



**MINISTRY OF LANDS, PUBLIC WORKS, HOUSING, AND URBAN  
DEVELOPMENT**

**STATE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

**Tender Document**

**For**

**PROPOSED CONSTRUCTION OF CHUKA MODERN MARKET IN  
THARAKA NITHI COUNTY**

**TENDER NO.**

MLPWHUD/SDHUD/UDD/350/2023-2024

Ministry of Lands, Public Works, Housing, and Urban Development,  
State Department for Housing and Urban Development,  
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**Closing Date: 9<sup>th</sup> April, 2024**

**March 2024**

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## **INVITATION TO TENDER**

**TENDER No:** MLPWHUD/SDHUD/UDD/350/2023-2024

**TENDER NAME:** PROPOSED CONSTRUCTION OF CHUKA MODERN MARKET IN THARAKA NITHI COUNTY

1. The **State Department for Housing and Urban Development** invites sealed tender for the **Proposed Construction of Chuka Modern Market in Tharaka Nithi County**
2. Tendering will be conducted under open competitive method (National) using a standardized tender document. Tendering is open to Contractors Registered in the appropriate Category for Builders Works (**NCA category 3 and above only**).
3. The tender is open to those who meet the requirements of eligibility as contained in this invitation and the tender documents.
4. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours between **0900hrs - 1600hrs** at the address given below.
5. A complete set of tender documents may be obtained, downloaded and viewed by interested tenderers for free from the website [www.housingandurban.go.ke](http://www.housingandurban.go.ke). Tenderers who download the tender document **must** forward their particulars immediately to *the Principal Secretary, State Department for Housing and Urban Development* to facilitate any further clarifications or addendum that may be issued. Further clarifications and Addendum shall be posted at [www.housingandurban.go.ke](http://www.housingandurban.go.ke).
6. Tenders shall be quoted in Kenya Shillings and shall include all applicable taxes. Tenders shall remain valid for **120** days from the date of opening of tenders.
7. Completed tenders shall be submitted accompanied by a **Tender Security as specified in the Tender Data Sheet Clause ITT 21.1**
8. The Tenderer shall chronologically serialize all pages of the tender documents submitted. Tender Document must be tape bound and not Spiral bound. Spiral bound documents shall be automatically disqualified. In addition, bidders **MUST** submit a soft copy in PDF format during bid opening which is a replica of the original bid document. **This instruction is issued pursuant to Section 74(i)(j) of the Public Procurement and Assets Disposal Act, 2015.**
9. Completed tenders must be delivered to the address below on or before **Tuesday, 9<sup>th</sup> April 2024, at 9:00am**. Electronic Tenders will **not** be permitted.
10. Tenders will be opened immediately after the deadline date and time specified above or any deadline date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below.
11. Late tenders will be rejected.
12. The addresses referred to above are

A. **Address for obtaining further information**

**State Department for Housing and Urban Development  
Room 606 B, 6<sup>th</sup> Floor, Ardhi House, 1<sup>st</sup> Ngong Avenue  
P.O. Box 30119 -00100  
NAIROBI.**

B. **Address for Submission of Tenders.**

**State Department for Housing and Urban Development  
Tender Box, 6<sup>th</sup> Floor, Ardhi House, 1<sup>st</sup> Ngong Avenue  
P.O. Box 30119 -00100  
NAIROBI.**

C. Address for Opening of Tenders.

**State Department for Housing and Urban Development  
Boardroom, 6<sup>th</sup> Floor, Ardhi House, 1<sup>st</sup> Ngong Avenue  
P.O. Box 30119 -00100  
NAIROBI.**

Head, Supply Chain Management Services  
**For: *PRINCIPAL SECRETARY***

**Dated: 26<sup>th</sup> March, 2024**

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# **PART 1 - TENDERING PROCEDURES**

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## SECTION I: INSTRUCTIONS TO TENDERERS

### A General Provisions

#### 1. Scope of Tender

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

#### 2. Fraud and Corruption

- 2.1 The Procuring Entity requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 “Declaration not to engage in corruption”. The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.
- 2.2 The Procuring Entity requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the “Certificate of Independent Tender Determination” annexed to the Form of Tender.
- 2.3 Unfair Competitive Advantage - Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, the Procuring Entity shall indicate in the **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.
- 2.4 Unfair Competitive Advantage - Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender being tendered for. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

#### 3. Eligible Tenderers

- 3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.7 or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives (*wives, children, brothers, sisters and uncles and aunts*) are not eligible to participate in the tender. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. The maximum number of JV members shall be specified in the **TDS**.
- 3.2 Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.
- 3.3 A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:
  - a) Directly or indirectly controls, is controlled by or is under common control with another tenderer; or
  - b) Receives or has received any direct or indirect subsidy from another tenderer; or
  - c) Has the same legal representative as another tenderer; or
  - d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position

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

- e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender; or
- f) any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as Engineer for the Contract implementation; or
- g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document or
- h) Has a close business or family relationship with a professional staff of the Procuring Entity who:
  - i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or
  - ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.

