth Kenya Shillings Two thousand (Kshs 2,000.00) only per person per every site visit/ site inspection for (9 No.) Public works Officers (Chief Officer, County Works Officer, Architect, Quantity Surveyor, Structural Engineer, Mechanical Engineer, Electrical Engineer, Clerk of Works and Driver) for the duration of the contract period. Allow for Contractor's profit and overheads (…….%)	**100,000.00**
C.	Provide **Fuel** worth Kenya Shillings Fifty Thousand (Kshs 50,000.00) only for site visit facilitation for the duration of the contract period. Allow for Contractor's profit and overheads (…….%)	**50,000.00**
D.	Provide **Project Documentation Expenses** worth Kenya Shillings One Hundred Thousand (Kshs 100,000.00) only for site visit facilitation for the duration of the contract period. Allow for Contractor's profit and overheads (…….%)	**100,000.00**
	DEPARTMENT OF HEALTH SERVICES- KILIFI COUNTY GOVERNMENT	
E.	**Allow for Project Management Expenses for Department of Health services- Kilifi County Government** Allow for Contractor's profit and overheads (…….%)	250,000.00
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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** **3** Months From Practical completion **Defects Liability Period** **6** Months from Practical completion **Date for Possession** To be agreed with the Project Manager **Date for Completion** …64.. Weeks from date of Possession **Liquidated and Ascertained** At the rate of Kshs.. **30,000**… per week 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	K.SHS
	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	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

GENERAL PRELIMINARIES

ITEM	DESCRIPTION	K.SHS
	GENERAL PRELIMINARIES	
A.	**PRICING 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 all the requirements for the proper execution of the whole of the works in the Contract.	
	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	K.SHS
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 checking and 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.	**EMPLOYER** The "Employer" is MINISTRY OF EDUCATION The term "Employer" and "Government" wherever used in the contract document shall be synonymous	
C.	**PROJECT MANAGER** The term "P.M." 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.	
D.	**ARCHITECT** The term "Architect" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Architect- Kilifi county P.O. Box 409 Kilifi	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**QUANTITY SURVEYOR** The term "Quantity Surveyor" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Quantity Surveyor- Kilifi county P.O. Box 409 Kilifi	
B	**ELECTRICAL ENGINEER** The term "Electrical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Electrical Engineer- Kilifi county P.O. Box 409 Kilifi	
C	**MECHANICAL ENGINEER** The term "Mechanical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Mechanical Engineer - Kilifi county P.O. Box 409 Kilifi	
D	**STRUCTURAL ENGINEER** The term "Structural Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Structural Engineer - Kilifi county P.O. Box 409 Kilifi	
E	**FORM OF CONTRACT** The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building Works(2000 Edition) included herein The Conditions of Contract are also included herein *Conditions of Contract* These are numbered from 1 to 37 as set out in pages *18 to 38* of these tender documents. Particulars of insertions to be made in the Appendix to the Contract Agreement will be found in the Particular Preliminaries part of these Bills of Quantities	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**BOND.** The Contractor shall find and submit on the Form of Tender an approved bank who will be willing to be bound to the Government in an amount equal to five per cent (5) of the Contract amount for the due performances of the Contract up to the date of completion as certified by the PROJECT MANAGER and who will, when and if called upon, sign a Bond to that effect on the relevant standard form included herein. (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Government, the Contractor shall furnish within seven days another Surety to the approval of the Government.	
B	**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 specificallyand 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.	
C	**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.	
D	**MATERIALS AND WORKMANSHIP.** All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also ensure they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
E	**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	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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.	
B	**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 Roads, Housing and 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.	
C	**GOVERNMENT ACTS REGARDING WORKPEOPLE 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. In particular the Contractor's attention is drawn to the provisions of the Factory Act 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.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**SECURITY OF WORKS ETC.** The Contractor shall be entirely responsible for the security of all the works stores, materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	
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.	
E	**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 The Contractor should also allow for relocating existing fence (approx. 30 metres long).	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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	
B	**OFFICE ETC. FOR THE PROJECT MANAGER** The Contractor shall provide, erect and maintain where directed on site and afterwards dismantle the site office of the standard type, complete with furniture. He shall also provide a strong metal trunk complete with strong hasp and staple fastening and two keys. He shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen tape.	
C	**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.	
D	**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	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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.	
B	**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. Such sums are net and no addition shall be made to them for profit.	
C	**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. Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.	
D	**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.	
E	**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 pro-rata to the amount paid. Items of "attendance"	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**ADJUSTMENT OF P.C. SUMS. Ctd…….** 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	**ADJUSTMENT OF PROVISIONAL SUMS.** In the final account all Provisional Sums shall be deducted and the value of the work properly executed in respect of them upon the PROJECT MANAGER's order added to the Contract Sum. Such work shall be valued as described for Variations, but should any part of the work be executed by a Nominated Sub-Contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added.	
C	**NOMINATED SUB-CONTRACTORS** When any work is ordered by the PROJECT MANAGER to be executed by nominated sub-contractors, the Contractor shall enter into sub-contracts and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors 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".	
D	**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.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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 ordinary scaffolding. 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.	
B	**INSURANCE** The Contractor shall insure as required in Clause 30 of the 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.	
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.	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A	**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.	
B	**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 be dealt 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.	
C	**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.	
D	**REMOVAL OF RUBBISH ETC.** Removal of rubbish and debris from the Buildings and site as it accumulates and at the completion of the works and remove all plant, scaffolding and unused materials at completion.	
E	**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	
	Carried to collection	

ITEM	DESCRIPTION	K.SHS
A.	**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, 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.	
B.	**TRAINING LEVY** The Contractor's attention is drawn to legal notice No. 237 of October, 1971, 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 Kshs. 50,000.00 in value.	
C.	**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.	
D.	**HOARDING** The Contractor shall enclose all the site under construction with a hoarding 2400 mm high consisting of iron sheets gauge 30 on 100 x 50 mm 2nd grade treated sawn cypress timber posts firmly secured at 1800 mm centres with two 75 x 50 mm 2nd grade treated sawn cypress timber rails **(Approximately 200 linear mitres)**. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site.	
E.	**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	K.SHS
	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	
	Brought Forward From Page GP/ 11	
	Brought Forward From Page GP/ 12	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY	