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

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

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

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

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

3.9 A Firms and individuals may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

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

3.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan

Citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if they are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

- 3.12 The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website [www.nca.go.ke](http://www.nca.go.ke).
- 3.13 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website [www.cak.go.ke](http://www.cak.go.ke)
- 3.14 A Kenyan tenderer shall provide evidence of having fulfilled his/her tax obligations by producing a valid tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

#### **4. Eligible Goods, Equipment, and Services**

- 4.1 Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not eligible under ITT 3.9. At the Procuring Entity's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.
- 4.2 Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

#### **5. Tenderer's Responsibilities**

- 5.1 The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and the Procuring Entity will in no case be responsible or liable for those costs.
- 5.2 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.
- 5.3 The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity against all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the inspection.
- 5.4 The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

#### **B. Contents of Tender Documents**

#### **6. Sections of Tender Document**

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

## **PART 1 Tendering Procedures**

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

## **PART 2 Works Requirements**

- i) Section V - Drawings
- ii) Section VI - Specifications
- iii) Section VII - Bills of Quantities

## **PART 3 Conditions of Contract and Contract Forms**

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

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

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

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

## **7. Site Visit**

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

## **8. Pre-Tender Meeting**

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

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

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

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

## **9. Clarification and amendments of Tender Documents**

9.1 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting and the pre-

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

## **10. Amendment of Tendering Document**

- 10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.
- 10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.
- 10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 25.2 below.

## **C. Preparation of Tenders**

### **11. Cost of Tendering**

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

### **12. Language of Tender**

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

### **13. Documents Comprising the Tender**

- 13.1 The Tender shall comprise the following:
- a) Form of Tender prepared in accordance with ITT 14;
  - b) Schedules including priced Bill of Quantities, completed in accordance with ITT 14 and ITT 16;
  - c) Tender Security or Tender-Securing Declaration, in accordance with ITT 21.1;
  - d) Alternative Tender, if permissible, in accordance with ITT 15;
  - e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3;
  - f) Qualifications: documentary evidence in accordance with ITT 19 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
  - g) Conformity: a technical proposal in accordance with ITT 18;
  - h) Any other document required in the **TDS**.
- 13.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender,

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

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

#### **14. Form of Tender and Schedules**

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

#### **15. Alternative Tenders**

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

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

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

#### **16. Tender Prices and Discounts**

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

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

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

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

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

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

opened at the same time.

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

## **17. Currencies of Tender and Payment**

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

## **18. Documents Comprising the Technical Proposal**

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

## **19. Documents Establishing the Eligibility and Qualifications of the Tenderer**

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

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

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

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

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

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

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

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

19.9 If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

- i) if the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
- ii) if the contract has been awarded to that tenderer, the contract award will be set aside,
- iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

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

## 20. Period of Validity of Tenders

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

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

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

- a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified in the **TDS**;
- b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

## 21. Tender Security

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

21.2 If a Tender Security is specified pursuant to ITT 21.1, 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 21.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.

21.5 If a Tender Security is specified pursuant to ITT 21.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the



Performance Security and any other documents required in the **TDS**. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined nonresponsive or a bidder declines to extend tender validity period.

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

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

- e) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or
- f) if the successful Tenderer fails to:
  - i) sign the Contract in accordance with ITT 50; or
  - ii) furnish a Performance Security and if required in the **TDS**, and any other documents required in the **TDS**.

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

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

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

## **22. Format and Signing of Tender**

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

22.2 Tenderers shall mark as "CONFIDENTIAL" all information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

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

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

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

## **D. Submission and Opening of Tenders**

### **23. Sealing and Marking of Tenders**

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

- a) in an envelope or package or container marked “ORIGINAL”, all documents comprising the Tender, as described in ITT 11; and
- b) in an envelope or package or container marked “COPIES”, all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 15, and if relevant:
  - i) in an envelope or package or container marked “ORIGINAL –ALTERNATIVE TENDER”, the alternative Tender; and
  - ii) in the envelope or package or container marked “COPIES- ALTERNATIVE TENDER”, all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity.
- b) bear the name and address of the Tenderer; and
- c) bear the name and Reference number of the Tender.

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

## **24. Deadline for Submission of Tenders**

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

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

## **25. Late Tenders**

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

## **26. Withdrawal, Substitution, and Modification of Tenders**

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

- a) prepared and submitted in accordance with ITT 22 and ITT 23 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and
- b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 24.

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

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

## **27. Tender Opening**

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

- 27.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelopes with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 27.3 Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 27.4 Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.
- 27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of the Procuring Entity to sign shall be specified in the **TDS**.
- 27.7 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 25.1).
- 27.8 The Procuring **Entity shall prepare minutes of the Tender Opening that shall include, as a minimum:**
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
  - b) the Tender Price, per lot (contract) if applicable, including any discounts;
  - c) any alternative Tenders;
  - d) the presence or absence of a Tender Security, if one was required.
  - e) number of pages of each tender document submitted.
- 27.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

## **E. Evaluation and Comparison of Tenders**

### **28. Confidentiality**

- 28.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 46.
- 28.2 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.
- 28.3 Notwithstanding ITT 28.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any **matter related to the tendering process, it shall do so in writing.**

### **29. Clarification of Tenders**

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

Procuring Entity in the evaluation of the tenders, in accordance with ITT 33.

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

### **30. Deviations, Reservations, and Omissions**

30.1 During the evaluation of tenders, the following definitions apply:

- a) "Deviation" is a departure from the requirements specified in the tender document;
- b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and
- c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender document.

### **31. Determination of Responsiveness**

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

31.2 A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation, **reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:**

- a) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
- b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract; or
- c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

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

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

### **32. Non-material Non-conformities**

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

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

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

### **33. Arithmetical Errors**

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

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

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

disqualification of the tender as non-responsive.

- b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, and subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
- c) if there is a discrepancy between words and figures, the amount in words shall prevail

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

#### **34. Currency provisions**

34.1 Tenders will be priced 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 43.

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

- a) price adjustment due to discounts offered in accordance with ITT 16;
- b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 39;
- c) price adjustment due to quantifiable non-material non-conformities in accordance with ITT 32.3; and
- d) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.

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

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

#### **38. Comparison of Tenders**

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

### **39. Abnormally Low Tenders**

- 39.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.
- 39.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.
- 39.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

### **40. Abnormally High Tenders**

- 40.1 An abnormally high price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.
- 40.2 In case of an abnormally high tender price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:
- i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
  - ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.
- 40.3 If the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

### **41. Unbalanced and/or Front-Loaded Tenders**

- 41.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.
- 41.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:
- a) accept the Tender; or
  - b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price; or
  - c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works; or
  - d) reject the Tender,

### **42. Qualifications of the Tenderer**

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

- 42.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 19. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.
- 42.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.
- 42.4 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price.
- 42.5 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.
- 42.6 After evaluation of the price analyses, if the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

#### **43. Best Evaluated Tender**

- 43.1 Having compared the evaluated prices of Tenders, the Procuring Entity shall determine the Best Evaluated Tender. The Best Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:
- a) Most responsive to the Tender document; and
  - b) the lowest evaluated price.

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

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

### **F. Award of Contract**

#### **45. Award Criteria**

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

#### **46. Notice of Intention to enter into a Contract**

- 46.1 Upon award of the contract and Prior to the expiry of the Tender Validity Period the Procuring Entity shall issue a Notification of Intention to Enter into a Contract / Notification of award to all tenderers which shall contain, at a minimum, the following information:
- a) the name and address of the Tenderer submitting the successful tender;
  - b) the Contract price of the successful tender;
  - c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;
  - d) the expiry date of the Standstill Period; and
  - e) instructions on how to request a debriefing and/or submit a complaint during the standstill period;

#### **47. Standstill Period**

- 47.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any

dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

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

#### **48. Debriefing by the Procuring Entity**

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

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

#### **49. Letter of Award**

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

#### **50. Signing of Contract**

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

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

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

#### **51. Appointment of Adjudicator**

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

#### **52. Performance Security**

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

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

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



shillings.

### **53. Publication of Procurement Contract**

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

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

### **54. Procurement Related Complaints and Administrative Review**

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

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

## Section II - Tender Data Sheet (TDS)

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

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	<b>A. General</b>
ITT 1.1	The name of the contract is <b>PROPOSED CONSTRUCTION OF CHUKA MARKET IN THARAKA NITHI COUNTY</b>  The reference number of the Contract is:  <b>TENDER No: MLPWHUD/SDHUD/UDD/350/2023-2024</b>
<b>B. Contents of Tender Document</b>	
ITT 8.2	The Tenderer will submit any questions in writing, to reach the Procuring Entity <b>7 days</b> before the date of tender opening.
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:  (1) Name of Procuring Entity:  <b>State Department of Housing and Urban Development</b>  (2) Physical address for hand Courier Delivery to an office:  <b>1<sup>st</sup> Ngong avenue, Ardhi House, 6<sup>th</sup> Floor, Wing B, Room 606</b>  (3) Postal Address;  <b>P.O. Box 30119-00100 Nairobi</b>  (4) Officer to be contacted:  <b>Head, Supply Chain Management Services</b>  <b>Email: <i>procurement@housingandurban.go.ke</i></b>
<b>C. Preparation of Tenders</b>	
ITT 15.1	Alternative Tenders <i>shall not be</i> considered.
ITT 15.2	Alternative times for completion <i>shall not be</i> permitted.
ITT 16.5	The prices quoted by the Tenderer shall be <b>fixed</b> .
ITT 20.1	The Tender validity period shall be <b>150 days</b> .
ITT 21.1	A Tender Security <i>shall be</i> required. The said Tender Security shall be for <b>Kenya Shillings Three Million (Kshs. 3,000,000)</b> issued by a <b>Reputable Bank Valid for a period of 120 days from the tender opening date</b> .
ITT 22.1	In addition to the original of the Tender, the number of copies is: <b>One soft copy in PDF which is a replica of the original bid document submitted</b> .
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: <i>Power of Attorney</i>