BUILDER’S

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 1 **SUBSTRUCTURES (All provisional)** ***Note: All excavations shall be measured nett and no allowances for working space shall be allowed***				
	Site Preparation				
A	Oversite excavation to remove top soil, grab up roots and disposed as directed	1,216	SM		
	Excavation				
B	Excavate to reduce levels not exceeding 1500 mm deep approximately 300 mm deep	306	CM		
C	Ditto for foundation trenches in soft coral rock from reduced level : not exceeding 1.50 metres deep	514	CM		
D	Ditto for column and column bases from reduced level not exeeding 1.50 metres deep	420	CM		
E	Extra over all descriptions of excavations and removal from site for breaking up rocks: irrespective of class	140	CM		
	Disposal of excavated material				
F	Fillings around sub- walls: backfill and compact in 150 mm layers: selected excavated materials	366	CM		
G	Remove surplus soil from site and deposit in soil heaps and later spread on site as directed	568	CM		
	Planking and strutting				
H	Planking and strutting to sides of all excavations: keep excavations free from all fallen materials		ITEM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Disposal of Water				
A	Keep excavations free from all water including spring or running water.		ITEM		
	Hardcore Filling				
B	300mm Thick layer of imported hardcore filling including levelling and consolidating in 150mm layers	905	SM		
C	Imported filling in selected red soil to make-up levels; compacted in layers not exceeding 150 mm thick	269	CM		
	Murram				
D	50mm Thick Quarry dust blinding to the surface of hardcore rolled smooth to receive polythene sheeting	1,021	SM		
	Insecticide treatment				
	Premise SC or other equal and approved termiticide 0.5% solution to be applied at the rate of 4 litres per square metre on top of hardcore filling over foundation walls				
E	To Quarry dust surface	1,021	SM		
	CONCRETE WORK				
	Insitu concrete mix (1:3:6): in				
F	50 mm Blinding to strips	346	SM		
G	50 mm Blinding to column bases	280	SM		
	Insitu reinforced concrete: (mix 1:1.5 :3) grade 25 (20 mm aggregate): vibrated in:-				
H	Strip foundation	69	CM		
I	Column bases	132	CM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Insitu cocrete cont'd				
A	Columns	15	CM		
B	Ground beam	28	CM		
C	150mm thick sloping ramp	12	SM		
D	150mm Thick ground floor slab	1,009	SM		
	High yield square twisted bars to B.S. 4461				
E	8mm diameter	1,220	KG		
F	10mm diameter	1,622	KG		
G	12mm diameter	3,714	KG		
H	16mm diameter	4,695	KG		
I	20mm diameter	560	KG		
J	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and distance blocks.	1,021	SM		
	Sawn formwork: to				
K	Vertical: sides of foundations in trenches	231	SM		
L	Vertical: sides of column bases	259	SM		
M	Vertical: sides of columns	159	SM		
N	Vertical sides of ground beam;	284	SM		
O	Edges of ramp over 75 but not exceeding 150mm wide	10	LM		
P	Edges: slab over 75 but not exceeding 150 mm wide	156	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	WALLING **Approved local stone; roughly squared ; bedded and jointed in cement mortar 1:4**				
A	200 mm thick walls	856	SM		
	DAMP PROOFING **1000 Gauge polythene; 150mm laps; no allowances made for laps**				
B	Horizontal; over 300mm wide	1,021	SM		
	FINISHES				
C	15mm Thick cement sand (1:4) rendering to plinth; wood float finish	88	SM		
D	Prepare and apply three coats of premium quality bituminous paint to rendered walls; externally	88	SM		
	Paving slabs				
E	Excavate oversite average 200mm deep and cart away where directed	196	SM		
F	Excavate trench for edge wall foundation average 600mm deep, part return fill and ram remainder cart away	54	CM		
G	Plain concrete (1:3:6) in strip foundation	14	CM		
H	150mm thick coral block edge walling in cement sand (1:3)mortar	91	SM		
I	300mm thick approved hardcore handpacked and compacted as before described	196	SM		
J	Treat hardcore surface and tops of walls with approved insecticide	196	SM		
K	600x600x50mm pre-cast concrete (1:2:4) paving slabs pointed in cement sand (1:3) mortar and laid on 50mm approved bed of sand.	196	SM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION **SUBSTRUCTURE** Brought forward from page GAE/1 Brought forward from page GAE/2 Brought forward from page GAE/3 Brought forward from page GAE/4				
	TOTAL FOR SUBSTRUCTURE CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	RC SUPERSTRUCTURE				
	Insitu concrete mix(1:1.5:3) grade 25 (20mm aggregate): vibrated: reinforced				
A	Beams	62	CM		
B	Columns	32	CM		
C	Staircase	1	CM		
D	200mm thick wall	50	SM		
E	150mm thick suspended slab and landings	999	SM		
F	100mm thick concrete gutter	27	SM		
	Steel reinforcement as described including cutting to lengh,bending,hoisting and fixing including all necessary tying wires and spacing blocks.				
	High yield square twisted bars to B.S. 4461				
G	8mm diameter bars	3,069	KG		
H	10mm diameter bars	13,240	KG		
I	12mm diameter bars	3,862	KG		
J	16mm diameter bars	3,644	KG		
K	20mm diameter bars	1,928	KG		
L	25mm diameter bars	2,308	KG		
	Sawn formwork: to				
M	Sides of Columns	352	SM		
N	Sides and soffits of beams	555	SM		
O	Soffits of suspended slab and landings	999	SM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Sawn formwork Cont'd				
A	Sloping soffits of staircase	22	SM		
B	Sides of concrete wall	100	SM		
C	Sides and soffits of concrete gutter	27	SM		
D	Edges of slab over 75mm but not exceeding 150mm wide	183	LM		
E	Edges of risers 75mm to 150mm girth	63	LM		
F	Edges of staircase string 300mm extreme girth	29	LM		
	Carried to collection				
	RC SUPERSTRUCTURE Brought forward from page GAE/6 Brought down from page GAE/7 above				
	TOTAL FOR RC SUPERSTRUCTURE CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3				
	EXTERNAL WALLS				
	NATURAL STONE WALLING				
	Approved natural stone; fine squared chisel dressed one side; bedded and jointed in cement mortar (1:3)				
A	Walls 200 mm thick reinforced with and including 20swqx25mm wide hoop iron in every alternate course	391	SM		
B	Ditto parapet walling	183	SM		
C	Ditto duct wall	84	SM		
	Bituminous or other equal approved damp-proof course; 3 ply membrane				
D	Horizontal; 200mm wide under walls	148	LM		
	TOTAL FOR EXTERNAL WALLING CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	INTERNAL WALLS				
	NATURAL STONE WALLING				
	Approved natural stone; roughly squared chisel dressed ; bedded and jointed in cement mortar (1:3)				
A	Walls 200 mm thick reinforced with and including 20swqx25mm wide hoop iron in every alternate course	639	SM		
B	Ditto 150mm thick wall.	106	SM		
	Bituminous or other equal approved damp-proof course;				
	3 ply membrane				
C	Horizontal; 200mm wide under walls	276	LM		
D	Ditto; 150mm wide	53	LM		
	Striking guard rail				
E	150 x 50 mm wrot mahogany twice moulded striking wall guard railing screwed to wall with 300 mm long counter sunk screw including wedged 150 x 50 x50 mm deep wrot mahogany backing spaced at 600 mm centers grouted to wall and 50 x 100 x 50 mm wrot mahogany spacers to Architect's design, detail and approval	103	LM		
	TOTAL FOR INTERNAL WALLING CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	FLAT ROOF AND RAINWATER DISPOSAL				
	Flat roof finishes				
A	75mm thick (average) light weight roof screed consisting of cement, sand and pumice or vermiculite (1:3:7) finished with 12mm thick cement sand (1:4) topping complete with burnt clay tiles laid to falls to flat roof, all to project manager's approval	962	SM		
B	50 x 50mm internal angle fillet	130	LM		
C	300 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	151	LM		
	TRUSSES (All Provisional)				
	All timber to be sawn cypress of G.S grade seasoned to an equilibrium moisture content between 9% and 15% and to a requirement of K.S 02771 of 1991 treated with approved				
	The following Nailed timber trusses including hoisting and placing 3000mm above ground floor level				
D	100x50mm trussed rafter	112	LM		
E	150 x 50mm Tie Beam/ Ceiling joist	110	LM		
F	100x50mm Struts and ties	69	LM		
	Non-truss members				
G	75 x 50 mm purlins	203	LM		
H	220 x 25 mm Facia/ barge board	21	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	100x50mm wall plate on and including 10mm cement and sand (1:4) mortar bed secured to reinforced concrete ring beam (m.s) by 12x250mm long mild steel anchor bolts at 1200mm centres (m.s)	42	LM		
B	16mm diameter x 250mm long mild-steel bolt with nut and two washers	35	No.		
	Covering				
	28 Gauge prepainted Box Profile Resincot roofing sheets fixed with and including Nails, cups and washer on purlins as (MRM Ltd)				
C	Roof covering	149	SM		
	Rainwater Goods				
D	Extra over for forming 160mm diameter hole for down pipe	10	No.		
E	160mm downpipes in concrete columns to approval	40	LM		
F	Extra over downpipe for 160mm diameter anti splash shoe	10	No.		
G	Extra, 150mm flubora outlets including galvanised expanded metal mesh	10	No.		
H	450 mm girth flashing one end built in mortar in groove in wall/concrete gutter other dressed over roof covering	130	LM		
	Carried to collection				
	COLLECTION **ROOF AND RAIN WATER DISPOSAL** Brought forward form page GAE/10 Brought down form page GAE/11				
	TOTAL FOR ROOF AND RAIN WATER DISPOSAL CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	DOORS:				
	Hardwood Panel door				
	The following in Hardwood panel doors complete with frames , mahogany to Architects Detail				
A	45mm thick (finished) framed six (6) raised panel single leaf fanlight door size 900x2700mm overall, openable leaf size 900x2400mm high, panel filled with and including 25mm thick hardwood panels including 40x20mm moulded beading all finished for painting. Ref D3	39	No		
B	Ditto but double leaf door overall size 1800x2700mm high with No equal openable leafs size 900x2400mm high. Ref D5	3	No		
C	Ditto but single leaf, double swing door size 1000 x 2700 mm with 1No openable leaf size 1000x2400mm high. Ref D6	2	No		
D	Ditto but double leaf door overall size 1200x2700mm high with No equal openable leafs size 600x2400mm high. Ref D9	2	No		
	Solid core flush doors; finished with scratch proof mahogany laminate; hardwood lipped on all edges and to look like framed door; Complete with solid blocking for pressed ironmongery:				
E	45mm thick double leaf, double swing door size 1500x2700mm high with 2 No. equal openable leafs size 750x2400mm high Ref D4	1	No		
F	Ditto but with 1.5mm lead lining	1	No		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	Ditto but double leaf, double swing door size 1800x2700mm high with 2 No. equal openable leafs size 900x2400mm high Ref D7	2	No		
B	Ditto but double leaf, double swing door size 1200x2700mm high with 2 No. equal openable leafs size 600x2400mm high Ref D8	2	No		
C	Ditto but double leaf, double swing door size 1400x2700mm high with 2 No. equal openable leafs size 700x2400mm high Ref D10	4	No		
D	Single leaf door ,45mm thick; size 900x2100mm high. Ref D11	6	No.		
E	**Aluminium framed duct doors** 50 mm thick Heavy duty Aluminium Louvered Double leaf Door overall size 700 x 2100mm high comprising 100 x 49.2 x 2.5mm thick top rail, 100 x 49.2 x 2.5mm thick bottom rail, mulion and stiles, 50 mm thick aluminium fixed louvers, 100 mm thick pressed aluminium butt hinges and 2 lever mortice lock complete with furniture all to Architects detail and approval Ref. D1	15	No.		
F	Ditto but 800x2100mm high Ref D2	2	No.		
	<u>The following in wrot Mahogany hardwood</u>				
G	150 x 50mm frame with two labours	393	LM		
H	150 x 50 mm Transome	60	LM		
I	50 x 25mm. Splayed architrave.	393	LM		
J	25 mm quadrant	393	LM		
K	10 x 10m Glazing beading secretly nailed to approval	153	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	GLAZING				
A	5mm thick clear glass to timber with beads (m.s) in panes 0.10-0.50 S.M	18	SM		
	Metal fixing cramps				
B	30 x 3mm. Approved door cramps 250mm. Long once bent one end drilled and screwed to wood	462	No.		
	Ironmongery				
	Supply and fix the following ironmongery from 'UNION' or other equal & approved manufacturer including all necessary matching screws.				
C	3 - Lever mortice lock with aluminium furniture No. 2243	62	No.		
D	100mm. Pressed aluminium butt hinges;	83	PRS		
E	38mm. Diameter door stop No.8400	62	No.		
F	Heavy duty double action hinges to approved sample (2pairs on each leaf)	44	PRS		
G	Door closer as Union ref 8583 or 8824	17	No.		
H	150 x 150mm Brass sex indicator plate	5	No.		
I	200 x 3mm thick Stainless steel kicking plate	29	LM		
J	200 x 3mm thick heavy duty stainless steel crash/ push plate	29	LM		
K	Coat and hat hook	8	No.		
L	Heavy duty double action floor springs	20	Prs		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
A	Surfaces over 200 but not exceeding 300mm	453	LM		
B	Surfaces not exceeding 100mm	939	LM		
	Prepare, Knot, prime , stop and apply three coats high quality clear polyeurethane varnish to:				
C	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	453	LM		
D	Ditto; girth not exceeding 100mm	939	LM		
E	Doors both internally and externally (Measured nett)	308	SM		
	Prepare and apply three coats high quality gloss paint to:				
F	To steel door internally/ externally	32	SM		
	Carried to collection				
	COLLECTION **DOORS** Brought forward form page GAE/12 Brought forward form page GAE/13 Brought forward form page GAE/14 Brought down form page GAE/15				
	TOTAL FOR DOORS CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7 **WINDOWS:** **Heavy Duty Natural Anodised Aluminium windows to B.S. 4813 to be executed by an approved sub contractor** **The following in Heavy Duty Natural Anodised Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermidiate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmonger icluding hinges, fasteners and stays, sliding rails(where necessary) bars; panes left open for glazing to Architects detail**				
A	Window W01 overall size 1800x1700mm high	1	No.		
B	Window W01 overall size 2500x1700mm high	1	No.		
C	Window W02 overall size 1400x1700mm high	2	No.		
D	Window W03 overall size 1200x600mm high	2	No.		
E	Window W03 overall size 1500x1200mm high	3	No.		
F	Window W04 overall size 1500x1700mm high	1	No.		
G	Window W05 overall size 2400x900mm high	4	No.		
H	Window W06 overall size 1500x2100mm high	1	No.		
I	Window W07 overall size 1200x1700mm high	1	No.		
J	Window W07 overall size 4800x900mm high	1	No.		
K	Window W08 overall size 2100x1700mm high	2	No.		
L	Window W09 overall size 650x900mm high	1	No.		
M	Window W10 overall size 900x1700mm high	1	No.		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Windows cont'd				
A	Window W11 overall size 1500x1500mm high	2	No.		
B	Window W12 overall size 1500x900mm high	4	No.		
C	Window W12 overall size 1200x1700mm high	8	No.		
D	Window W13 overall size 750x900mm high	7	No.		
E	Window W14 overall size 1800x900mm high	2	No.		
F	Window W16 overall size 6000x600mm high	1	No.		
G	Window W17 overall size 3250x1700mm high	9	No.		
H	Window W18 overall size 1500x1700mm high	17	No.		
I	Ditto but with 1.5mm lead lining	1	No.		
	Glazing **Blue stopsol sheet glass and glazing with aluminium beadings.**				
J	6mm thick glass in panes (0.50-1.00m²)	182	SM		
K	Ditto but obscure	42	SM		
	Window Cills				
L	200x50mm pre-cast concrete window cill bedded and pointed in cement sand (1:3) mortar, weathered and throated all to Architects detail and approval	50	LM		
	Painting and decorating: **Prepare and apply three coats high quality gloss paint to:**				
M	Surfaces of window cill 200mm but not exceeding 300mm girth	50	LM		
N	To burglar-proofing grilles; internally/externally	178	SM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Burglar proofing grilles				
A	Mild steel grille framed with 16 x 16 x 3mm thick RHS sections welded together at 200 mm centres bothways; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:4)	89	SM		
	Window blinds				
	Supply and fix venetian blinds complete with tracks to the project manager's approval and as described				
B	Overall size 1900x2000mm high	1	No.		
C	Overall size 2600x2000mm high	1	No.		
D	Overall size 1300x900mm high	2	No.		
E	Overall size 1600x1500mm high	3	No.		
F	Overall size 1600x2000mm high	1	No.		
G	Overall size 2500x1200mm high	4	No.		
H	Overall size 1300x2000mm high	1	No.		
I	Overall size 4900x1200mm high	1	No.		
J	Overall size 2200x2000mm high	2	No.		
K	Overall size 1000x2000mm high	1	No.		
L	Overall size 1600x1800mm high	2	No.		
M	Overall size 1600x1200mm high	4	No.		
N	Overall size 1300x2000mm high	8	No.		
O	Overall size 1600x2000mm high	15	No.		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION **WINDOWS** Brought forward from page GAE/16 Brought forward from page GAE/17 Brought forward from page GAE/18				
	TOTAL FOR WINDOWS CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT No 8				
	FIXTURE AND FITTINGS:				
	Worktops				
A	Plain concrete (1:3:6) in 100mm plinth	32	SM		
B	Reinforced concrete (1:2:4) in 100mm worktops	39	SM		
	Formwork to:-				
C	Edges of plinth 75-150mm high	55	LM		
D	Soffites of worktops	39	SM		
E	Edges of worktops 75-150mm high	81	LM		
F	10mm diameter high yield reinforcement bars	241	KG		
G	100mm thick masonry block walling in cement/sand 1:3 mortar	5	SM		
H	15mm thick cement sand (1:3) plaster to soffits	39	SM		
I	Ditto walls	10	SM		
	Polished Terrazzo				
J	38mm thick (24mm cement+sand backing & 15mm thick terrazzo layer) including rough and smooth sanding and polishing with acid to approval	39	SM		
K	Ditto but to 100 mm wide edges	81	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Worktops cont'd				
	19mm block board in:-				
A	19 mm thick block board veneered on both sides in Shelving lipped on all exposed edges, supported with and including steel brackets plugged to wall or concrete all to Architects detail and approval	31	SM		
B	50 x 50 mm wrot mahogany bearers	52	LM		
C	600 x 800 x 25 mm block board doors including 10 x 20mm Lipping tongued to edge of blockboard including groove to approval	10	No		
D	100 x 50 mm wrot mahogany framing	122	LM		
E	50 mm heavy duty butt hinges	10	Prs		
F	Heavy duty D-Handle	10	Prs		
G	50mm Aluminium barrel bolt	5	No		
H	600x600x300mm high blockboard drawers complete with all bearers, tracks, handles and all necessary ironmongery to Architect's details	144	No		
I	Ditto but 600x600x200mm high	72	No		
J	51mm Zinc drawer or cupboard lock	72	No		
	SHELVING				
K	Plain concrete (1:3:6) in plinth	17	SM		
	Formwork to:-				
L	Edges of plinth 75-150mm high	40	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	19mm block board in:-				
A	19 mm thick block board veneered on both sides in Shelving lipped on all exposed edges, supported with and including steel brackets plugged to wall or concrete all to Architects detail and approval	215	SM		
B	50 x 50 mm wrot mahogany bearers	360	LM		
C	Ditto but plugged	360	LM		
D	25mm block board doors including 10 x 20mm Lipping tongued to edge of blockboard including groove to approval	60	SM		
E	6 mm thick sliding clear glass with ground smooth and rounded inluding grooved wrot mahogany track all to approval	60	SM		
F	50 mm heavy duty butt hinges	72	Prs		
G	Heavy duty D-Handle	72	Prs		
H	50mm Aluminium barrel bolt	72	No		
I	38mm Diameter dished knob	72	No		
J	50mm Extruded brass double ball catch to approved sample	72	No		
K	51mm Zinc drawer or cupboard lock	72	No		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Hospital Curtain				
A	supply and fix 2000mm high plastic hospital grade curtains on aluminium curtain rods (m.s) to an approved sample	30	LM		
	Prepare, Knot, prime , stop and apply three coats high quality clear polyeurethane varnish to:				
B	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	720	LM		
C	Ditto; girth not exceeding 100mm	0	LM		
D	Doors both internally and externally (Measured nett)	648	SM		
	Carried to collection				
	COLLECTION **FIXTURES AND FITTINGS** Brought forward from page GAE/20 Brought forward from page GAE/21 Brought forward from page GAE/21 Brought forward from page GAE/22				
	TOTAL FOR FIXTURES AND FITTINGS CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.9				
	INTERNAL FINISHES				
	Floor finishes				
	Screed; cement and sand 1:4 with approved integral dust proofing additive wood floated.				
A	32 mm thick to receive non-slip ceramic tiles(m.s)	46	SM		
B	8mm thick non-slip ceramic tiles to architects approval fixed with tile adhesive to approval	46	SM		
	Polished Terrazzo paving				
C	38mm thick (24mm cement+sand backing & 15mm thick **white** terrazzo layer) including rough and smooth sanding and polishing with acid to approval	837	SM		
D	Ditto suspended landing	11	SM		
E	Ditto 300mm wide treads	63	LM		
F	Ditto 150mm high risers	66	LM		
G	20 x 100mm ditto skirting	19	LM		
	Ceiling Finishes				
	12mm thick moisture resistant gypsum board lining to ceiling on and including all necessary galvanised steel channel brandering in accordance with the manufacturer's instruction				
H	Gypsum board to soffits of ceiling including any dropped bulkheads	70	SM		
I	100x25mm polyurethane cornice of a[[roved pattern	49	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ceiling Finishes				
	15 mm Thick internal gauged lime plaster as described to:				
A	Soffits of suspended slabs	813	SM		
B	Ditto to soffits of landing	11	SM		
C	Ditto to soffits of staircase	22	SM		
D	Edges of open staircase string extreme girth 300mm	25	LM		
	Wall Finishes				
	12mm thick cement sand (1:3) plaster steel trowelled smooth to:				
E	Walls and columns internally	1,522	SM		
F	Ditto beams	513	SM		
G	Door and window reveals	932	LM		
	Backing; cement and sand 1:4 with approved integral dust proofing additive wood floated.				
H	15 mm thick to receive ceramic tiles	534	SM		
	Glazed wall tiles, local approved colour; glazed; to regular pattern bedding and jointing in cement mortar (1:4). Grouting joints with matching colour cement				
I	300 x 200 x 6 mm coloured ceramic tiles to wall surfaces	534	SM		
J	PVC Edgings	80	LM		
	Carried to collection				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Painting and Decoration **Prepare and apply three coats PVA based premium quality silk vinyl Anti Bacteria emulsion paint or other equal and approved to:-**				
A	Plastered wall surfaces	1,522	SM		
B	Ditto beam surfaces	513	SM		
C	Plastered door and window reveals	932	LM		
D	Gypsum ceiling surfaces	70	SM		
E	Soffits of suspended slabs	813	SM		
F	Ditto to soffits of landing	11	SM		
G	Ditto to soffits of staircase	22	SM		
H	Edges of staircase string 300mm wide	25	LM		
	Carried to collection				
	COLLECTION **INTERNAL FINISHES** Brought forward from page GAE/24 Brought forward from page GAE/25 Brought down from page GAE/26				
	TOTAL FOR INTERNAL FINISHES CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.10				
	EXTERNAL FINISHES				
	Wall Finishes				
A	15mm Thick cement sand (1:4) rendering to walls and columns	885	SM		
B	Ditto to beams	167	SM		
	Prepare and apply three coats of Permaplast paint as "Crown Berger Limited" or any equal and approved to:				
C	Rendered wall surfaces	885	SM		
D	Ditto: Beams	167	SM		
	Staircase balustrading				
E	Stainless steel balustrading comprising of 38x1.5mm diameter balusters grouted to walling or concrete work, 19x1.5mm diameter mid rails and 50x1.5mm diameter CHS handrail complete with and including all necessary accessories to Architect's design, detail and approval	75	LM		
	Rustic Terrazzo				
F	38mm thick (24mm cement+sand backing & 15mm thick rushed terrazzo layer) to sloping ramp, uniformly textured all to approval	12	SM		
	TOTAL FOR EXTERNAL FINISHES CARRIED TO SUMMARY				

ITEM NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
1	**SUBSTRUCTURES**				
2	**R.C SUPERSTRUCTURE**				
3	**EXTERNAL WALLS**				
4	**INTERNAL WALLS**				
5	**ROOF AND RAINWATER DISPOSAL**				
6	**DOORS**				
7	**WINDOWS**				
8	**FIXTURES AND FITTINGS**				
9	**INTERNAL FINISHES**				
10	**EXTERNAL FINISHES**				
	TOTAL FOR BUILDER'S WORKS CARRIED TO GRAND SUMMARY				

EXTERNAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	EXTERNAL WORKS				
	EXTERNAL SOIL WATER DRAINAGE (ALL PROVISIONAL):-				
A	Excavate trench for drain pipe average 1500 mm deep, part return fill and ram and remainder cart away	200	LM		
B	Ditto average 3000 mm deep	100	LM		
C	300 mm diameter "Golden Brown" UPVC pipe laid in trench and jointed	300	LM		
D	600x450x1000mm (average) deep manholes complete with heavy duty cast iron manhole covers	30	No		
E	Extra over for back filling with selected imported material all to Project managers approval	180	CM		
	TOTAL OF EXTERNAL SOIL WATER DRAINAGE CARRIED TO ELEMENT SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SEPTIC TANK SITE 14 M LONG X 5M WIDE X 3M DEEP (1NO)				
A	Clear site of shrubs,grass and carting away the arisings	102	SM		
B	Uprooting 300-600mm girth stumps	2	No.		
C	Excavate pit for septic tank not exceeding 1.5m deep	168	CM		
D	Ditto 1.5 - 3.0M deep	168	CM		
E	Ditto 3 - 4.5M deep	98	CM		
F	Extra over excavation in hard rock	70	CM		
G	Return fill and ram selected excavted soil around walling	63	CM		
H	Cart away surplus excavated material	273	CM		
I	50mm thick blinding 1:4:8	70	SM		
J	300mm thick reinforced concrete 1:1.5:3 slab in surface bed	70	SM		
K	Ditto in walls	123	SM		
L	150mm thick scum baffle	14	SM		
M	200mm thick in baffle wall	22	SM		
N	200mm thick cover slab	70	SM		
O	150mm thick scum buffle and dividing wall	7	SM		
	FORMWORK TO:-				
P	Formwork to walling	246	SM		
Q	Soffits of suspended slab	70	SM		
R	Sides of scum baffle wall	14	SM		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FORMWORK TO:-				
A	Ditto to sides and soffit of scum baffle	22	SM		
B	Box out formwork to opening size 600x450mm	4	NO		
	Steel reinforcement as described including cutting to lengh,bending,hoisting and fixing including all necessary tying wires and spacing blocks.				
	Ribbed bars to KS ISO 6935-2:2007				
C	10mm diameter high yield reinforcement bars	3134	KG		
D	12mm ditto	1696	KG		
E	8mm diameter mild-steel bars	226	KG		
F	Form or leave hole in 250mm concrete walling for 100mm pipe including making good disturbed surfaces	4	NO		
G	15mm sulphate resistant cement rendering internally	195	SM		
H	15mm thick cement/sand (1:3) waterproof screed to walls, top and soffit of cover slab and exposed surfaces of septic tank	165	SM		
I	30mm but surface bed slab internal floor screed finish	60	SM		
J	600x450mm heavy duty cast iron manhole cover and frame	4	NO		
K	600x450x1000mm average deep manholes	2	NO		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SEPTIC TANK				
	Brought forward from page EX/2				
	Brought forward from page EX/3				
	TOTAL OF SEPTIC TANK CARRIED TO ELEMENT SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SOAK PIT - 2M DIAMETER X 12M DEEP - (1NO)				
A	Excavate pit not exceeding 1.5M deep	5	CM		
B	Ditto exceeding 1.5M but not exceeding 3.0m deep	5	CM		
C	Ditto exceeding 3.0M but not exceeding 4.5M deep	5	CM		
D	Ditto exceeding 4.5M but not exceeding 6.0M deep	5	CM		
E	Ditto exceeding 6M but not exceeding 7.5M deep	5	CM		
F	Ditto exceeding 7.5M but not exceeding9.0M deep	5	CM		
G	Ditto exceeding 9M but not exceeding 10.5M deep	5	CM		
H	Ditto exceeding 10.5M but not exceeding 12.0M deep	5	CM		
I	Extra-over excavation for excavating in rock	20	CM		
J	Cart away surplus excavated material from site	40	CM		
K	Plain concrete (1:3:6) in strip foundation	1	CM		
L	Reinforced concrete (1:2:4) in 100mm cover slab	5	SM		
	Formwork To:-				
M	Soffit of suspended slab	3	SM		
N	Edges of ditto 75 - 150mm high	8	LM		
O	Box out formwork to form opening size 600x450mm	1	No		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	10mm diameter high yield reinforcement bars	87	KG		
B	200mm coral blocks walling in cement sand (1:3) mortar	75	SM		
C	Approved hard-core backfill	21	CM		
D	Form or leave hole in 200mm coral block walling including making good disturbed surfaces	1	NO		
E	600 x 450mm cast iron manhole cover and frame	1	NO		
	TESTING:-				
F	Allow for testing the External soil drainge to the satisfaction of the Project Manager	1	ITEM		
	Carried to collection				
	SOAK PIT Brought forward from page EX/5 Brought down from above page EX/6				
	TOTAL OF SOAK PIT CARRIED TO ELEMENT SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	LANDSCAPING				
	Imported Filling				
A	300 mm thick imported red soil for grassing free of debris roots and weeds	200	SM		
	Grassing				
B	Grass plugs of 'Kikuyu type' or of the same uniform species as specified : Plugs to be freshly uprooted and free of weeds	200	SM		
	Trees				
C	Dig approximately 600 x 600 x 600 mm deep holes with straight vertical sides in a square shape with crowned bottom to receive trees, and cart away excess excavation	24	NO		
	Shrubs				
D	Dig holes with straight vertical sides in a square shape 300 x 300 x 300 mm deep with crowned bottom to receive shubs, and cart away excess excavation	24	NO		
	Trees and shrubs shall be straight, healthy seedlings planted in manured soil at the ratio of 1:2 (manure/soil)				
	Shrubs				
E	Supply and plant shrubs of approved species minimum height 1000 mm and water well till stabilised	24	NO		
	Trees				
F	Ditto Flamboyan	6	NO		
G	Ditto Jacaranda	6	NO		
H	Ditto Coco Palm	6	NO		
I	Ditto Sycosia Palm	6	NO		
	TOTAL OF LANDSCAPING CARRIED TO ELEMENT SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	STORM OF WATER DRAINS				
A	1200x800mm average depth rectangular **fair faced** insitu vibrated reinforced concrete (1:2:4) invert storm water drain (500 mm intenally) which includes 200 mm thick vertical walling reinforced with 10 mm diameter ribbed reinforcement bars spaces at 200 mm centers both ways, 200 mm thick bottom slab reinforced in BRC A142 ,50mm concrete (1:3:6) blinding on 150mm hardcore filling, complete with 800x200x200 mm deep cover fins reinforced with 4No. 12mm diameter mild steel reinforcement bar and 8mm diameter stirrups at 100mm centres, rebated, tongued and grooved to fit into drain channels including all necessary excavations,strutting, formwork, plaster to all internal surfaces, plaster to all exposed external surfaces all as per Architect's details..	200	LM		
	TOTAL OF STORM WATER DRAINAGE CARRIED TO ELEMENT SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	ELEMENT				
1	**External soil water drainage**				
2	**Septic Tank**				
3	**Soak pits**				
4	**Landscaping**				
5	**Storm water Drainage**				
	TOTAL FOR EXTERNAL WORKS CARRIED TO SUMMARY				