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
<b>D. Submission and Opening of Tenders</b>	
<b>ITT 24.1</b>	<p>(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is:</p> <ol style="list-style-type: none"> <li>(1) Name of Procuring Entity: <b>State Department of Housing and Urban Development</b></li> <li>(2) Postal Address <b>Principal Secretary, State Department of Housing and Urban Development P.O. Box 30119-00100 Nairobi</b></li> <li>(3) Physical address for hand Courier Delivery to an office or Tender Box: <b>1<sup>st</sup> Ngong avenue, Ardhi House, 6<sup>th</sup> Floor, Tender box</b></li> <li>(4) Date and time for submission of Tenders: <b>Tuesday, 9<sup>th</sup> April at 9:00 a.m.</b></li> <li>(5) Tenderers <b>shall not submit</b> tenders electronically.</li> </ol>
<b>ITT 27.1</b>	<p>The Tender opening shall take place at the time and the address for Opening of Tenders provided below:</p> <ol style="list-style-type: none"> <li>(1) Name of Procuring Entity: <b>State Department of Housing and Urban Development</b></li> <li>(2) Physical address for the location: <b>1<sup>st</sup> Ngong avenue, Ardhi House, 6<sup>th</sup> Floor, Boardroom</b></li> <li>(3) Date and time of tender opening: <b>Tuesday, 9<sup>th</sup> April, 2024 at 9:00 a.m.</b></li> </ol>
<b>ITT 27.6</b>	<p>The number of representatives of the Procuring Entity to sign is: <b>as guided by the Public Procurement and Asset Disposal Act, 2015 and all amendments thereafter and attendant Regulations.</b></p>
<b>E. Evaluation, and Comparison of Tenders</b>	
<b>ITT 32.3</b>	<p>The adjustment shall be based on the <i>highest</i> price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.</p>
<b>ITT 36.3</b>	<p>The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows:</p> <ol style="list-style-type: none"> <li><b>1. Electrical Works</b></li> <li><b>2. Mechanical Works</b></li> <li><b>3. Civil Works</b></li> </ol> <p>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.</p>
<b>ITT 37.2 (d)</b>	<p>Additional requirements apply.</p> <ol style="list-style-type: none"> <li>(1) Additional requirements are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.</li> <li>(2) Tenderers who have three (3) or more ongoing projects with the State Department for Housing and Urban Development will <b>NOT</b> be considered for award unless the Tenderer demonstrates that they have a maximum of three (3) ongoing projects and all three (3) projects have achieved a minimum completion rate of 60% of the works. (Tenderer to attach the most current Interim Payment Certificate issued by the State Department as supporting documentation).</li> </ol>

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 51.1	The person named to be appointed as Adjudicator is <b>Nairobi Centre for International Arbitration</b> at an hourly fee to be determined guided by fees guidelines.
ITT 52.2	Other documents required are : <b>None</b>
ITT 54.1	<p>The procedures for making a Procurement-related Complaints are detailed in the “Regulations” available from the PPRA Website <a href="http://www.ppra.go.ke">www.ppra.go.ke</a> or email <a href="mailto:complaints@ppra.go.ke">complaints@ppra.go.ke</a>. 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:</p> <p>For the attention: <b>Director General</b></p> <p>Title/position: <b>Director General</b></p> <p>Procuring Entity: <b>Public Procurement Regulatory Authority</b></p> <p>Email address: <a href="mailto:complaints@ppra.go.ke">complaints@ppra.go.ke</a></p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <p>(i) the terms of the Tender Documents; and</p> <p>(ii) the Procuring Entity’s decision to award the contract.</p>

## **SECTION III - EVALUATION AND QUALIFICATION CRITERIA**

### **10 GENERAL PROVISIONS**

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

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

- a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
- b) Value of single contract - Exchange rate prevailing on the date of the contract signature.
- c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

### **13 EVALUATION AND CONTRACT AWARD CRITERIA**

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

### **2.0 PRELIMINARY EXAMINATION FOR DETERMINATION OF RESPONSIVENESS**

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

*The following mandatory requirements shall be used for determination of Responsiveness at the preliminary evaluation*