ELECTRICAL WORKS

TENDER SPECIFICATIONS

FOR

ELECTRICAL INSTALLATION WORKS

SECTION D

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

2.1 General

2.2 Standard of Materials

2.3 Workmanship

2.4 Procurement of Materials

2.5 Shop Drawings

2.6 Record Drawings

2.7 Regulations and Standards

2.8 Setting out Works

2.9 Position of Electrical Plant and Apparatus

2.10 M.C.B Distribution Panels and Consumer Units

2.11 Fused Switchgear and Isolators

2.12 Conduits and Conduit Runs

2.13 Conduit Boxes and Accessories

2.14 Labels

2.15 Earthing

2.16 Cables and Flexible Cords

2.17 Armoured PVC Insulated and Sheathed Cables

2.18 Cable Supports; Markers and Tiles

2.19 PVC Insulated Cables

2.20 Heat Resisting Cables

2.21 Flexible Cords

2.22 Cable Ends And Phase Colo

2.23 Cable Ends and phase Colours

2.24 Cable Insulation Colours

2.25 Sub-circuit Wiring

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2.28 Lighting Switches

2.29 Sockets and Switched sockets

2.30 Fused Spur Boxes

2.31 Cooker Outlets

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2.33 Lampholders

2.34 Lamps

2.35 Lighting Fittings Street lighting Lanterns

2.36 Position of Points and Switches

2.37 Street/Security Lighting Columns

2.38 Timing Control Switch

2.39 Wiring System for Street Lighting

2.40 Metal control Pillar

2.41 Current Operated Earth leakage circuit breaker

2.42 MV Switchboard

2.43 Steel Conduits and Steel Trunking

2.44 Testing on Site

2.1 GENERAL

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

2.2 STANDARD OF MATERIALS

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

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

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

2.3 WORKMANSHIP

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

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractors expense.

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

2.4 PROCUREMENT OF MATERIALS

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

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

2.5 SHOP DRAWINGS

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

2.6 RECORD DRAWINGS

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

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

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

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

2.7 REGULATIONS AND STANDARDS

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

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

2.8 SETTING OUT WORK

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

2.9 POSITIONS OF ELECTRICAL PLANT AND APPARATUS

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

2.10 MCB DISTRIBUTION PANELS AND CONSUMER UNITS

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

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

The operating dolly shall be 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 alvani, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart. Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

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

2.11 FUSED SWITCHGEAR AND ISOLATORS

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

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

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

Isolators shall be load breaking/fault making isolators.

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

2.12 CONDUITS AND CONDUIT RUNS

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

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

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

The Sub-contractors attention is drawn to the necessity of keeping all conduits entirely separate from other piping services such as water and no circuit connections will be permitted between conduits and such pipes.
All conduits systems shall be arranged wherever possible to be self-draining to switch boxes and conduit outlet points for fittings:

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

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

Conduit connections shall either be by a demountable (screwed up) assembly or adhesive fixed and water tight by solution. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between the conduit and switch boxes, circular or non-screwed boxes, and 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 t o mark out and form all holes and chases. Should the sub-contractor fail to inform the main contractor of any inaccuracies in this respect they shall be rectified at the sub-contractors expense.

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

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

2.13 CONDUIT BOXES AND ACCESSORIES

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

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

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

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

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

2.14 LABELS

Labels fitted to switches and fuseboards;-

(i) Shall be Ivorine engraved black on white.
(ii) Shall be secured by R.H brass screws of same manufacturing throughout.

(iii) Shall be indicated on switches:-
a) Reference number of switch
b) Special current rating

c) Item of equipment controlled
(iv) Shall indicate on MCB panels
a) Reference number
b) Type of board, i.e;, lighting, sockets, etc,.
c) Size of cable supplying panel
d) where to isolate feeder cable

(v) Shall be generally not less than 75mm x 50mm.

2.15 EARTHING

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

(i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.

(ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.

(iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).

(iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided

(v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.

(vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.

(vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6m . It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

(viii) Earth plates will not be permitted

(ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.

(x) Where copper tape is fixed to the building structure it structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.

(xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.

(xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.

(xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.

(xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

2.16 CABLES AND FLEXIBLE CORDS

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

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

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

P.V.C. insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform 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.

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

2.18 CABLE SUPPORTS, MARKERS AND TILES

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

Alternatively, fixing shall be by BICC claw type cleating system with die-cast cleats and galvanized 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 Heller man 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***
Main and Sub-Main		
a) Phase	Red	Red
b) Neutral	Black	Black
1) Sub-Circuits Single Phase		
a) Phase	Red	Red
b) Neutral	Black	Black

2.24 SUB-CIRCUIT WIRING

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

Lighting circuits P. V.C. cable.

1.5mm² for all lighting circuits indicated on the drawing.

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

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

(ii) 2.5mm² for one 15Amp socket.

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

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

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

2.25 SPACE FACTOR

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

2.26 INSULATION

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

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

2.27 LIGHTING SWITCHES

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

2.28 SOCKETS AND SWITCHED SOCKETS

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

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

2.29 FUSED SPUR BOXES

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

2.30 COOKER OUTLETS

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

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

2.31 CONNECTORS

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

2.32 LAMPHOLDERS

Shall be of extra heavy H.O skirted and shall be provided for every specified lighting fitting and shall be B.C;, E.S;, or G.E.S as required. All E.S. and G.E.S. holders shall be heavy brass type (except for plain pendants where the reinforced bakelite type shall be used). The screwed cap of the E.S and G.E.S. holders shall be connected to the neutral. Where lampholders are supported by flexible cable, the holders shall have "cord grip" arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.
The Sub-Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

2.33 LAMPS

All lamps shall be suitable for normal stated supply voltage and the number and sizes of lamps detailed on the drawings shall be supplied and fixed. The Sub-Contractor must verify the actual supply voltage with the supply authority before ordering the lamps. Tungsten filament lamps shall be manufactured in accordance with KS 04 – 112:1978 for general service lamps and KS 04 – 307:1985 for lamps other than general services. Tubular fluorescent lamps shall comply with KS 04 – 464:1982

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

2.34 LIGHTING FITTINGS AND STREET LIGHTING LANTERNS

This Sub-Contract shall include for the provision, handling charges, taking the delivery, safe storage, wiring (including internal wiring) assembling and erecting of all lighting fittings shown on the drawings.
All fittings and pendants shall be fixed to the conduit boxes with brass R/H screws. These to be in line with metal finish of fittings. The lighting fittings are detailed for the purpose of establishing a high standard of finish and under no circumstances will substitute fittings be permitted.
In case of rectangular shaped ceiling fittings, the extreme ends of the fittings shall be secured to suitable support in addition to the central conduit box fittings. Supports shall be provided and fixed by the Sub-Contractor.

The whole of the metal work of each lighting fittings shall be effectively bonded to earth. In the case of ball and/or knuckle joints short lengths of flexible cable shall be provided, bonded to the metal work on either side of the joints. If the above provisions are not made by the manufacturers -, the Sub-contractor shall include cost of additional work necessary in his tender. See "Flexible Cords" clause for details of internal wiring of lighting fittings. Minimum size of internal wiring shall be 20/0.20mm (23/0067). Each lighting fitting shall be provided with number type and size of lamps as detailed on the drawings. It is to be noted that some fittings are suspended as shown on the drawings.

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

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

2.35 POSITIONS OF POINTS AND SWITCHES

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

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

2.36 STREET/SECURITY OUTDOOR LIGHTING COLUMNS:

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

2.37 TIMING CONTROL SWITCH

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

2.38 WIRING SYSTEM FOR STREETLIGHTING

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

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 enameled finish except where specified otherwise. Where installed externally or in damp conditions they shall be galvanized. Conduit fittings, accessories or equipment used in conjunction with galvanized conduits shall also be galvanized 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 galvanized, the links shall be made by galvanized 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 galvanized conduit and trunking, the trunking shall be deemed to be galvanized 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 galvanized paint for galvanized 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 enameled 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.

(b) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the 'live' conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system. Tests shall be carried out to verify the continuity of all conductors of each 'ring' circuit.

(c) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the Sub-contractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.

(d) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the Sub-contractor at his own expense.

(e) The Sub-contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be made available to the services engineer to enable him to carry out such tests as he may require.

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

The Sub-contractor shall test to the services engineer's approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment, plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.

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

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

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

1. Government Electrical Specifications No. 1 and No. 2.

2. All requirements of Kenya Power and Lighting Company Limited, and Communications Commission of Kenya (CCK).

SECTION E

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
NIL	NIL

SECTION H

BILLS OF QUANTITIES

BILLS OF QUANTITIES

A) Pricing of Items of Preliminaries

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:-

(a) Preliminaries – Bill 1

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the tender have 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 3.05 of the section C.

(c) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-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

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes(including **16% VAT**).

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

3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.

4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.

1. 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.

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply install, Test and Commission Following:-				
	SCHEDULE 1				
	LIGHTING POINTS				
1.01	Lighting points wired in 3x1.5mm^2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
	i) One way switching	110	No.		
	ii) Two way switching	21	No.		
1.02	5A moulded ivory type switch plates as MK range/clipsal or approved equivalent asfollows				
	i) One gang one way	27	No.		
	ii) Two gang one way	14	No.		
	iii) One gang two way	4	No.		
	LIGHTING FITTINGS				
1.03	Lighting fittingscomplete with all the necessary fixing accessories and lamps as follows:-				
	i)4ft 12W black housing aluminium profile LED linear lightwith dimmable drive o-10v, inclussive of suspended cable and connectors,brightness of 100-1101m/wwith warm white (2800-3200k).	18	No.		
	ii) As **Item (i)** but with real UTRA-VIOLENT LED linear light	3	No.		
	iii) 20W IP65 LED Bulk head , Diameter 275 Waterproof Wall Mounted Die Cast Aluminium Outdoor fittings	16	No.		
	iv) 12W IP65 LED, Dia 375 Ceiling mounted standard circular luminnaire	37	No.		
	v) 7W IP65 LED, Dia 275 Ceiling mounted standard circular warm luminnaire	19	No.		
	vi) 2ft LED Panel light, 1Pack, 12W 7800 Lumens, 5000k Daylight white color Ceiling mounted	10	No.		
	vii)1200mm surface mounted fitting , COMPLETE with Philips frame, allow adjustment for LED tube	20	No.		
	viii) LED Garden light complete with ON/OFF automaticlight sensor	4	No.		
	viiii) 9w Emergency Rechargeable Led waterproof Wall lightluminaire to serve the theatre	4	No.		
	TOTAL C/F TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SOCKET OUTLETS / POWER POINTS.				
1.04	Socket outlet point comprising wiring in 3x2.5 mm^2 PVC-SC-Cu cables on concealed 20mm diameter PVC conduits	83	No		
1.05	13A 2 gang switched moulded socket outlet plate as MK/Range or approved equinalent	75	No		
	i) ditto but for water proof moulded socket outlet plate to serve the theatre	8	No		
	ELECTRICAL SWEEP FANS				
1.06	Ceiling fan points wired in 3x1.5mm^2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles	16	No		
1.07	240V AC wall mounted ceiling fans	16	No		
1.08	Ceiling fan hook (M-10)	16	No		
	DISTRIBUTION BOARDS				
1.09	4-way TP/Ndistribution board flush mounted complete 1No. TP/N intergral isolator	4	No		
1.10	**SP MCBs (original)**				
	i)10A SP	12	No.		
	ii)20A SP	25	No.		
	iii)30A SP	6	No.		
	v)Blanking plates	5	No.		
	SUB-MAINS CABLE				
1.11	5x16.0mm^2 SC-PV-CU cables drawn in 42mm diameter PVC conduit	200	Lm		
1.12	Construct a 14gauge (14s.w.g) galvanized mild steel 900*600*300mm chamber complete with neutral bar, to accommodate 6 No. Cut outs to serve the 4 No. distribution boards (to serve as Main distribution chamber)	1	No.		
	TOTAL C/F TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.13	Power circuit comprising of 3x 10.0mm^2 PVC Cu cables drawn in concealed 38mm diameter HG pvc coduit from distribution board Unit to	22	No.		
	a)20A SPN Isolator switch complete with Industrial plugs and sockets to serve both x-ray and sterilization	3	No.		
	b)15A socket outlet plate, 15A DP switch with neon indicator complete with all necessary accessories(To serve Ac points)	16	No.		
	c)15A socket outlet plate complete with all necessary accessories(To serve hard drier)	3	No.		
1.14	Power circuit comprising of 3x 6.0mm^2 PVC Cu cables drawn in concealed 38mm diameter HG pvc coduit from distribution board Unit to SP/N isolator	2	No.		
	a)20A SPN Isolator switch complete with Industrial plugs and sockets (To serve the Water pump)	2	No.		
1.15	As Item (1.14) but for 3x 4.0mm2 PVC Cu cables	1	No.		
	a)20A SPN Isolator switch complete with Industrial plugs and sockets (To serve the water heating Unit)	1	No.		
1.16	**POWER FACTOR CORRECTION**				
	50KVArs digital programmed modular type automatic power factor correction capacitor bank switched (25+25) powder coated steel enclosure IP55, Size (600*600*300)mm (WXHXD) complete with alarm for low power factor	1	Item		
	SWITCH GEAR				
1.17	250A TP MCCB incomer as ELECTRICAL main switch	1	No.		
1.18	LUCY cut - out complete with HRC fuse 60/80 (To serve as incomer to the distribution boards)	4	No.		
1.19	LUCY cut - out with neutral link complete with HRC fuse 60/80 to serve as Incomer to the distribution boards	2	No.		
1.20	Allowfor interconnection for the switch gears to the bus-bars using the appropriate cable sizes and also to check the outgoing submains from the switch gear to the local distribution boards.	1	ITEM		
	TOTAL C/F TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.21	**COMPREHENSIVE PROTECTIVE MULTIPLE EARTHING**				
	Earthing of the subboard in accordance with KP&L company requirements, IET regulations,the government Electrical Installations regulations and other statutory requirementscomprisingbut not limited to the following				
	a) Establish 600x600x700mm deep earthing chamber, complete with internal plastering, and heavy duty EAFW steel cover clearly marked "EARTH".	1	Item		
	b) 25mm X 3mm pure copper tape as Furse	20	Lm.		
	c) Pure copper earth rod (1500mm x 16mm)	4	No.		
	d) Driving head for earth rod	4	No.		
	e) Tape to earth rod clamp as Furse	4	No.		
	f) 25mm2 single core green PVC insulated copper earth lead	20	Lm.		
	EXTERNAL POWER DISTRIBUTION				
1.22	50mm^2 4-core copper PVC SWA PVC sheathed underground cable excluding excavation and back filling(To serve the Main Distribution Chamber)	100	LM		
1.23	Allow for excavation and backfilling	100	LM		
1.24	Hatari tiles (of approximately 1 ft length each)	100	LM		
1.25	100mm diameter pvc heavy gauge duct (pipe)	100	LM		
1.26	Cable glands complete with washers	2	No.		
	TOTAL C/F TO COLLECTION				
	COLLECTION Total from page E1 Total from page E2 Total from page E3 Total from above				
	TOTAL CARRIED TO PRICE SUMMARY				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply Install, Test and Commission Following:-				
	SCHEDULE 2				
	DATA NETWORKING				
2.01	24 Port D/Link switch 10/100mbps	1	No.		
2.02	T22 RJ 45 Connectors	42	No.		
2.03	6U stack able switch cabinet as per engineers approvial	1	No.		
2.04	48 port data patch panel	1	No.		
2.05	2U cable manager	1	No.		
2.06	Router with Wi-Fi	1	No.		
2.07	6-way multi extension socketoutlet 13A as M.K	1	No.		
2.08	1mtr category 6UTPPVCRJ45-RJ45 patch chord with grey boots as siemens	42	No.		
2.09	3mtr category 6UTPPVCRJ45-RJ45 patchcords with grey boots as siemen	42	No.		
2.10	Dedicated internet connection 100m Bps UP/DOWN	1	No.		
2.11	Single face data outlet plate as siemen or approved equivalent with 1RJ45 keystones and patress box	21	No.		
2.12	Cat 6e cable for the data inter-connection between the room sand the reception via the floor distributor as siemen or approved equivalent	2,000	LM		
	TOTAL CARRIED TO PRICE SUMMARY				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply Install, Test and Commission Following:- **SCHEDULE 3** **CCTV**				
3.01	Indoor Bullet Cameracomplete with mounting brackets AS Hikivision or an eapproved equivalent *(See Particular Specifications for Bullet cameras)*	10	No.		
3.02	Outdoor IP Fixed camera with POE, Vandalproof, 3.6mm auto focuslensand IR mode for night time conditions complete with mounting brackets As Hikivision or an approved equivalent *(See Paricular Specifications)*	8	No.		
3.03	Outdoor IP PTZ cameras complete with mounting brackets As Hikivision or an approved equivalent (See Particular specifications for PTZ cameras)	2	No.		
3.04	48 Port PoE Switch-IPBase edge switch model complete with PoE plus, 10/100/1000Mbps on all Ports and as CISCO catalyst switch (currently available in the market and being supported by Cisco) or approved equivalent	1	No.		
3.05	Category 6, 24 Port Patch Panel and as Siemon or approved equivalent.	1	No		
3.06	1M RJ45-RJ45 Cat 6A UTP factory terminated patch cord as Siemons or approved equivalent to be used at work station.	12	No		
3.07	Cat 6 UTP 4-pair cable as Siemons or approved equivalent	3,500	M		
3.08	25 X 25mm - single compartment, gauge 16 sheet Deep Powder coated metal trunking complete with angled cover section, end covers and all other accessories.	200	M		
3.09	LED HD panel display 48" HDMI input component video input composite video input,S-video input,VGA input and output,composite Video ouput	3	Item		
3.10	Digitaluniversalkey board complete with joystick and LCD screen	2	No.		
	TOTAL C/F TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.11	32channels IP Network video recorder with PoE complete with minimum recording speed of 256mbps, minimum recording HDD 4TB, video management software, redundant power supply and all other accessories and as described in the particular specifications	1	No.		
3.12	Grounding and bounding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire. **For item abov**e istobe to the approval of the Engineer.	1	Item		
3.13	45"x 37"x-24' 22UFloor standing cabinet to Approval by the Engineer	1	No		
3.14	3Kva Rack mount UPS to Engineer's approval	1	No		
3.15	Any other items necessary to complete the above installation as per the system you propose to install. Please list the items, price and include in your totals a) b) c) d)	1	Lot		
	TOTAL C/F TO COLLECTION				
	COLLECTION Total from page E6 Total from above				
	TOTAL CARRIED TO PRICE SUMMARY				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	PRICE SUMMARY PAGE				
A	TOTAT FOR SCHEDULE 1 B/D FROM PAGE E/4				
B	TOTAT FOR SCHEDULE 2 B/D FROM PAGE E/5				
C	TOTAT FOR SCHEDULE 3 B/D FROM PAGE E/7				
D	CONTIGENCY SUM				300,00
E	PROVISIONALSUM FOR CONTRACT SUPERVISION				150,00
	SUB-TOTAL ……				
	ADD 16% VAT ……				
	TOTAL FOR ELECTRICAL WORKS CARRIED TO GRAND SUMMARY……				

TOTAL TENDER SUM IN WORDS……

NAME OF CONTRACTOR: ……

NB:-1. The Domestic Electrical sub contractor to undertake those Works must be registered with National Construction Authority, Specialist works-Electrical Servicescategory NCA2 and Energy Petroleum Regulatory Authority (EPRA) class"B" (coppy of registration forms and renewal to be attached)

2. The billsof quantitiesfor Electricalworks must be signed and stamped by the Electrical domestic sub-contructor who will undertake the works on behalf of the main contractor

DATE: …… **SIGNATURE:** ……

OFFICIAL RUBBER STAMP: ……

PIN: …… **V.A.T. REG. No.:** ……

WITNESS' NAME: ……

ADRESS: ……

OCCUPATION: ……

MECHANICAL WORKS

SPECIFICATIONS

FOR

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF INTERNAL PLUMBING, SANITARY FITTINGS, DRAINAGE, HOT WATER SERVICES, WATER RETICULATION FIRE FIGHTING EQUIPMENTS (DOMESTIC SUB-CONTRACT)

SECTION D

GENERAL MECHANICAL SPECIFICATIONS

SECTION D

GENERAL MECHANICAL SPECIFICATION

CLAUSE	DESCRIPTION	PAGE
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2.02	QUALITY OF MATERIALS	D-1
2.03	REGULATIONS AND STANDARDS	D-1
2.04	ELECTRICAL REQUIREMENTS	D-2
2.05	TRANSPORT AND STORAGE	D-2
2.06	SITE SUPERVISION	D-3
2.07	INSTALLATION	D-3
2.08	TESTING	D-3
2.09	COLOUR CODING	D-4
2.10	WELDING	D-5

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.
c) 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, 1-phase.

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 weeks' 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 hour's 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 pipe work 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.

SECTION E

PARTICULAR PLUMBING AND DRAINAGE

SPECIFICATIONS

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

CLAUSE No.	DESCRIPTION	PAGE
5.1	General	E-1
5.2	Materials and standards.	E-1
5.2.1	Pipe work and Fittings	E-1
5.2.2	Valves	E-3
5.2.3	Waste Fitment Traps	E-4
5.2.4	Pipe Supports	E-4
5.2.5	Sanitary Appliances	E-6
5.2.6	Pipe Sleeves	E-6
5.3	Installation	E-6
5.3.1	General	E-6
5.3.2	Above Ground Installation	E-6
5.4	Testing Inspection	E-8
5.4.1	Site Tests – Pipework Systems	E-8
5.4.2	Site Test – Performance	E-8
5.5	Sterilization of Hot and Cold Water System	E-9

SECTION E

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

5.1 GENERAL

This section specifies the general requirements for plant, equipment and materials forming part of the plumbing and drainage installations.

5.2 MATERIALS AND STANDARDS

5.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

a) **Galvanized Steel Pipework**

Galvanized steel pipe work up to 65mm nominal bore shall be manufactured in accordance with B.S. 1387 Medium Grade, with tapered pipe threads in accordance with B.S. 21. All fittings shall be malleable iron and manufactured in accordance with B.S. 143.

Pipe joints shall be screwed and socketed and sufficient coupling unions shall be allowed so that, fittings can be disconnected without cutting the pipe. Running nipples and long screws shall not be permitted unless exceptionally approved by the Engineer.

Galvanized steel pipe work, 80mm nominal bore up to 150mm nominal bore shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant. All flanges shall comply with the requirements of B.S. 10 to the relevant classifications contained hereinafter under Section 'C' of the Specification.

Galvanizing shall be carried out in accordance with the requirements of B.S. 1387 and B.S. 143 respectively.

b) **PP -R Pipework**

PP-R pipe work up to 63mm nominal bore shall be manufactured in accordance with the current European standards i.e DIN 8077 and DIN 8078 for PN 20 tubing, with metallic joints to DIN 8076, joints and fittings for tubing to DIN 16962. All threaded inserts in the fittings and joints shall be made of nickel brass OT58 and are turned from bars and manufactured in accordance with DVGW 534E.

Pipe joints shall be screwed and socketed and sufficient coupling unions shall be allowed so that, fittings can be disconnected without cutting the pipe. Running nipples and long screws shall not be permitted unless exceptionally approved by the Engineer.

c) **Copper Tubing**

All copper tubing shall be manufactured in accordance with B.S. 2871 from C.160 'Phosphorous De-oxidized Non-Arsenical Copper' in accordance with B.S. 1172.

Pipe joints shall be made with soldered capillary fittings and connections to equipment shall be with compression fittings manufactured in accordance with B.S. 864.
Short copper connection tubes between galvanized pipe work and sanitary fitments shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between

The galvanized pipe and the copper tube in order to prevent direct contact.

d) **P.V.C. (Hard) Pressure Pipes and Fittings**

All P.V.C. pipes and fittings shall be manufactured in accordance with B.S. 3505: 1968.

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturers approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion.

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used. Testing shall be carried out as soon as practical after lying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

e) **A.B.S. Waste System**

Where indicated on the Drawings and Schedules, the Sub-contractor shall supply and fix A.B.S. waste pipes and fittings.

The pipes, traps and fittings shall be in accordance with the relevant British Standards, including B.S. 3943, and fixed generally in accordance with manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.

Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this impracticable the Sub-contractor shall provide purpose made supports, centers of which shall not exceed one meter.

Expansion joints shall be provided as indicated. Supporting brackets and pipe clips shall be fixed on each side of these joints

f) **PVC Soil System**

The Sub-contractor shall supply and fix PVC soil pipes and fittings as indicated on the Drawings and Schedules.

Pipes and fittings shall be in accordance with relevant British Standards, including B.S. 4514 and fixed to the manufacturer's instructions and B.S. 5572.

The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to.

Connections to WC pans shall be effected by the use of a WC connector; gasket and cover fixed to suit pan outlet.

Suitable supporting brackets and pipe clips shall be provided at maximum of one-meter centers.

The Sub-contractor shall be responsible for the joint into the Gully Trap on Drain as indicated on the Drawings.

5.2.2 **Valves**

a) **Draw-off Taps and Stop Valves (Up to 50mm Nominal Bore)**

Draw-off taps and valves up to 50mm nominal bore, unless otherwise stated or specified for attachment or connection to sanitary fitment shall be manufactured in accordance with the requirements of B.S.1010.

b) **Gate Valves**

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of B.S. 3464. All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952.

The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

c) **Globe Valves**

All globe valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S.3061.

The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the site of works.

5.2.3 **Waste Fitment Traps**

a) Standard and Deep Seal P & S Traps

Where standard or deep seal traps are specified they shall be manufactured in suitable non-ferrous materials in accordance with the full requirements of B.S. 1184.

In certain circumstances, cast iron traps may be required for cast iron baths and in these instances bath traps shall be provided which are manufactured in accordance with the full requirements of B.S.1291.

b) Anti-Syphon Traps

Where anti-syphon traps are specified, these shall be similar or equal to the range of traps manufactured by Greenwood and Hughes Limited, Deacon Works Little shampton, Sussex, England.

The trade name for traps manufactured by this company is 'Grevak'.

5.2.4 **Pipe Supports**

a) General

This sub-clause deals with pipe supports securing pipes to the structure of buildings for above ground application.

The variety and type of support shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixings to metal, concrete, masonry or wood.

Consideration shall be given, when designing supports, to the maintenance of desired pipe falls and the restraining of pipe movements to a longitudinal axial direction only.

The Sub-contractor shall supply and install all steelwork forming part of the pipe support assemblies and shall be responsible for making good damage to builders work associated with the pipe support installation.

The Sub-contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

b) **Steel and Copper Pipes and Tubes**

Pipe runs shall be secured by clips connected to pipe angers, wall brackets, or trapeze type supports. 'U' bolts shall not be used as a substitute for pipe clips without the prior approval of the Engineer.

An approximate guide to the maximum permissible supports spacing in meters for steel and copper pipe and tube is given in the following table for horizontal runs.

Size Nominal Bores	Steel Tube to B.S. 659	Copper Tube to B.S. 1387
15mm	1.25m	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	3.0m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

The support spacing for vertical runs shall not exceed one and half times the distances given for horizontal runs.

c) **Expansion Joints and Anchors**

Where practicable, cold pipework systems shall be arranged with sufficient bends and changes of direction to absorb pipe expansion providing that the pipe stresses are contained within the working limits prescribed in the relevant B.S. specification.

Where piping anchors are supplied, they shall be fixed to the main structure only. Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.

The Sub-contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.

The Sub-contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

5.2.5 **Sanitary Appliances**

All sanitary appliances supplied and installed as part of the Sub-contract works shall comply with the general requirements of B.S. Code of Practice 305 and the particular requirements of the latest B.S. Specifications.

5.2.6 **Pipe Sleeves**

Main runs of pipework are to be fitted with sleeves where they pass through walls and floors. Generally the sleeves shall be of P.V.C. except where they pass through the structure, where they shall be mild steel. The sleeves shall have 6mm – 12mm clearance all around the pipe or for insulated pipework all around the installation. The sleeve will then be packed with slag wool or similar.

5.3 INSTALLATION

5.3.1 General

Installation of all pipework, valves, fittings and equipment shall be carried out under adequate supervision from skilled staff to the relevant codes and standards as specified herein. The Sub-contractor shall be responsible to the Main Contractor for ensuring that all builders work associated with his piping installation is carried out in a satisfactory manner to the approval of the Engineer

5.3.2 Above Ground Installation

a) **Water Services**

Before any joint is made, the pipes shall be hung in their supports and adjusted to ensure that the joining faces are parallel and any falls, which shall be required, are achieved without springing the pipe.

Where falls are not shown on the Contract Drawings or stated elsewhere in the Specification, pipework shall be installed parallel to the lines of the buildings and as close to the walls, ceilings, columns, etc., as is practicable.

All water systems shall be provided with sufficient drain points and automatic air vents to enable them to function correctly.

Valves and other user equipment shall be installed with adequate access for operation and maintenance. Where valves and other operational equipment are unavoidably installed beyond normal reach or in such position as to be difficult to reach from a small stepladder, extension spindles with floor or wall pedestals shall be provided.

Screwed piping shall be installed with sufficient number of unions to facilitate easy removal of valves and fittings and to enable alterations of pipework to be carried out without the need to cut the pipe.

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant.

All screwed joints to piping and fittings shall be made with P.T.F.E. tape.

The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 Litres per 25mm of diameter, per 1.6 kilometers per 24 hours per 30 meters head, may be considered reasonable but any visible individual leak shall be repaired.

b) **Sanitary Services**

Soil, waste and vent pipe system shall be installed in accordance with the best standard of modern practice as described in B.S. 5572 to the approval of the Engineer.

The Sub-contractor shall be responsible for ensuring that all ground waste fittings are discharged to a gully trap before passing to the sewer via a manhole.

The Sub-contractor shall provide all necessary rodding and inspection facilities within the draining system in positions where easy accessibility is available.

Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.
The vent stacks shall terminate above roof level and where stack passes through roof, a weather skirt shall be provided. The Sub-contractor shall be responsible for sealing the roof after installation of the stacks.

The open end of each stack shall be fitted with a plastic coated or galvanized steel wire guard.

Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

All sanitary appliances associated with the Sub-contract works shall be installed in accordance with the best standard of modern practice as described in C.P. 305 to the approval of the Engineer.

5.1 TESTING AND INSPECTION

5.4.1 Site Tests – Pipework Systems

a) **Above Ground Internal Water Services Installation**

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure.

If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer.

During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.

The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

b) **Above Ground Soil Waste and Ventilation System**

All soil, waste and ventilating pipe system forming part of the above ground installation, shall be given appropriate test procedures as described in B.S. 5572, 1972.

Smoke tests on above ground soil, waste and ventilating pipe system shall not be permitted.

Pressure tests shall be carried out before any work, which is to be concealed, is finally enclosed.

In all respects, tests shall comply with the requirements of B.S. 5572.

5.4.2 Site Test – Performance

Following satisfactory pressure test on the pipework system operational tests shall be carried out in accordance with the relevant B. S. Code of practice on the systems as a whole to establish that special valves, gauges, control, fittings, equipment and plant are functioning correctly to the satisfaction of the Engineer.

All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than normal with the result that pipe "sweating", due to condensation will cause nuisance.