<b>S/No</b>	<b>PRELIMINARY EVALUATION CRITERIA / MANDATORY REQUIREMENTS FOR MAIN CONTRACTOR</b>
<b>MR1</b>	Original Tender document must be <b>TAPE-BOUND</b> and submitted alongside with a <b>Soft Copy</b> as per TDS 22.1. Tender documents submitted as spiral bound or in a box file <b>SHALL AUTOMATICALLY BE DISQUALIFIED</b> . In addition, the documents must be chronologically serialized including the attachments.
<b>MR2</b>	The Bills of Quantities section of the submitted Tender Document must be <b>complete as issued</b> , with no alteration, addition or qualification of any kind whatsoever made by the Tenderer to the text of the document. Any alterations, additions or qualifications shall be considered as material deviations as per ITT 31.
<b>MR3</b>	Dully filled, signed and stamped form of tender prepared in accordance with ITT 14
<b>MR4</b>	Provide proof of registration with the National Construction Authority for <b>Building Works</b> category <b>NCA 3 and above only</b> with current annual contractors practicing license.
<b>MR5</b>	Provide proof of registration with the National Construction Authority for <b>Mechanical, Electrical and Civil Works</b> category <b>NCA 6 and above only</b> with current annual contractors practicing license, including EPRA registration as an Electrical Contractor (for Electrical Contractors), to be submitted under the Main Contractor, with subcontract agreements where applicable.
<b>MR6</b>	A Tender Security <i>shall be</i> required. The said Tender Security shall be for <b>Kenya Shillings Three Million (Kshs. 3,000,000)</b> issued by a <b>Reputable Bank Valid for a period of 120 days from the tender opening date</b> .

<b>MR7</b>	Provide proof of power of attorney (of tender signatory if not director of the company/partner, signed and stamped by Commissioner of Oaths).
<b>MR8</b>	Certificate of Incorporation/ Registration.
<b>MR9</b>	Valid Tax Compliance Certificate which shall be verified online during evaluation. Tax Compliance Certificates with “Invalid” or “Withdrawn” status shall resort to <b>AUTOMATIC DISQUALIFICATION</b> .
<b>MR10</b>	Dully filled, signed and stamped Confidential Business Questionnaire.
<b>MR11</b>	Valid CR12 form showing the list of directors /shareholding (issued within the last 12 months of tender submission) or National Identity Card(s) for Sole Proprietorship/Partnership-
<b>MR12</b>	Compliance with TDS 37.2 (d) (Provide <b>Letter of Award and Latest Approved Interim Payment Certificate with progress report accompanying it</b> ). Note: Progress report must clearly indicate percentage of completed works
	NB: <i>Bidders who do not meet any of the above requirements shall be considered non-responsive and their tenders will not be evaluated further.</i>

### 30 TENDER EVALUATION (ITT 37) PRICE EVALUATION

Price evaluation: in addition to the criteria listed in ITT 37.2 (a) – (d) the following criteria shall apply:

- (i) Alternative Completion Times, if permitted under ITT 13.2, will be evaluated as follows:  
**Not Applicable**
- (ii) Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows: **Not Applicable**
- (iii) Other Criteria; if permitted under ITT 37.2(d):

Further Evaluation shall be conducted after Preliminary Examination for determination of responsiveness. The said further evaluation shall comprise of the detailed technical examination and financial evaluation.

- a) Detailed Technical Evaluation
- b) Financial Evaluation

#### Detailed Technical Examination

After the Preliminary Examination, the Procuring Entity shall conduct a Detailed Technical Evaluation on the responsive tenders to ensure they meet the technical requirements provided for in the Detailed Technical Evaluation criteria outlined below. Points shall be awarded as follows: -

No	Parameter	Maximum Points
1	Key Personnel	15
2	General Experience	10
3	Specific Construction Experience	15
4	Schedules of Contractor's equipment	10
5	Audited Financial Report for the last 3 years	9
6	Evidence of Financial Resources	15
7	Detailed Works Program and Methodology	20
8	History of Non-performing Contracts	3
9	Litigation History	3
<b>Total</b>		<b>100</b>

Tenders that do not meet the minimum required points in the Detailed Technical Evaluation will be considered non-responsive and will not be considered further.