All lagged pipes which run in a visible position after erection shall be given a canvas cover and prepared for painting as follows:

i) Apply a coating of suitable filler until the canvas weave disappears and allow to dry.

ii) Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts and above false ceiling which after erection are not visible from the corridors of rooms, shall be covered with a reinforced aluminum foil finish banded in colours to be approved by the Engineer.

In all respects, unless otherwise stated, the hot and cold water installation shall be carried out in accordance with the best standard of modern practice and described in C.P.342 and C.P.310 respectively to the approval of the Engineer.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precautions shall be taken to ensure that the required pressure is not exceeded.

Pressure gauges should be recalibrated before the tests.

The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

The test pressure shall be one and a half times the maximum working pressure except where a pipe is manufactured from a material for which the relevant B.S. specification designates a maximum test pressure.

5.5 STERILISATION OF COLD WATER SYSTEM

All water distribution system shall be thoroughly sterilized and flushed out after the completion of all tests and before being fully commissioned for handover.

The sterilization procedures shall be carried out by the Sub-contractor in accordance with the requirements of B.S. Code of Practice 301, Clause 409 and to the approval of the Engineer.

PART F

PARTICULAR SPECIFICATION

FOR

PORTABLE FIRE EXTINGUISHER AND

HOSE REEL

INSTALLATIONS

PART F

PARTICULAR SPECIFICATION

FOR

PORTABLE FIRE EXTINGUISHER AND HOSE REEL

INSTALLATIONS

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PARTF

PARTICULAR SPECIFICATIONS

FOR PORTABLE FIRE EXTINGUISHER

8.1 GENERAL

The particular specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers and Boosted Hose Reel System.

The Sub-contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the contract drawings but which are necessary for the completion and satisfactory functioning of the works.

If in the opinion of the Sub-contractor there is a difference between the requirements of the Specifications and the Contract Drawings, he shall clarify these differences with the Engineer before tendering.

8.2 SCOPE OF WORKS

The Sub-contractor shall supply, deliver, erect, test and commission all the portable fire extinguishers and Hose Reel which are called for in these Specifications and as shown on the Contract Drawings.

8.3 WATER/CO_2 EXTINGUISHERS

These shall be 9-litre water filled CO_2 cartridge operated portable fire extinguishers and shall comply with B.S. EN 3/BS 1449 and to the requirements of B.S.1004. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

a) Method of operation.

b) The words 'WATER TYPE' (GAS PRESSURE) in prominent letters.

c) Name and address of the manufacturer or responsible vendor.

d) The nominal charge of the liquid in imperial gallons and litres.

e) The liquid level to which the extinguisher is to be charged.

f) The year of manufacture.

g) A declaration to the effect that the extinguisher has been tested to a pressure of 24.1 bar (350 p.s.i.).

h) The number of British Standard 'B.S' 1004 or B.S. 1449.

8.4 PORTABLE CARBON DIOXIDE FIRE EXTINGUSHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with

B.S. EN 3/BS 1449 and B.S. 1004.

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the following British Standards; B.S. 401 or B.S. 1288.

The filling ratio shall comply with B.S. 5355 with valve fittings for compressed gas cylinders to B.S.341. Where a hose is fitted it shall be flexible and have a minimum working pressure of 206.85 bar (3000 p.s.i.). The hose is not to be under internal pressure until the extinguisher is operated.

The nozzle shall be manufactured of brass gunmetal, aluminium or stainless steel and may be fitted with a suitable valve for temporarily stopping the discharge if such means are not incorporated in the operating head.

The discharge horn shall be designed and constructed so as to direct the discharge and limit the entrainment of air. It shall be constructed of electrically non-conductive material.

The following markings shall be applied to the extinguishers:-

a) The words "Carbon Dioxide Fire Extinguisher" and to include the appropriate nominal gas content.

b) Method of operation.

c) The words "Re-charge immediately after use".

d) Instructions for periodic checking.

e) The number of the British Standard B.S. 3326: 1960 or B.S. 5423.

f) The manufacturers name or identification markings

8.5 DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS EN 3/BS 1449 and BS 1004. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470: 1972 and shall be suitably protected against corrosion.

The dry powder charge shall be non-toxic and retain it s free flowing properties under normal storage conditions. Any pressurizing agent used as an expellant shall be in dry state; in particular compressed air.

The discharge tube and gas tube if either is fitted shall be made of steel, brass, copper or other not less suitable material. Where a hose is provided it shall not exceed 1,060mm and shall be acid and alkali resistant. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information

a) The word "Dry Powder Fire Extinguisher"

b) Method of operation in prominent letters.

c) The working pressure and the weight of the powder charge in Kilogrammes.

d) Manufacturers name or identification mark

e) The words "RECHARGE AFTER USE" if rechargeable type.

f) Instructions to regularly check the weight of the pressure container (gas Cartridge) or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.

g) The year of manufacture.

h) The Pressure to which the extinguisher was tested.

i) The number of this British Standard BS 3465 or BS 5423: 1977.

j) When appropriate complete instructions for charging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

8.6 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. EN 3/BS 1449 and BS 1004 with the following specifications: -

Cylinder: to B.S. 1449

Necking: to be 76mm outside diameter steel EN 3A $2^{3}/_{4}$ X 8TPI female thread.

Head cap: to be plastic moulding acetyl resin.

CO2 Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

External finish: to be phosphated - One coat primer paint and one coat stove enamel B.S 381 C.

8.7 FIRE BLANKET

The fire blanket shall be made from cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm and shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket to BS 1721.

6.8 BOOSTED HOSE REEL SYSTEM

6.8.1 General

The Particular Specification details the requirements for the supply, installation and commissioning of the hose reel installation. The hose reel installation shall comply in all respects to the requirements set out in C.O.P 5306 Part 1: 1976, B.S 5041 and B.S 5274. The System shall comprise of a pumped system.

6.8.2 Hose Reel Pumps

The fire hose reel pumps shall consist of a duplicate set of multi-line centrifugal pumps from approved manufacturers. The pumps shall be capable of delivering 0.76 lit/sec at a running pressure of 2 bars.

The pump casing shall be of cast iron construction with the impeller shaft of stainless steel with mechanical seal.

6.8.3 Control Panel

The control panel shall be constructed of mild steel 1.0mm thick sheet, be moisture, insect and rodent proof and shall be provided complete with circuit breakers and a wiring diagram enclosed in plastic laminate.

The pump shall be controlled by a flow switch therefore; the control panel shall include the following facilities:

(a) 'On' push button for setting the control panel to live.

(b) Green indicator light for indicating control panel live.

(c) Duty / Stand-by pump auto change over.

(d) Duty pump runs green indicator light.

(e) Stand-by pump run green indicator light.

(f) Duty pump fails red indicator light.

(g) Stand-by pump fails red indicator light.

(h) Low water condition pumps cutout with red indicator light.

The pumps are to be protected by a low level cut-out switch to prevent dry pump run when low level water conditions occur in the water storage tank.

6.8.4 Hose Reel

The hose reel to the installation shall consist of a recessed, swing-type hose reel as Angus Fire Armour Model III or from other approved manufacturers.

The hose reel shall comply with B.S. 5274: 1975 and B.S 3161:

1970 and is to be installed to the requirements of C.P. 5306 Part 1: 1976.

The hose reel shall be supplied and installed complete with a first-aid non-kinking hose 30 meters long with a nylon spray / jet / shut-off nozzle fitted. A screw down chrome - plated globe valve to

B.S 1010 to the inlet to the reel is to be supplied.

The orifice to the nozzle is to be not less than 4.8mm to maintain a minimum flow of 0.4 lit / sec to jet.

The hose reels shall be installed at 1.5 meters centre above the finished floor level in locations shown in the contract drawings.

6.8.5 **Pipe Work**

The pipe work for the hose reel installation shall be galvanized wrought steel tubing heavy grade Class C to B.S 1387: 1967 with pipe threads to B.S 21.

6.8.6 **Pipe Fittings**

The pipe fittings shall be wrought steel pipe fittings, welded or seamless fittings conforming to B.S. 1740 or malleable iron fittings to B.S 143.

All changes in direction will be with standard bends or long radius fittings. No elbows will be provided.

6.8.7 **Non-return Valves**

The non-return valves up to and including 80mm diameter shall be to B.S. 5153: 1974.

The valves shall be of cast iron construction with gunmetal seat and bronze hinge pin.

6.8.8 **Gate Valves**

The gate valves up to and including 80mm diameter shall be non-rising stem and wedge disc to B.S 5154: 1974 with screwed threads to B.S. 21 tapes thread

6.8.9 Sleeves

Where pipe work passes through walls, floors or ceilings, a sleeve shall be provided one diameter larger than the diameter of the pipe, the space between them to be packed with mineral wool, to the Engineer's approval.

6.8.10 Earthing

The hose reel installation shall be electrically earthed by a direct earth connection. The installation of the earthling shall be carried out by the Electrical Sub- contractor.

6.8.11 Finish Painting

Upon completion of testing and commissioning the hose reel installation, the pipe work shall be primed and finish painted with 2 No. coats of paints to the Engineer's requirements.

6.8.12 Testing and Commissioning

The hose reel installation shall be flushed out before testing to ensure that no builder's debris has entered the system. The installation is to be then tested to one and half times the working pressure of the installation to the approval of the Engineer. Simulated fault conditions of the pumping equipment are to be carried out before acceptance of the System by the Engineer.

6.8.13 Instruction Period

The Sub-contractor shall allow in his contract sum for instructing of the use of the equipment to the Client's maintenance staff. The period of instruction may be within the contract period but may also be required after the contract period has expired.

The period of time required shall be stipulated by the Client but will not exceed two days in which time the Client's staff shall be instructed on the operation and maintenance of the equipment.

4.08 **FIRE HYDRANT DETAILS**

(a) **Hydrant body**

The body of the hydrant shall be made of grey cast iron complying with the requirements of BS 750 having a tensile strength not less than that given for grade 14.

(b) **Hydrant Valve**

The valve shall be faced with suitable resilient material. The threaded part of the valve, which engages with the spindle, shall be of bronze.
Body seating for the valves shall be of copper alloy complying with the requirements of BS 750, or high tensile brass complying with the requirements of BS 2872 or BS 2874.
Turning the spindle cap in a clockwise direction when viewed from above shall close valves and the direction of opening shall be permanently marked on the gland.

(c) **Spindle & Spindle Cap**

The spindle note shall be either of the same material as the spindle, or of copper alloy complying with the requirements of BS/1400 either type LG 2 or type LG 4. It shall have a squared top formed to receive either a cast iron spindle cap.

The spindle shall be made of copper alloy complying with the requirements of BS 2874, either type CZ114 or type CZ115, and it shall have a threaded machined of trapezoidal form.

The spindle cap shall be of a cast iron secured to the spindle by on M12 hexagon socket set screw conforming to BS 4168.

(d) **Hydrant outlet**

The outlet flange of the hydrant shall have above nominal diameter 65mm, and shall be fitted with a screwed outlet – Both flanges shall be 50 mm conforming to BS 750
The screwed outlet shall be provided with a cap of cast iron or other suitable material.
The cap shall cover the outlet thread completely and shall be attached to the hydrant by a chain

The distance between the axis of the outlet and the nearest point on the spindle fitting Shall be not less than 100 mm. The screwed outlet shall be made of Copper alloy to BS 1400, type LG2G or DC BIC or Copper alloy to BS 2872, type CZ114 or CZ115, or Suitable spheroidal graphite iron to BS 2789 protected against corrosion accordance with CP 2008.

(e) **Drain Boss**

Each shall be provided with a suitable drain boss on the outlet side. This shall be located at the lowest practical point, which will permit the filling of self-operating a drilled drip plug.

(f) **Jointing**

The hydrants shall have machined joint faces through out and the fitting of adjoining parts shall be Such as to make sound joints, corresponding parts of hydrants of the same design and manufacture shall be interchangeable

(g) **Hydrant coating**

The hydrant shall be coated in accordance to BS. 4164.

(h) **Surface Box.**
The clear opening of hydrant surface boxes at ground level shall not be less than 250mm x 380mm

The depth of frame shall normally be for boxes located on footpaths: 100mm
for boxes located in roads: 125mm

(i) **Markings**
Surface box covers shall be clearly marked by having the words FIRE HYDRANT' in letter not less than 30mm high, or the initials F.H.' in letters not less than 75mm high cost into the cover.

(j) **Surface Box Covers & Fram**es.
The surface box frames and covers shall be graded in accordance with 2.1. of BS 497:1967 and shall meet the loading test requirement also given in BS 497

(k) **Testing**
The hydrants shall be deemed to have undergone the necessary hydrostatic and flow test at time of manufacture Necessary test certificates from the manufacturer shall be needed. The test, to conform to BS 750: 1977:
Appendix a.1

4.09 **STAND PIPES**
One end of these shall have internal threads to couple with the 80mm diameter external threads of the screw down type fire Hydrant (BS750 type 2 hydrants) outlet. The other shall have 65mm diameter internal threads to couple with the interconnect or hose of the pump set

4.11 **HOSE PIPE**
Each cotton synthetic fibre rubberised fire hosepipe to be 25 metres long with 65mm diameter female instantaneous type connector.

SECTION G

STANDARD SPECIFICATIONS FOR MECHANICAL VENTILATION AND AIR CONDITIONING SYSTEMS

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GENERAL SPECIFICATION FOR MECHANICAL VENTILATION SYSTEM

1. SCOPE OF WORK

The scope of the works coprises 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:-

A) All concrete works

B) All block work

c) Electrical wiring, isolators and switch boards, except internal wiring for control system from a local isolator

2. 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. 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 care should be taken to coordinate the Ventilation and Air Conditioning works with other services involved and avoid any interference with these.

4. MATERIALS AND GENERAL 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 shal l 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. GENERAL DUCTWORK

5.1 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 erosion-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 shall be included at intervals to facilitate any subsequent alternations.

Bends and offsets shall have a minimum throat radius equal to the width of duct.Where short radius elbows are indicated or agreed by the Engineeras necessary due to site limitations the dimensions and internal vane(s) shall be in accordance with HVAC publication DW/121

Ductwork shall be constructed by galvanized,cold rolled,close annealed patent flattened sheets.Test holes shall be provided in branch ducts from grilles and there shall be three or four tests holes on size of duct according to duct depth at each test position.At branch positions shall be one test hole.Air tight swivel type metalcovers shall be fitted over the test holes in such amanner that they shall be readily removed as required.

5.2 Rectangular ductwork

Construction of ductwork shall be as per the following Guidelines:

i) Up to 300mm longer side-22 S.W.G

ii) Over 300mm and up to 460mm longer size-20 S.W.G

iii) Over 460mm and up to 900mm longer side 18 S.W.G(stiffening to be 25mm x 25mm x3mm.M.S. angle at slip joints at 180mm spacing)

iv) 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)

v) 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 a riveted seam with 8 S.W.G. rivets at 2'' pinch.

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.

Airtight access doors shall be provided on the ductwork wherever indicated on the drawings.The access door, 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 ptovided 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 radius possible with a mminimum 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 section shall be constructed so that the angle on any side does not exceed 15degrees celcious to the ais of 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 systematically about the axis of the branch.

5.3 Brackecks and supports

Supports and brackets for duct works shall be made adjustable for height,speced 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 riverts at centres not exceeding 50mm.W herever access cannot be made for riverting or bolting self tapping crew of the shortest length which will give a satisfactory joint shall be used in lieu of the riverts 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 leave 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 the closed positions and are to be marked and then locked after air volume has been set.

5.4 Joints

5.4.1 Flexible Joints

Flexible joints shall be provided on fan inlet and outlet connections and elsewhere on the ductwork where indicated.They shall be over 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.T he material shall be of the grass fire cloth type ,canvas or other approved material.The width of joints from metal edge shall not be less than 80mm or 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.

5.4.2 Flexible connections

Where flexible connections are indicated or required between rigid ductwork and particular components or items of equipments ,the internal diameter of the flexible duct shall be equal to the external diameter of the rigid ductwork and 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,timplated steel or aluminium coated steel.The metal may be lined on the inside or the outside or both with plastic 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 frictional resistance per unit length of the 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 opening temperature range of 18 degrees Celcius to 120 degree Celcius and shall comply with BS 476 Part 1,Section 2,Clause 7(Clause 1;surface of very low flame spread).

5.5 Finish Painting

Upon completion of the installation and after all tests have been carried out to the satisfaction 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 een carried out to the satisfaction of the Engineer, 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 Contractor and Engineer, at a later date.

For the purposed of the specification, however, it shall be deemed that the contractor's tender price was based on the identification requirements for the various services detailed in Code of the Practice DW/161 Identification of Ductwork as published by the HVAC.

6. 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 at 2mm diameter wire and complete with a a frame of galvanized steel rod with securing lugs or of flat iron shall also be fitted on the inner side of the louvers

7. FANS

7.1 General

Fans shall be 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 locktype may be used for drivers upto 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 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 ptevent them from turning in the fan base plate when the nuts are tightened.

Any fan which is too large or too heavy for safe manhandling shall be provided with eyebolts or other lifting facilities to enable mechanical lifting equipment to be used.

7.2 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.Casing shall be rigidly constructed of mild steel stiffened and braced to obviate drumming and vibration.Cast iron or fabricated steel feet shall be provided where necessary for bolting to the base or supports.Inlet and outlet ducts shall terminate in flanged ringsfor easy removal.

The length of the fan(s) and motor(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 backroller 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 bearings shall be suitable for operation at the temperature they may experience.

8. DAMPERS

8.1 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 dumpers 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 HVAC Specification.