Item	Description	Points Scored	Max. Points
1	<p><b>Key Personnel as detailed under clause 7 b (iv) of the Evaluation Criteria</b>  <b>NB: Attach Curriculum Vitae and certificates</b></p> <p><b>Project Manager for the firm</b></p> <ul style="list-style-type: none"> <li>• With relevant qualifications; qualification (1 mk) and registration (1 mk) - <b>Total (2 mks)</b></li> <li>• With over 5 years' experience in similar works (<b>2 mks</b>)</li> <li>• With over 10 years' general experience (<b>1 mk</b>)</li> <li>• With experience below the requirements (<b>0 mks</b>)</li> </ul>		<b>5</b>
	<p><b>Site Agent with the relevant Qualifications</b></p> <ul style="list-style-type: none"> <li>• With relevant qualifications; qualification (1 mk) and registration (1 mk) - <b>Total (2 mks)</b></li> <li>• With over 5 years' experience in similar works (<b>1 mk</b>)</li> <li>• With over 10 years' general experience (<b>1 mk</b>)</li> <li>• With experience below the requirements (<b>0 mks</b>)</li> </ul>		<b>4</b>
	<p><b>Site Surveyor</b></p> <ul style="list-style-type: none"> <li>• With relevant qualifications (<b>1 mk</b>)</li> <li>• With over 5 years' experience in similar works (<b>1 mk</b>)</li> <li>• With over 10 years' general experience (<b>1 mk</b>)</li> <li>• With experience below the requirements (<b>0 mks</b>)</li> </ul>		<b>3</b>
	<p><b>General Foreman</b></p> <ul style="list-style-type: none"> <li>• With relevant qualifications (<b>1 mk</b>)</li> <li>• With over 5 years' experience in similar works (<b>1 mk</b>)</li> <li>• With over 10 years' general experience (<b>1 mk</b>)</li> <li>• With experience below the requirements (<b>0 mks</b>)</li> </ul>		<b>3</b>
2.	<p><b>General Experience</b></p> <ul style="list-style-type: none"> <li>• Has been practicing as a Contractor for the last 10 years. (<b>1 mks per year</b>)</li> </ul>		<b>10</b>
3.	<p><b>Specific Experience (a minimum of 5 No. Projects)</b>  <b>NB: Attach Letter of Award, Certificates of Completion and Recommendation from the Client for EACH project. A bidder who fails to provide this requirement shall NOT be scored.</b></p> <ul style="list-style-type: none"> <li>• Project of a similar nature, similar complexity and magnitude. (<b>3 mks each</b>) – <b>max. 15 mks</b></li> <li>• Project of similar nature and complexity but of lower magnitude. (<b>2 mks each</b>) - <b>max. 10 mks</b></li> <li>• Project of similar nature but differing complexity and magnitude than the one in consideration. (<b>1 mk each</b>) - <b>max. 5 mks</b></li> </ul>		<b>15</b>

Item	Description	Points Scored	Max. Points
4.	<b>Schedules of Contractor's equipment</b> For each specific equipment required in the construction work being tendered for. (All the categories listed to be considered and <b>points will be awarded for meeting each category</b> )		<b>10</b>
5.	<b>Financial report</b> <b>Audited financial report for the last Three [3] years (2020, 2021 &amp; 2022)</b> <ul style="list-style-type: none"> <li>• Turn over greater or equal to Kshs. 500,000,000 (<b>3 mks each</b>) – <b>max. 9 mks</b></li> <li>• Has not attached audited financial reports (<b>0 mks</b>).</li> </ul>		<b>9</b>
6.	<b>Evidence of financial resources (Cash in hand, Lines of Credit, Over draft facility)</b> <ul style="list-style-type: none"> <li>• or above Kshs. 100,000,000 (<b>5 mks each</b>) – <b>max. 15 mks</b></li> <li>• Has not demonstrated/given evidence for the financial resources. (<b>0 mks</b>).</li> </ul>		<b>15</b>
7.	<b>Detailed works program outlining the methodology of implementing the project to completion including the defects liability period.</b>		
	<b>Adequacy of the proposed Works program:</b> <ul style="list-style-type: none"> <li>• Captures all elements specific to the proposed works (<b>4mks</b>)</li> <li>• Covers the required timeline and all elements are reasonably scheduled. (<b>4mks</b>)</li> <li>• The document is legible (<b>2mks</b>)</li> </ul>		<b>10</b>
	<b>Adequacy of the proposed methodology:</b> <ul style="list-style-type: none"> <li>• Captures the Contractor's organization structure. (<b>2mks</b>)</li> <li>• Captures all elements specific to the proposed works. (<b>6mks</b>)</li> <li>• Captures the inclusion of all statutory requirements specific to the works (OSH, NCA, NEMA, Stakeholder engagement, e.t.c.) (<b>2mks</b>)</li> </ul>		<b>10</b>
8.	<b>History of non-performing contracts</b> <b>(Pursuant to Clause 7 (vi) a of the Evaluation Criteria)</b>		<b>3</b>
9.	<b>History of Litigations</b> <b>(Pursuant to Clause 7 (vi) c of the Evaluation Criteria)</b>		<b>3</b>
	<b>TOTAL POINTS</b>		<b>100</b>
	<b>MINIMUM POINTS</b>		<b>70</b>

**NB: Tenders attaining the minimum score of 70 points in the detailed technical evaluation shall be subjected to financial evaluation and comparison to determine the lowest evaluated price of the tender.**



## **Financial evaluation**

Financial Evaluation shall comprise of the following:

- a) *Examination of unit rates:* Each bid shall be subjected to an evaluation of unit rates to assess uniformity and consistency of rates of similar line items.  
Bids not meeting this criterion shall be disqualified and error checks shall not be undertaken.
- b) *Error checks:* An evaluation of each tender taking into consideration the tender amount, corrections relating to arithmetic errors and any discounts offered shall be done to determine the Evaluated Tender Sum. All arbitrary additions to the tender document shall be considered as errors.
- c) *Ranking of the bids:* Ranking of the bids using their Evaluated Tender Sums shall be undertaken, and this shall be used in making recommendations the bid with the Lowest Evaluated Tender sum shall be considered for award.