Each primary control damper shall be fitted with a non-corrodible label starting the actual air flow in metres cubed per second and the cross-sectional area.Alternatively,these figures shall be painted in avisible position on the adjoining ductwork or insulation.The position of the damper as set after final regulation and balancing be indelibly marked on the damper quadrant.

8.2 Butterfly dampers

Butterfly dampers shall each consist of two plate 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.

8.3 Bifurcating dampers

Bifuracating dampers shall be of 2mm thick sheet of sizes 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.

8.4 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 spindle shall be linked such that one movement of the operating handle 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 plater,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.

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8.5 Damper Quadrants and Operating Handles.

Quadrantsand 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-fitted in the quadrants hubs to prevent any dumper movement when the damper levers are locked.

8.6 Self-closing dampers

Self-closing dampers shall be designed so as to prevent the minimum of resistance to airflow under running conditions, to take up a firm,non-fluctuating position under running condition and to give the 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.

8.7 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.

8.8 Irish type dampers

Irish type dampers may be used in ducting upto 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.

9. GRILLES

9.1 Supply & Return Registers

Supply registers shall be manufactured from high grade,extruded Aluminium sections with lacquered finish and finishing shall be 32mm with beveled edges.

The registers shall have a front set of blades parallel to the short dimension,the blades being at 17mm centres and individually adjustable with opposed blade dampers.

9.2 Extract grilles

Extract grilles shall be similar to the Supply & Registers as described above with the exception that they have only one set of blades parallel to the long dimension.

9.3 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 down stream

9.4 Diffusers

These shall be manufactured from high grade extruded sections with lacquered finish,beveled flanges and removable core. Fixing shall be by self-tapping screws though the duct into the neck of the diffuser.

9.5 Louvres

Discharge and Fresh air Intake louvers shall be manufactured from milds steel and be galvanized after manufacture. A screen shall be fixed to the back louvres.

10. ATTENUATION

10.1 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 ror,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-flamable.

Where sound absorbent material and/or special attenuators are indicated they shall either reduce the sound level to the space,due to the equipmen,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 Labolatory Reort 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 b e stated.

Attenuators shall be suitable for internal air pressure of 100N/Meters squared,air stream temps of upto 40 degrees celcious and free from air steam erosion for velocities upto 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.

10.2 Rectangular attenuators

These shall be rectangular in section with splitters forming air passages in parallel.The mineral wool lining shall be resin bonded.

10.3 Circular attenuators

Circular section attenuators will have acentral 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.

10.4 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.

11. INSTRUMENTS

11.1 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.

11.2 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 intakesto the plant room.

12 VIBRATION, NOISE AND SOUND INSULATION

12.1 Anti-Vibration Mountings

Fans,compressors,motors and any other vibraton-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.

12.2 Noise

The noise produced by the installation in the spaces served,in any adjacent buildings and in the 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 m ust not exceed value mentioned below measured by a reference value of 2 x 10 x 100000 N/meter squared transferred to a logarithm scale,and measured at any point 1.5 meters above the floor and 1.0meters from the walls.

The maximum sound pressure level measured at any point 4 meters from the extract point must not exceed 55Db

The maximum sound pressure level measured at any point 4 meters from fans must not exceed 60dB.

13 THERMAL INSULATION

13.1 General Description

All heated,cooled,and recirculated 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.

13.2 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 45 degrees at all connecting ,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 anti-condensation paint.

13.3 Ductwork External to Plant rooms

The insulation described in Clause 5.1 above shall finish by the application of two coats of bitumen paint.

14 ELECTRICAL EQUIPMENT AND WIRING

14.1 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 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.

14.2 General

Unless otherwise indicated all electrical equipment and installation shall be suitable for use in ambient temperatures up to 40 degrees celsious and relative humidities 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 susceptile to mould growth or attack by termite and similar hazards.

14.3 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 25 rev/s unless otherwise indicated.

15 INSPECTION, COMMISSION AND TESTING

15.1 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.

15.2 Testing

When an individual inspection or tests take place at outside the site of the works representatives of the Engineer will be required to 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 of 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 sites tests shall be fully conversant with the operation of the thermostatc controls and shall be expected to explain the operation and safety controls forming part of the installation to the employer's representatives.

15.2.1 Site Tests

The installer shall supply all instruments and equipment necessary to carry out 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.

15.2.2 Testing 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.

15.2.3 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 installs 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.

Tests 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 Engineer, 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 Contractor.

During this phase, particular attention shall be paid to:

(i) The maintenance of cleanliness of all plant and extraction systems during construction and ensuring that extraction systems are cleaned through as part of commissioning.

(ii) 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.

(iii) The protection of electrical equipment from damp during construction and commissioning.

19.0 CONTROL SYSTEM

Particular attention shall be paid to the following features:

(i) Satisfactory operation of any automatic or manually operated sequence to be used in the event of fire.

(ii) Safety in the event of failure and of sudden resumption of electricity supply.

(iii) 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: -

(i) Set devised value of all control devices
(ii) Satisfactory operation of equipment protection devises
(iii) Satisfactory operation of all sequencing operations and alternate working selections and automatic or manual change-over of duplicate plant.

16 NOISE AND SOUND CONTROL

Sound reading level shallbe 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:-

(i) plant rooms

(ii) Occupied rooms adjacent to plant rooms

(iii) Outside plant rooms facing air intakes and exhausts to assess possible nuisance to adjacent accommodation.If the adjacent accommodation is private residential building tests may be required at night.

(iv) In the space served by the first grille or diffuser after a fan outlet.

(v) In any space where,by the addition of special licensing materials or techniques of by classification of use,a low level of noise is clearly required.

Altrenatively,sound reading level shall be taken using a sound analyzer to give an octave band analysis of the ground spectrum and to pinpoint the frequency value of the peak sound levels.The spaces in which readings shall be taken shall be agreed with the Engineer but will in general e as detailed in paragraph above.

17 OPERATING AND MAINTENANCE INSTRUCTION

The contractor shall demonstrate and explain the pant 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:

(i) A brief outline of the operation of the plant.

(ii) Instructions on how to start and stop the plant,noting any safety and/or sequencing arrangements.

(iii) Details of required maintenance with suggested frequency of action.

(iv) Details of all lubricating oils and greases required and filter replacement.

(v) 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.

18 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 gears 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.

GENERAL SPECIFICATIONS FOR AIR CONDITIONING SYSTEMS

19 SCOPE OF WORKS

The works to be carried out comprises of supply, delivery,installation ,setting to work,testing and commissioning of all materials and equipments 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 drawing s 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 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 Ministry of Public Works requirements for contract works under “GENERAL MECHANICAL SPECIFICATION”

20 CLIMATIC CONDITIONS

The following climatic conditions apply at the sites of the works and all and materials and equipment used shall be suitable for these conditions: -

PARAMETERS	(CONDITIONS)KILIFI
Maximum mean outdoor dry bulb Temperature Minimum temperature Relative humidity Altitude Longitude Latitude Max.solar radiation occurs during the month of february	28degrees celcious 11.5degrees celcious 42%-94% 1666m ASL 36 degrees 49' E 01degrees 17'S

21 SYSTEMS DESIGN DATA

The air-conditioning systems are designed to maintain the following internal conditions with ambient conditions 28 degrees celcious DB and 55%RH

Internal Temperature	23+ or – 1degrees celcious
Relative Humidity	50 + or -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.

22 SPLIT AIR CONDITIONING SYSTEM

The system shall be complete with

22.1 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 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 specific 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-circulated 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:-

a) 1 No.air purifying filter
b) Built in drain pump to automatically drain water
c) Refrigeration pipe work with flared conditions
d) Fixing brackets/wall mounting kit/ground mounting kit
e) Thermostat to control room temperature
f) High and low pressure units
g) Condensate discharge pipe work in Black PVC,15mm diameter
h) Service access valves
i) 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+ or –C and relatively humidity of 50+ or – 10%

22.2 Outdoor Units

The door unit shall be installed and mounted on the wall on the wall using appropriate 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 be connected to refrigeration 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 approval mounting brackets.

The Unit shall be complete with the following:

a) 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.

b) Hemetically sealed compressor mounted to unit base with rubber isolated hold down bolts,uniform in oil and pressures and shall have internal overload protection.

c) Refrigeration pipe work with flared connections

d)Distributor with refrigeration control

e) Fixing brackets/wall mounting kit/ceiling mounting kit

f) Heat exchanger capacity controls

g) Precise inverter frequency controls

h) new oil returning system (refrigerant oil control system)

i) High- and low-pressure units

j) An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity

k) Condensate discharge pipework

l) Service access valves

m) Voltage surge protector

22.3 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.

23 VARIABLE REFRIGERANT FLOW(VRF)SYSTEM

The VRF system shall be a dual aspect system(zone heating/cooling)with reduced energy and 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 and 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.

23.1 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 overall/surge protection among others.

The air conditioning unit shall allow for maximum 48 indoor units of different capacity and types to be connected to a single refrigerant cicuit.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: -

a) Casing constructed of 18 gauge zin 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.

b) Hermetically sealed compresors mounted to unit base with rubber isolated hold down bolts,uniform in oil and pressures and shall have internal overload protection.
c) Advanced compressor oil management system.

d) Compct flow selector unit

e) TCC link:state-of-the-art connection bus system with automatically configured addressing and shall be Building management system(BMS)compatible.

f) Heat exchanger capacity controls.

g) Precise inverter frequency controls with intelligent power drive unit(IPDU)

h) New oil returning system (refrigerant oil contol system)

i) High- and low-pressure units

j) An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity.

k) Condensate discharge pipe work

l) Service access valves

m) Voltage Surge Protector

23.2 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 it 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: -

a) 1 No. air purifying filter

b) Built-in drain pumps to automatically drain water

c)Refrigeration pipe work with flared connections

d) Fixing brackets/wall mounting kit/ground mounting kit

e) Thermostat to control tempera

f) High- and low-pressure units

g) Condensate discharge pipe work in Black PVC,15mm diameter

h) Service access valves

i) Voltage Surge Protector

j) 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.

23.3 Control Panel

Each system shall be provided for which 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;

a) Isolator

b) Contractors

c) Controlling thermostat with temp range from -10 to +30degrees celcious

d) 80mm dial thermometer with temp range from -10 to +30degrees celcious

e) Motor starters & current overload relays

f) MCBs

g) Phase failure relay with over hand under voltage protection

h) Timer switch for defrost control

i) Push buttons for start and stop

j) 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.

23.4 System Controls Unit

The control unit shall be installed in the building management services(BMS)room with electric wiring to all indoor and outdoor units.The electric conduits/wiring to be done to chief Electrical & Mechanical Engineer,MOPW standards.

Controls unit for each system shall incorporate complete to ensure continuous system services.Such controls shall include protection against any possible motor overload and overheat,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 alternatively for 12 hours.This will be achieved 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;

a) Weekly timer for a 7 day timer complete with day omit

b) Infrared wireless remote controller

c) Remote temperature sensor for all indoor units

d) Network/protocol adaptor kit to enable integration with artificial intelligence network

e) External master on/off control board

f) Error output control board

g) Power peak cut control board

h) Touch screen controller for full control of up to 64 indoor unit including electric billing

i) Intelligent server and software package to allow connection to touch screen controller
j) Energy monitoring interface

23.5 Testing and Commissioning Standards

The system shall be balanced to the satisfaction of the Engineer.It shall be run under complete automatic controls for 72hours 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 72hours duration shall be carried out to ensure satisfactory operation,all the expenses of the contractor .

All accessories/equipment have to be tested for capacity,efficiency,leakages and other human errors shall meet standards and specifications.

23.6 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

23.6 Training

Adequate personell 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.

24 DUCTED AIR CONDITIONING SYSTEM

24.1 Packaged Air Handling Units

The air conditioning unit shall be ductable and self-contained with nominal cooling load as described for the particular room,with reversible heating.The unit to be of vertical discharge.

The unit shall be encased in galvanized steel casing with polyester paint finish and shall be installed on a plinth provided by others,but the contractor shall mark in advance the exact dimensional position to the approval of the Engineer.

The whole system shall be complete with the following as will be required:

a) Hermetic compressor with crankcase heater and anti-recycle timer

b) Centrifugal fans with variable pulley-belt drive

c)Expansion valve

d) Washable filters

e) Filter dryers

f) Reversing valve

g) High- and Low-pressure cut-out

h) Unit circuit breaker

i) Direct expansion blower unit

j) Discharge plenum

k) Air inlet protective grille

The contractor shall also be responsible for the ducting work of the rooms as described in particular specification for mechanical ventilation,drainage of condensed water from the drain pan and provision of anti-vibration mountings.

25 TESTING AND COMMISSIONING

All the pipe work and connection herein described shall be tested in the pressure of the Engineer deems satisfactory and for a minimum period of 1 hour.

These tests must be therefore any insulation work is undertaken or any pipework is finally enclosed in any ducts,etc and due allowance is to be made in the tender for the tests.

The tenderer is to include for providing for all the testing equipment,temporary plugging and refilling,etc

26 ELECTRICAL WORKS

The installation of HVAC works shall include supply,installation and commissioning of all starters,control apparatus,control panels and interconnecting wiring and conduits for equipment.

Power points shall be provided within 5 meters of the equipment installation point and the equipment will be connected to this point.

27 BUILDERS WORKS

The HVAC installation shall allow for perforation of holes,hacking of walls etc.All disturbed surfaces shall thereafter be made good by the contractor upon satisfactory completion of the works.

SECTION H:

BILLS OF QUANTITIES

AND

SCHEDULE OF UNIT RATES

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

CLAUSE No.		PAGE
1.	GENERAL NOTES TO TENDERERS……	G-1
2.	STATEMENT OF COMPLIANCE……	G-2
3.	BILLS OF QUANTITIES ……	G-3 to G-16
4.	SUMMARY PAGE.....	G-17

SPECIAL NOTES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including 16% VAT).

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

3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part there of.

4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere. Otherwise alternative brands of equal and approved quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the Form of Tender for the tender to be deemed valid.

6. Tenderers must enclose, together with their submitted tenders, detailed manufacturer's Brochures detailing Technical Literature and specifications on the equipment they intend to offer (As indicated in the Technical schedule).

1. Statement of Compliance

a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.

b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed .....for and on behalf of the Tenderer

Date: ……..

Official Rubber Stamp: …….

BILLS No. 1

A) PRICING OF PRELIMINARIES ITEMS.

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:-

Preliminaries – Bill 1

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The numbers of preliminary items to be priced by the Tenderer have been limited to tangible items such as site office, temporary works and others. However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.
Installation Items – Other Bills
The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
The unit of measurements and observations are as per those described in clause 3.05 of the section C.

(c) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-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

SCHEDULE 1 – SUB-CONTRACT

Bills No. 1-PRELIMINARIES

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS	CTS
1	Discrepancies clause 1.02					
2	Conditions of sub-contract Agreement clause 1.03					
3	Payments clause1.04					
4	Site location clause 1.06					
5	Scope of Contract Works clause 1.08					
6	Extent of the Contractor's Duties clause 1.09					
7	Firm price contract clause 1.12					
8	Variation clause 1.13					
9	Prime cost and provisional sum clause 1.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)					
10	Bond clause 1.15					
11	Government Legislation and Regulations clause 1.16					
12	Import Duty and Value Added Tax clause 1.17(Note this clause applies for materials supplied only. VAT will also be paid by the sub-contractor as allowed in the summary page)					
13	Insurance company Fees clause 1.18					
14	Provision of services by the Main contractor clause 1.19					
15	Samples and Materials Generally clause 1.21					
	SUB-TOTAL CARRIED TO PAGE G -6					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS	CTS
16	Supplies clause 1.20					
17	Bills of Quantities clause 1.23					
18	Contractor's Office in Kenya clause 1.24					
19	Builder's Work clause 1.25					
20	Setting to work and Regulating system clause 1.29					
21	Identification of plant components clause 1.30					
22	Working Drawings clause 1.32					
23	Record Drawings (As Installed) and Instructions clause 1.33					
24	Maintenance Manual clause 1.34					
25	Hand over clause 1.35					
26	Painting clause 1.36					
27	Testing and Inspection – manufactured plant clause 1.38					
28	Testing and Inspection – Installation clause 1.39					
29	Storage of Materials clause 1.41					
30	Initial Maintenance clause 1.42					
	SUB-TOTAL CARRIED TO PAGE G -6					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS	CTS
31	Attendance Upon Tradesmen, etc. (Insert percentage only) clause 1.58					
32	Local and other Authorities notices and fees clause 1.60					
33	Temporary Works clause 1.63					
34	Patent Rights clause 1.64					
35	Mobilization and Demobilization Clause 1.65					
36	Extended Preliminaries Clause 1.66(see appendix on page C- 24)					
37	Supervision by Engineer and Site Meetings Clause 1.67					
38	Allow for profit and Attendance for the above					
39	Amendment to Scope of Sub-contract Works Clause 1.68					
40	Contractor Obligation and Employers Obligation clause 1.69(see appendix page C- 24)					
41	Any other preliminaries;					
	Subtotal above total brought forward from page G-4 total brought forward from page G-5					
	TOTAL FOR BILL NO. 1- PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE G HB/14					

SECTION I:

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

CONTENTS

CLAUSE No. **PAGE**

1. GENERAL NOTES TO THE TENDERER..... I-1

TECHNICAL SCHEDULE

1. General Notes to the Tenderer

1.1 The tenderer shall submit technical schedules for all materials and equipment upon which he has based his tender sum.

1.2 The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings described in the technical schedules. Manufacturer's literature shall be accepted. Failure to comply with this may have his tender disqualified.

1.3 Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.

d) **TECHNICAL SCHEDULE (MUST BE COMPLETED IN FULL)**

ITEM No.	Description	Manufacture r	Country Oforigin	Particulars
1	Water closet			
2	Wash hand basin			
3	Urinal			
4	Toilet roll holders			
5	Gate valves			
6	Water tanks			
7	Booster pump			
8	Co2 fire extinguishers			
9	Co2/water fier extinguishers			
10	Solar water heater			
11	Hose reel			

SECTION J

SCHEDULE OF CONTRACT DRAWINGS

As will be issued by the Engineer during project implementation.

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	MECHANICAL WORKS				
	ELEMENT NO. 1 (INTERNAL PLUMBING):				
	Supply, deliver and install pipes, tubing and fiitings as described and shown on the drawings. The pipes shall be PN 25PPR pipes where exposed to adverse weather conditions and all conforming to the current European standards for PPR installations and to the Engineers Approval. Pipe jointing shall be by polyfusion or use electric coupling, 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 cross overs, couplings, clippings, connectors, joints etc. as required in the running legths of pipe work 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 manufactures recommended testing pressures				
	PPR Pipes				
A	20mm diameter pipework in wall chase	**40**	**LM**		
B	25mm Ditto	**60**	**LM**		
C	32mm Ditto	**16**	**LM**		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.01 CONT'D:				
	Sockets;				
A	20mm diameter socket	11	No.		
B	25mm ditto	29	No.		
C	32mm ditto	5	No.		
	Bends				
D	20mm diameter bends	2	No.		
E	25mm ditto	14	No.		
F	32mm ditto	4	No.		
	Tees				
G	20mm diameter equal tees	8	No.		
H	25mm ditto	16	No.		
I	32mm ditto	4	No.		
	Reducers				
J	25x20mm Reducer	24	No.		
K	32x20mm ditto	2	No.		
L	32x25mm ditto	8	No.		
	Threaded Fittings				
M	20mm diameter male/female threaded 90° bend/Elbow	88	No.		
N	25mm diameter PPR-M Adapter	12	No.		
O	32mm ditto	12	No.		
P	50mm ditto	4	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.01 CONT'D:				
	Nipples				
A	20mm diameter G.I. nipple	12	No		
B	25mm ditto	12	No.		
C	40mm ditto	4	No.		
	Valves				
D	20mm diameter approvded 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 jopints to steel tubing and complete with round male threaded transion fittings.The gate valve to be as PEGLER or approved equivalent.	6	No.		
E	25mm ditto	6	No.		
F	40mm ditto	2	No.		
	TOTAL CARRIED TO COLLECTION				
	Summary of Collection: **Internal Plumbing** **Totals Brought Down From Above** **Totals Brought Forward From Mech/1** **Totals Brought Forward From Mech/2**				
	TOTAL INTERNAL PLUMBING FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2: **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.** **Note.** **(i). All sanitary fittings shall be in approved colour.** **(ii). The model and Ref. No. Indicated is only a guide to the type and quality of fittings.** **(iii). Equivalent and Approved models may be acceptable**				
A	**Close Couple Water Closet** Close Couple water closet suite in approved colour comprising of W.C. bowl,'p'or's' trap connector,heavy duty matching plastic seat and cover with metal top fixed to (crome plated) hinges and secured to floor or wall and complete with horizontal outlet to BS 3402 with 9 litre valveless Top Quality Ceramic Cistern and fittings including siphon,15mm diameter side inlet ball valves,20mm diameter side overflow,plastic flush bend,inlet connection,and chrome-plated lever..The water closet suite to be as 'Model Twyfords'-England or other approved equivalent.	**5**	**No**		
B	**Shower Fittings** Concealed shower fitting consisting of 25mm diameter x 2500mm long PPR riser pipe for showers,25mm diameter chrome plated cold water swivel/adjustable shower rose, Carina handle and 'Cobra' Stop Cock	**1**	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D:				
A	**Counter Top Wash Hand Basin** Wash Hand Basin suitable for mounting on counter size 510x420mm with one tap holes and chain stay hole,32 mm diameter chrome-plated pop up chain waste,first quality plastic bottle bottle trap(32mm 'P' trap) with 75mm seal.The wash hand basin to be as 'Model Twyfords' Sola 510'or equal and approved.The basin to be supplied and installed complete with 15mm diameter heavy duty chrome plated -**'COBRA elbow action'** Pillar Tap or other equal and approved	1	No		
B	**Squatting Water Closet** Squatting Water Closet Suite in white Vitreous China comprising of WC bowl with S-Trap,Connector and Integral foot threads,9 Litre Ceramic Cistern and fittings,including siphon and pull chain,15mm diameter side inlet ball valve,20mm side overflow,first quality plastic 32mm flush pipe,Inlet connector and cistern supports,all to approval.The water closet suite to be as 'Model Twyfords'-England or other approved equivalent.	2	No.		
C	**Toilet Roll Holder** Semi recessed toilet roll holder in Vitreous China of size 165 x 165mm in approved colour as Twyfords 9806WH or equal and aapproved.	9	No.		
D	**Bib Tap** 15mm diameter heavy duty 'Peglar' bib tap or other equal and to approved catalogue	10	No		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D:				
A	**Flexible Tubing** 15mm diameter x 300mm longg flexible connectors complete with Integral chrome plated angle valve for connecting the Sanitary fitting to water supply.To be as Cobra or equal and approved.	24	No.		
B	**Sluice Unit Set** Sluice Unit Set comprising of Twyords "Grafton B.P.S" hopper Cat No. FC 4076 and screwed to floor,Sink Drainer on Legs and Bearers,Complete with,9.0Litre High Level Vitreous China Ceramic Cistern and reversible pull chain Cat No.CX7610WH9 Valveless Fittings and screwed to wall and supported with steel brackets Cat No.SR 1300 XX,including 32mm diameter stainless steel flush pipe with spreader and clips Cat.No. SS 6020 SS or and approved equivalent.The unit to be also complete with 15mm diameter x 450mm long stainless steel fleible telephone shower, angle valve connection and approved steel hanging hook,(2No.)15mm diameter Elbow action Mixer taps as Model Cobra or other equal and approved	1	SET		
C	**Dhobi Sink** 750 x 455 x 600 mm deep concrete dhobi sinks with Terrazzo finish. The sink to be supplied complete with ,approved first quality plastic bottle trap(40mm bottle trap) with 75mm seal and Wall Mount Heavy Duty Chrome Plated Bib Tap as 'COBRA' or approved equivalent	2	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	**ELEMENT NO.02 CONT'D:** **Disabled persons Water Closet and Wash Hand Basin Facility** Wheel chair accessible W.C facility Comprising of the following:- **(i)** Close coupled W.C with 7.5 litre cistern with bottom inlet and overflow.The bowl shall e of size 375 x 560 x 420mm high.The bowl and cistern shall be manufactured from vitreous china complying with B.S 3402.The unit shall be complete with valveless cistern fitting including syphon,15mm side inlet ball valve,20mm diameter side overflow,plastic flush bend,inlet connector and reversible metallic chrome plated cistern lever.There shall also be a heavy duty seat(25mm high) and cover with chrome plated metal hinges,toilet roll holder,900 x 450 x 6mm thick mirror and Robe hook **(ii)** Semi-recessed wall mounted W.H.B of size 600 x 500 x 545mm high with flexible connectors to water taps.The basin shall be manufactured from vitreous china complying with B.S 3402.It shall have one L/H tap hole with 15mm chrome plated lever action pillar tap,chrome plated waste,first quality bottle trap,pedestal and wall fixing bolts. (iii) Hinged support rail with toilet roll holder 770mm long manufactured in nylon coated aluminium and mounted on a wall fixing plate size 230x100mm,4No. 600mm grab rails with covered wall plates.The Disabled set shall be as **Twyfords-England-DOC.M wheelchair accessible W.C** facility or approved equivalent.	2	SET		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D:				
A	**Soap Dispenser** Wall mounted soap dispenser with a capacity of about 1.5 Litre and having a press action soap release mechanism complete with fixing screws.including allowing for initial soap supply as 'Starmix or other approved equivalent.The soap dispenser shall be size125x100x290mm high and shall be as **'Model Mediclinics'** or other approved equivalent	7	No		
B	**Pedestal wash hand basin** Wash Hand Basin with pedestal size 510x420mm with one tap hole and chain stay hole,32 mm diameter chrome-plated pop up chain waste and fittings,approved first quality plastic bottle trap(32mm bottle trap) with 75mm seal.The wash hand basin to be as 'Model Twyfords 'Sola 510'or equal and approved.The basin to be supplied and installed complete with 15mm diameter heavy duty chrome plated - elbow action, brass body mixer pillar Tap as COBRA or other equal and approved	12	No		
C	**Towel Rail** Chrome plated 20mm diameter x 800mm long approved towel rail and brackets as one piece, plugged and screwed into the wall. The fitting ball shall be as Twyfords or equal and approved.	1	No		
D	**Soap dish** Semi recessed built in soap dish in vitreous china of size 150x150mm in approved colour as Twyfords or equal and approved .	1	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D:				
A	**Mirrors** 610 X 610mm X 6mm thick polished plate silver backed with beveled edges mirror fixed with clear silicon to 100 x 25mm thick wrot mahogany molded framing in 4 labors plugged to wall using 4No. Wall plugs with 75mm long stainless steel screws, painted in three coats polyurethane varnish all to approval	15	No		
B	**Robe Hook** Robe hook in vitreous china mounted to concealed screw to wall wedges as Twyfords 'ECLIPSE' accessories or equal and approved	10	No.		
C	**Hospital Sink** Stainless Steel Hospital sink,Size 500x400x225mm deep suitable for mounting on counter as manufactured by ASL Ltd or other equal and approved, complete with heavy duty stainless steel '**Medical Lever Wall mount Bib Tap as 'Cobra'** or equal and approved.It shall also comprise of 40mm diameter stainless steel sink waste fitting, chain and plug and 40mm diameter x 75mm deep seal first quality **chrome plated** Bottle Trap,all to approved catalogue.	1	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D:				
A	**Laboratory Sinks and Taps** 500x400x225mm deep 'Vulcathene black' injection moulded polypropythene sink with self draining base and an outlet to accept the waste as cat. No.602 complete with 15mm diameter'vultex' labline bench mounted 1-way outlet fitting with inlet for supply and side control valve having high neck laboratory swivel nozzle and spout,Vulcathene' plug,backnut,rubber gasket and 'Vulcathene anti-siphon bottle trap	2	No		
B	**Single bowl, single drainer kitchen sink** 16SWG Single Bowl,single Drainer, stainless steel kitchen sink suitable for mounting on counter of size 1000x600mm as manufactured by ASL LTD or other equal and approved.The bowl size to be 430x420x 300mm deep complete with chrome plated 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel bib tap as 'Cobra Model' or other equal and approved	1	No.		
C	**Hand Drier** Automatic Hand Drier in approved colour operating on infra-red automatic sensing system with heating element,safety cut-out comlete with a 30-seconds safety timer,plastic rawl plugs and fixing screws.The hand drier to have a heating capacity of 3.1Kw and performance flow rate of 3.82 Litres/Min and to be of size 270x264x143mm deep.It shall have anoise level of below72.5dBA at 1.5m.It shall be as 'Model Mediclinics' or other approved equivalent	3	No		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	**ELEMENT NO.02 CONT'D:** **Surgeons Scrub-Up Sink** 2-Station-Surgeons Scrub-Up Sink suitable for surface mounting,overall size (1800mm long x 450mm deep x 450mm high) manufactured from 1.5mm thick grade 1.4301 (304) stainless steel,with a satin polish finish supplied with (2N0.) 40mm diameter stainless steel waste outlet and 40mm diameter chrome plated bottle trap with 75mm deep seal.To be also complete with (2No.)15mm diameter medium duty,Quarter Turn,Back inlet,heavy duty Chrome Plated Elbow Action Control taps with divided flow,swivel nozzle and approved (2No) thermostatic sink mixture unit fittings,all as 'COBRA MODEL'or other equal and approved.To be also installed complete with an in built knee opreated soap dispenser.	1	ITEM		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.02 CONT'D: **Summary of Collection:** **Sanitary Fittings** **Totals Brought Forward From Mech/4** **Totals Brought Forward From Mech/5** **Totals Brought Forward From Mech/6** **Totals Brought Forward From Mech/7** **Totals Brought Forward From Mech/8** **Totals Brought Forward From Mech/9** **Totals Brought Forward From Mech/10** **Totals Brought Forward From Mech/11**				
	TOTAL SANITARY FITTINGS CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.03:				
	FOUL DRAINAGE:				
	Supply,deliver and install the following UpVC,MUpVC,soil and waste systems,respectively to B.S 5255 with fittings fixed Key Terrain High Grade Golden Brown and Grey UPVC soil and waste pipe and jointing in accordance with manufacture's printed instructions and manufactured by reputable manufacturers.Tenderers must allow in their pipework prices for all the couplings,clippingsconnectors,joints,e.t.c 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				
	Internal;				
A	40mm diameter Grey UPVC waste pipe in wall chase.	**60**	**LM**		
B	40mm ditto but boxed in concrete floor slab	**36**	**LM**		
C	50mm ditto	**60**	**LM**		
D	100mm ditto	**12**	**LM**		
	Extra Ovetubing For;-				
E	100x50mm diameter UPVC floor trap,grating and cover	**15**	**No**		
F	100x50x40mm diameter Master gulley floor trap ditto	**10**	**No**		
G	100mm diameter WC connector	**7**	**No**		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.03 CONT'D:				
	External;;				
A	100mm diameter Grey UPVC soil vent pipe with expansion coupling and fixing to wall with holder bats ducts	6	LM		
B	100mm diameter Golden Brown UPVC waste pipe in soil	180	LM		
	Extra Overtubing For;-				
C	40mm diameter access tee and cap	14	No		
D	50mm ditto	1	No		
E	100mm diameter Inspection bend and Acces cap.	7	No		
F	100mm diameter vent cowl	1	No		
G	100mm diameter weathering Slate and Apron	1	No		
H	100mm diameter medium duty UPVC gulley trap,grating cover and waste	13	No.		
	TOTAL CARRIED TO COLLECTION				
	Summary of Collection: **Foul Drainage** **Totals Brought Down From Above** **Totals Brought Forward From Mech/13**				
	TOTAL FOUL DRAINAGE CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 04:				
	STERILIZATION AND TESTING:				
A	Allow for sterilization and flushing out of entire cold water installation with chlorine to the Engineer's Satisfaction	1	ITEM		
B	Ditto for setting to work and testing the whole of the plumbing and drainage installation works both during progress and at completion to the satisfaction of the Engineer's satisfaction and to leave the whole installation in good working condition	1	ITEM		
	TOTAL TESTING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.05: **BUILDER'S WORK IN CONNECTION WITH PLUMBING AND DRAINAGE**				
A	**Masonry Gulley Trap** Construct masonry gulley trap size 200x200mm, approx depth 300mm, complete with seal and concrete cover, including all disposal and form work	13	No.		
B	**Manholes and Covers** Construct Manholes size 600 x 450mm and averaging 750mm deep constrructed in 100mm thick concrete base(1:3:6), approved 150mm block sides rendered all around in cement and sand (1:4).It shall have an approved heavy duty cast iron cover and frame as manufactured by E.A Foundry works,Including all necessary excavations,disposal and form work.	18	No.		
C	**Excavations** Excavate trench not exceeding 1.5m deep, average depth 600mm for laying of drain pipes as earlier described, part back fill, part load and cart away remainder	126	LM		
D	**Chasing** Form chase in both 100mm and 200mm thick coral block wall to receive necessary pipe work and make good disturbed areas	78	LM		
E	**Holes** Make a hole through 100mm thick coral block wall for small pipe and make good disturbed areas	25	No.		
F	Ditto but 200mm thick and for large	11	No.		
	TOTAL BUILDERS WORK CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6 (HOT WATER SERVICES):				
	SOLAR INSTALLATION:				
	The hot water system shall consist of a solar hot water system with auxiliary electrical heating elements for use during periods of low solar intensity				
A	A hybrid solar hot water system consisting of an efficient Solar Collector with an area of about **2.4m**^{2} and a hot water cylinder with minimum capacity of 200 litres. The cylinder shall be fabricated from 6mm thick mild steel plate and hot dipped galvanized after manufacture, it shall have polythene foam insulation of minimum thickness 50mm which shall have a thermostatically controlled element of 1.5KW minimum. The cylinder shall be installed in the ceiling void. the package shall also incorparate a pressure relief/ safety valve, gate valve and a non return valve all size 20mm. it shall be as SUNRAY systems of Australia or an approved and equivalent	1	ITEM		
	Pipework				
	The following PPR pipework for hot water supply system:-				
	PPR Pipes				
B	20mm diameter (PN-20) PPR pipe in chase	12	LM		
C	25mm Ditto	40	LM		
D	32mm Ditto	20	LM		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.6 CONT'D:				
	Sockets				
A	20mm diameter socket	4	No.		
B	25mm ditto	11	No.		
C	32mm ditto	6	No.		
	Bends				
D	20mm diameter bends	8	No.		
E	25mm ditto	13	No.		
F	32mm ditto	4	No.		
	Tees				
G	20mm diameter equal tees	6	No.		
H	25mm ditto	12	No.		
I	32mm ditto	7	No.		
	Reducers				
J	25x20mm Reducer	10	No.		
K	32x20mm Reducer	4	No.		
L	32x25mm Ditto	11	No.		
	Threaded Fittings				
M	20mm diameter male/female threaded 90° bend/Elbow	11	No.		
N	25mm diameter PPR-M Adapter	16	No.		
O	32mm ditto	2	No.		
	Nipples				
P	20mm diameter G.I Nipple	16	No.		
Q	25mm ditto	2	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.6 CONT'D:				
	Valves				
A	20mm diameter approved 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 jopints to steel tubing and complete with round male threaded transtion fittings.The gate valve to be as PEGLER or approved equivalent.	8	No.		
B	25mm Ditto	1	No.		
	Lagging				
D	Allow for lagging of the exposed PPR pipe on terrace using superior insulation material all to approval	1	ITEM		
	Testing				
E	Allow for testing and commissioning the entire Hot Water system to the satisfaction of the Engineer.	1	ITEM		
	TOTAL CARRIED TO COLLECTION				
	Summary of collection				
	Totals Brought Down From Above				
	Totals Brought Forward From Mech/17				
	Totals Brought Forward From Mech/18				
	TOTAL HOT WATER SERVICES CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.7: **AIR CONDITIONING & MECHANICAL VENTILATION;** **Supply,deliver and install the following Single Split Room Air Conditioning units comprising of the Indoor and Outdoor Units as herebelow described and to positions indicated on the conract drawings and as instructed by the Engineer:-** **Ceiling suspended "Four-way Cassette type" Cooling Unit(Evaporator)**				
A	Fully packaged Ceiling Suspended "Four-Way Cassette type" Indoor Unit (Evaporator) in conformity with AC/DC technology approx.cooling load capacity **18000 BTU/HR**) as **'MODEL WEST POINT'** or other approved equivalent.The unit shall be complete with 1No.Air purifying filter,built in water drain pump, flared connections for refrigeration pipe work,fixing brackets ,Capillary tubing connection, Thermostat, including high and low pressure cut-outs,condensate discharge pipe work in Black PVC 15mm diameter,service access valves and voltage surge protector as 'MODEL SOLLATEK AVS or other equal and approved,including all other necessary items for the proper functioning of the entire Indoor(Evaporator) cooling unit system	2	ITEM		
B	Ditto but **(24000BTU/HR)** ditto	**1**	**ITEM**		
C	Wall type **(12000BTU/HR)** ditto	**2**	**ITEM**		
D	Wall type **(18000BTU/HR)** ditto	**5**	**ITEM**		
E	Wall type **(24000BTU/HR)** ditto	**5**	**ITEM**		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7 CONT'D:				
	Condensing Unit/Outdoor Unit:				
A	Fully Packaged set of Refrigeration Condensing Unit typical for connection and supply to the above described Indoor Unit,Capacity, **(12000BTU/HR)** and as **'MODEL WEST POINT'**or other equal and approved.The unit shall be complete with casing constructed in18gauge zinc coated mild steel,zinc phospate bonderized,coated with oven baked polyster paint and weatherized for outdoor installation.It shall also have weep holes on base to allow ease of drainage,Hermetically sealed compressor mounted on unit base with rubber isolated hold down bolts,Air cooled Condensers and Internal overload protection.The Unit shall also be complete with Distributor for Refrigeration Control,Fixing bracket,Wall/Ceiling mounting Kit,Heat exchanger capacity and Precise Inverter frequency controls,Refrigerant oil control system,including condensate discharge pipe work,service acess valves,sight glass,Filter Drier,Condenser Fan and all other necessary Items for the proper functioning of the entire condensing unit system.	2	ITEM		
B	Ditto but **(18000BTU/HR)** ditto	7	ITEM		
C	Ditto but **(24000BTU/HR)** ditto	6	ITEM		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7 CONT'D:				
	Refrigeration Pipework				
A	A set of Refrigeration Pipework complete with flared connections and fittings in approved copper tubing approx.10metres long,including flexible condensate drip line approx.6.0metres long,properly fixed and encased in 20mm diameter black PVC Conduit in conformity with 'APPROVED REFRIGERATION MANUAL'.The suction line shall be insulated with at least 25mm thickness of Armaflex or other equal and approved material	30	LM		
	Testing				
B	Allow for testing of the above Air Conditioning Units both during progress of installation and at completion to the Engineers satisfaction,including initial charging of the system with Refrigerant gas R.410A or other equal and approved and to leave the system in good and sound working condition	15	ITEM		
	TOTAL CARRIED TO COLLECTION				
	Summary of Collection: **Air Conditioning** **Totals Brought Down From Above** **Totals Brought Forward From Mech/20** **Totals Brought Forward From Mech/21**				
	TOTAL AIR CONDITIONING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.08				
	WATER RETICULATION(ALL PROVISIONAL):				
	Roof Top Water Tank				
A	Supply, deliver and install vertical close end plastic moulded tank of capacity **5,000 litres** and **(size 1800mm diameterx 2110mm high**). The tank to be assembled complete with cover and having screwed connections fo inlet, outlet, overflow, 32mm high pressure ball valve, drain pipes and any other item necessary for its proper functioning.. The tank shall be installed on a flat roof base appro. **10 Metres** high and shall be as **"Roto Model'** or equal and approved	**1**	**ITEM**		
	Surface Mounted Water Storage Tank				
B	Supply, deliver and install vertical close end plastic moulded water storage tank of capacity **10,000 litres** and **(size 2630mm diameter x 2080mm high)**. The tank to be assembled complete with cover and having screwed connections fo inlet, outlet, overflow, 32mm high pressure ball valve, drain pipes and any other item necessary for its proper functioning.. The tank shall be installed on a reinforced flat surface platform base approx. 900mm high (M/S) and shall be as **"Roto Model'** or equal and approved	**1**	**ITEM**		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.09 CONT'D:				
	Tank Base				
A	Allow for the construction of the above mentioned tank base Approx.size 3800mm diameter x 900mm high consisting of 200mm thick coral block wall,100mm thick well compacted harcore filling,50mm thick blinding,Approved Damp proof membrane,A142 BRC Mesh,100mm thick vibrated (1:2:4)concrete floor slab, 15mm thick screed on the general faces of the tank base in (1:3) cement/sand mortar, 600mm widex1500mm deep srip foundation,including all Excavations and disposal	1	ITEM		50,000
	Excavations				
B	Excavate trench in soil/murram for Water Mains supply pipe not exceeding 1200mm deep ,lay pipe,part return in,fill ram and surplus cart away	40	LM		
	Pipe Work				
C	25mm diameter PPR (PN-20) pipe drop in ducts	20	LM		
D	32mm ditto	20	LM		
E	40mm diameter (PN-20) PPR Riser in wall duct and roof terrace	40	LM		
F	40mm ditto but distribution pipework on roof terrace	20	LM		
G	50mm ditto	20	LM		
	TOTAL CARRIED TO COLLECTION				50,000