## **40 MULTIPLE CONTRACTS**

- 41** Multiple contracts will be permitted in accordance with ITT 37.4. Tenderers are evaluated on basis of Lots and a lowest evaluated tenderer identified for each Lot. The Procuring Entity will award contracts as prescribed below:

### **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. If a tenderer wins more than one Lot, the tender will be awarded a contract for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots. The tenderer will be awarded only the combinations for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

### **OPTION 2**

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

## **5.0 ALTERNATIVE TENDERS (ITT 13.1)**

### **Alternative Tenders (ITT 13.1)**

*An alternative if permitted under ITT 3.1, will be evaluated as follows:*

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

## **60 MARGIN OF PREFERENCE**

- 61** If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of the foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than fifty- one percent (51%).
- 62** Contractors shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference.
- 63** After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:
  - i) *Group A:* tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
  - ii) *Group B:* tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares

of less than fifty one percent (51%).

- 64 All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award of contract. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 6.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each tender from Group B. All tenders shall then be compared using new prices with added prices to Group B and the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

7. **Post qualification and Contract Award (ITT 42), more specifically,**

- a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.
- b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.
  - (i.) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of **Kenya Shillings One Hundred Million (Kshs. 100,000,000)**.
  - (ii.) Minimum average annual construction turnover of **Kenya Shillings Five Hundred Million (Kshs. 500,000,000)**, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last **three (3) years**.
  - (iii.) At least **Three (3) no.** of contract(s) of a similar nature executed within Kenya, or the East African Community, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings **Two Hundred and Fifty Million (Kshs. 250,000,000)** equivalent.
  - (iv.) Contractor's Representative and Key Personnel, which are specified as:

No.	Position	Total Work Experience (years)	Experience In Similar Works (years)
1	Project Manager (Bachelor of Architecture OR Bachelor of Quantity Surveying OR Civil Engineering OR Construction Management, all registered with relevant professional bodies).	10	5
2	Site Agent (Bachelor or Higher Diploma in Architecture OR Quantity Surveying OR Civil Engineering, all registered with relevant professional bodies).	10	5
3	Site Surveyor (Diploma in Land Surveying)	10	5
4	General Foreman (Diploma in Building Construction OR Construction Management OR Contract Management OR Civil Engineering)	10	5

- (v.) Contractors key equipment listed on the table “Contractor's Equipment” below and more specifically listed as:

No.	Equipment Type and Characteristics	No. required
1	Concrete Mixer Type 5/3.5	2
2	Concrete dumper 0.5 cu.m	2
3	Concrete roller vibrator	2
4	Tipper Truck 15 ton.	3
5	Dumpy level 1	3
6	Vibrating plate compactor 114-200 kg operating weight	3
7	Compressor rated by normal delivery of free air per minute	2
8	Van, pick-up or similar utility vehicle	2

- (vi.) Other conditions depending on their seriousness:

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

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

b) **Pending Litigation**

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

c) **Litigation History**

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

## 8 DUE DILIGENCE

Pursuant to Section 83 of the Public Procurement and Assets Disposal Act, 2015 and the attendant regulations, due diligence shall be conducted on the lowest recommended bidder before award. The due diligence shall be conducted on the following basis inter alia:

- (i) The bidder shall be assessed on the financial and the technical capacity to carry out the project. In carrying out the due diligence, the Contractor shall be requested to authorize or provide their current, certified bank statements to assess their financial capacity and capability.

In addition, the bidder shall be requested to provide their original audited financial reports for the last three (3) financial periods accompanied by a declaration by the auditor confirming that in order to verify the attached audited financial report.

- (ii) The bidder if currently or previously engaged on other projects in the State Department shall be assessed on their current performance and delivery on those projects. Contractors with a poor performance record shall not be recommended for award.
- (iii) The Bidder shall be required to further demonstrate that they can deliver on the project milestones within the stipulated timelines.
- (iv) The State Department shall make its recommendations on the basis of Multiple Contracts as stipulated under Clause 4 - Multiple Contracts, Section III - Evaluation and Qualification Criteria.