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.09 CONT'D:				
A	25mm diameter (PN-20) PPR Pipe laid and jointed in trench	20	LM		
B	32mm ditto	20	LM		
	Extra Overtubing for:				
	Sockets;				
C	25mm diameter PPR Sockets	9	No.		
D	32mm ditto	11	No.		
E	40mm ditto	22	No.		
F	50mm ditto	6	No.		
	Bends				
G	25mm diameter bend/Elbow	6	No.		
H	32mm ditto	6	No.		
I	40mm ditto	12	No.		
J	50mm ditto	4	No		
	Tees				
K	40mm diameter (PN-20) PPR equal tee	8	No.		
L	50mm ditto	2	No		
	Reducers				
M	40x25mm Reducer	6	No.		
N	40x32mm ditto	6	No.		
O	50x40mm ditto	4	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.09 CONT'D:				
	Threaded Fittings				
A	25mm diameter PPR-M Adapter	16	No.		
B	32mm ditto	2	No.		
C	40mm ditto	2	No.		
D	50mm ditto	2	No.		
	Nipples				
E	20mm diameter G.I. nipple	16	No		
F	25mm ditto	2	No.		
G	32mm ditto	2	No.		
H	40mm ditto	2	No.		
	Valves				
	Gate Valves				
I	20mm diameter supply mains full way gate valve as PEGLAR or equal and approved	8	No.		
J	25mm ditto	1	No.		
K	32mm ditto	1	No.		
L	40mm Ditto	1	No.		
	Non Return Valves				
M	32mm diameter Non Return Valves as PEGLER or equal and approved	1	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.09 CONT'D:				
	Mains Valve Chamber				
A	Construct Mains Valve Chamber size 600x600x500mm deep with 100mm thick concrete block rendered all round in cement and and sand mortar (1:4) including hinged iron cover amd frame in grease	1	ITEM		
	Water connection and Testing				
B	40mm diameter G.I. equal tee	1	No		
C	40x32mm diameter G.I. reducer	1	No		
D	32mm diameter G.I. nipple	2	No		
E	40mm diameter PPR Adaptor	1	No		
F	32mm diameter full Way gate valve as PEGLAR or other equal and approved	1	No		
	Booster Pump Set				
G	Booster Pump Set for Roof Top water Tanks (M/S) mounted on a Mild Steel base Frame and to approval, comprising of, One pump of capacity **4m3/hr** against a Maximum Head of **40(metres)** as **MODE**L **GRUNDFOSS (CM 5-4A)** or equal and approved. The pump set shall be complete with control panel, MCBS, Pressure and Float switche, Overload protection, ON/OFF Buttons, Indicator Lights, Non -Return, Gate valves and a Pressure Vessel of Approx Capacity **60Litres** as VAREM or equal and approved including all other accessories for proper fuctioning.	1	ITEM		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	**ELEMENT NO.09 CONT'D:** **Testing** Allow for connecting the above earlier described Booster pump to the pump delivery and suction lines, including Test Pumping and testing the whole of the water Reticulation system both during progress and at commissioning to the Engineer's satisfaction and to leave the system in and good sound working condition	1	ITEM		
	TOTAL CARRIED TO COLLECTION				
	Summary of Collection: **Water Reticulation** **Totals Brought Down From Above** **Totals Brought Forward From Mech/23** **Totals Brought Forward From Mech/24** **Totals Brought Forward From Mech/25** **Totals Brought Forward From Mech/26** **Totals Brought Forward From Mech/27**				50,000
	TOTAL WATER RETICULATION CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				50,000

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.10 (FIRE FIGHTING AND PROTECTION SERVICES);				
	Supply,deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed by the Engineer.Tenderers during pricing should allow for all fittings,jointings,couplings,including unions and clamps,where necessary for the proper functioning of the installation.				
A	**Hose Reels.** 20mm diameter x 30Metre long swinging type hose reel complete with delivery hose,nozzle,mild steel feed pipe,isolation valve,guide,bracket and all other accessories as ANGUS FIRE ARMOUR or other equal and approved.	2	No.		
B	**Hose Reel Fire Tank** Supply, deliever and install vertical close end plastic moulded tank of capacity **3,000 Litre (Size 1600 diameter x 1630mm high).**The tank to be assembled complete with cover and having screwed connections for inlet, outlet and overflow, 32mm medium pressure ball valve, drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat roof slab and shall be as **'Model 'ROTO'** or other equal and approved.	1	ITEM		
C	**Pipework (G.I)** 32mm diameter medium grade galvanized mild steel supply pipe to hose reel	18	LM		
D	**Sockets** 32mm diameter (G.I)socket	4	No.		
E	**Unions** 32mm diameter (G.I)union	2	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.10 CONT'D:				
	Bends/Elbows				
A	32mm diameter (G.I) bend	3	No.		
	Tees				
B	32mm diameter (G.I)equal tee	1	No.		
	Reducers				
C	32x25mm diameter G.I. Reducer	2	No.		
	Nipples				
D	25mm (G.I) nipple	2	No.		
	Painting				
E	Prepare prime and apply two coats of gloss oil paint - RED - on the general surfaces of the above described Hose Reel supply pipes	1	ITEM		
	Booster Pump Set				
F	Booster Pump Set for Hose Reels mounted on a suitable Mild Steel base Frame and to approval of capacity **4m3/hr** against a Maximum Head of **40(metres)** as **MODE**L **GRUNDFOSS (CM 5-4A)** or equal and approved.The pump set shall be complete with control panel, MCBS, Pressure and Float switche, Overload protection, ON/OFF Buttons, Indicator Lights, Non -Return and Gate valves and a Pressure Vessel of Approx Capacity **24Litres** as VAREM or equal and approved including all other accessories for proper fuctioning.	1	ITEM		
	Pump Suction & Discharge Lines(All Provisional)				
	Pump Suction Lines				
G	40mm diameter medium grade (G.I) Suction lines	6	LM		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.10 CONT'D:				
A	**Pump Delivery Lines** 40mm diameter medium grade (G.I) Discharge lines	6	LM		
B	**Extra over (G.I) tubing for Pump manifolds and above desrcribed pipework:-** 40mm diameter (G.I) elbow/bend	2	No.		
C	**Testing** Allow for connecting the above earlier described Booster pump to the pump delivery and suction lines, including Test Pumping and testing the whole of the water Reticulation system both during progress and at commissioning to the Engineer's satisfaction and to leave the system in good and sound working condition	1	ITEM		
	Supply,deliver and install the following Portable Fire extinguishers to positions indicated on the conract drawings and as instructed by the Engineer:-				
D	**Dry Powder Fire Extinguisher** 9Kg catridge type general purpose portable dry powder fire extingusher fully charged or equal and approved.	2	No.		
E	**Carbon dioxide Gas Fire Extinguisher** 5kg carbon dioxide gas portale fire extinguisher complete with pressure gauge,initial charge and mounting brackets	2	No.		
F	**Water Carbon Dioxide Fire Extinguisher** 9.0Litre Water carbon dioxide (WCo2) portable fire extinguisher complete wth pressure gauge,initial charge and mounting brackets.	2	No.		
	TOTAL CARRIED TO COLLECTION				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.10 CONT'D:				
A	**Signage** Allow for the Signage of fire hose Reel,fire exits and fire instructions all as described in the particular specifications and to the Project Enginneer's Approval.	2	ITEM		
B	**Testing** Testing the whole fire fighting equipments to leave in sound working condition and to the Engineer's satisfaction	1	ITEM		
	TOTAL CARRIED TO COLLECTION				
	Summary of Collection: **Fire Fighting** **Total Brought Down From Above** **Total Brought Forward From Mech/29** **Total Brought Forward From Mech/30** **Total Brought Forward From Mech/31**				
	TOTAL FIRE FIGHTING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.11 - PROVISIONAL SUMS: **The following Provisional Sum to be Spend upon issuance of Instructions before and/or during progress of work for Engineer's Project Management Expenses.** **The following Provisional Sum to be Spend upon measurements 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	Provide a Provisional Sum of **Kenya Shillings Five hundred thousand, (Kshs. 500,000.00) only for Contingencies**	**1**	**ITEM**		
	TOTAL PROVISIONAL SUMS CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	MECHANICAL WORKS SUMMARY PAGE:				
	TOTALS INTERNAL PLUMBING BROUGHT FORWARD FROM MECH/3				
	TOTALS SANITARY FITTINGS BROUGHT FORWARD FROM MECH/12				
	TOTALS FOUL DRAINAGE BROUGHT FORWARD FROM MECH/14				
	TOTALS TESTING BROUGHT FORWARD FROM MECH/15				
	TOTALS BUILDERS WORK BROUGHT FORWARD FROM MECH/16				
	TOTALS HOT WATER SERVICES BROUGHT FORWARD FROM MECH/19				
	TOTALS AIR CONDITIONING BROUGHT FORWARD FROM MECH/22				
	TOTALS WATER RETICULATION BROUGHT FORWARD FROM MECH/28				50,000
	TOTALS FIRE FIGHTING SERVICES BROUGHT FORWARDFROM MECH/32				
	PROVISIONAL SUMS BROUGHT FORWARD FROM MECH/33				
	TOTAL FOR MECHANICAL WORKS CARRIED FORWARD TO GRAND SUMMARY PAGE……				

PROVISIONAL SUM

ITEM	DESCRIPTION	QTY	UNIT	RATE	K.SHS
	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 Four Hundred Thousand(400,000.00) only for Builder's works in connection to Specialised Works		ITEM		400,000.00
B	Allow a provisional sum of Kenya shillings Five Million (5,000,000.00) only for Contingencies		ITEM		5,000,000.00
C	Allow a provisional sum of Kenya Shillings Kenya Shillings Four Hundred Thousand (400,000.00) only for Demolition of Existing structures		ITEM		400,000.00
	TOTAL FOR PROVISIONAL SUMS CARRIED TO GRAND SUMMARY				**5,800,000.00**

GRAND SUMMARY

PROPOSED CONSTRUCTION OF ACCIDENT AND EMERGENCY CENTRE AT GEDE HEALTH CENTRE IN DABASO WARD FOR THE DEPARTMENT OF HEALTH SERVICES- KILIFI COUNTY

GRAND SUMMARY

ITEM	DESCRIPTION	FOR OFFICIAL USE ONLY	FOR TENDERER USE ONLY
		K.SHS.	K.SHS.
A	Particular Preliminaries		
B	General Preliminaries		
C	Builder's Works		
D	External works		
E	Electrical works		
F	Mechanical works		
G	Provisional Sums.	5,800,000.00	
	SUB-TOTAL		
	Add 16% VAT		
	TOTAL CARRIED TO FORMOF TENDER		

Amount in words. Kenya shillings ……..……..

.....

……...……..Cents .....

Tenderer's Signatureandstamp……

Address ……

.....

Date .....

Witness Signature ……..

Address ……

……

Date ……..