## 1. 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	
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 3.8	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since <b>1<sup>st</sup> January 2021</b>	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 <b>1<sup>st</sup> January 2021</b>	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	<p>(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as <b>Kenya Shillings One Hundred Million (Kshs. 100,000,000)</b> equivalent for the subject contract(s) net of the Tenderer's other commitments.</p> <p>(ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.</p> <p>(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 <b>Three years</b> shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.</p>	Form FIN – 3.1, with attachments	
12	Average Annual Construction Turnover	Minimum average annual construction turnover of <b>Kenya Shillings Five Billion (Kshs. 500,000,000)</b> , equivalent calculated as total certified payments received for contracts in progress and/or completed within the last <b>Three years</b> , divided by <b>Three years</b>	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last <b>Ten (10) years</b> , starting <b>1<sup>st</sup> January 2014</b> .	Form EXP – 4.1 <b>Experience</b>	
14	Specific Construction & Contract Management	A minimum number of <b>Three (3)</b> similar contracts specified below that have been satisfactorily and substantially	Form EXP 4.2(a)	

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	<i>Document To be Completed by Tenderer</i>	<i>For Procuring Entity's Use (Qualification met or Not Met)</i>
	Experience	<p>completed as a prime contractor, joint venture member, management contractor or sub-contractor between <b>1st January 2019</b> and tender submission deadline, (number) contracts, each of minimum value <b>Kenya Shillings Two Hundred and Fifty Million (Kshs. 250,000,000) equivalent.</b></p> <p>The similarity of the contracts shall be based on the following:</p> <ul style="list-style-type: none"> <li>• <i>the minimum key requirements in terms of physical size,</i></li> <li>• <i>complexity,</i></li> <li>• <i>construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors</i></li> </ul>		

## **SECTION IV - QUALIFICATION FORMS**

### **1. FORMEQU: 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 <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

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



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

### 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.

<b>Name of Tenderer</b>
-------------------------

Position [#1]: <i>[title of position from Form PER-1]</i>
---

Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
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.

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

**Declaration**

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

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

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

I understand that any misrepresentation or omission in this Form may:

- a) be taken into consideration during Tender evaluation;
- b) result in my disqualification from participating in the Tender;
- c) result in my dismissal from the contract.

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

Signature: \_\_\_\_\_

Date: (day month year): \_\_\_\_\_ Countersignature

of authorized representative of the Tenderer:

Signature: \_\_\_\_\_ Date: (day month

year): \_\_\_\_\_

#### 4 TENDERER'S QUALIFICATION WITHOUT PRE-QUALIFICATION

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

##### 4.1 FORM ELI -1.1

###### Tenderer Information Form

Date: \_\_\_\_\_

ITT No. and title: \_\_\_\_\_

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: <i>[indicate country of Constitution]</i>
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 <input type="checkbox"/> 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 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: <ul style="list-style-type: none"><li>• Legal and financial autonomy</li><li>• Operation under commercial law</li><li>• Establishing that the Tenderer is not under the supervision of the Procuring Entity</li></ul>
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 <input type="checkbox"/> 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. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.8.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

### 4.3 FORM CON – 2

#### Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: \_\_\_\_\_

Date: \_\_\_\_\_

JV Member's Name \_\_\_\_\_

ITT No. and title: \_\_\_\_\_

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 <sup>st</sup> January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 <sup>st</sup> January <i>[insert year]</i> 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)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	

Litigation History in accordance with Section III, Evaluation and Qualification Criteria

- No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.
- Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.

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



#### 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<sup>1</sup> for the \_\_\_\_\_ years required above; and complying with the requirements

<sup>1</sup> 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
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

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

#### 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**

	<b>Name of Contract</b>	<b>Procuring Entity's Contact Address, Tel,</b>	<b>Value of Outstanding Work [Current Kenya Shilling /month Equivalent]</b>	<b>Estimated Completion Date</b>	<b>Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month]</b>
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 <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount				<b>Kenya Shilling</b>
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<sup>2</sup> (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: \_

<b>Information</b>				
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	<b>Kenya Shilling</b>			
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:				

<sup>2</sup> If applicable

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

2. Activity No. Two  
3.  
.....



## **OTHER FORMS**

### **5. FORM OF TENDER**

#### *INSTRUCTIONS TO TENDERERS*

- i) *The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.*
- ii) *All italicized text is to help Tenderer in preparing this form.*
- iii) *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER attached to this Form of Tender.*
- iv) *The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.*
  - *Tenderer's Eligibility- Confidential Business Questionnaire*
  - *Certificate of Independent Tender Determination*
  - *Self-Declaration of the Tenderer*

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

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

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

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

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

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

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

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

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.
3. We agree to adhere by this tender until \_\_\_\_\_ *[Insert date]*, and it shall remain binding upon us and may be accepted at any time before that date.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us. We further understand that you are not bound to accept the lowest or any tender you may receive.
5. We, the undersigned, further declare that:
  - i) *No reservations:* We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
  - ii) *Eligibility:* We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
  - iii) *Tender-Securing Declaration:* We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;
  - iv) *Conformity:* We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works]*;

- v) Tender Price: The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*
- vi Option 1, in case of one lot: Total price is: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies];* Or
- Option 2, in case of multiple lots:
- a) Total price of each lot *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies];* and
- b) Total price of all lots (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];*
- vii) Discounts: The discounts offered and the methodology for their application are:
- viii) The discounts offered are: *[Specify in detail each discount offered.]*
- ix) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts];*
- x) Tender Validity Period: Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- xi) Performance Security: If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
- xii) One Tender Per Tender: We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;
- xiii) Suspension and Debarment: We, along with any of our subcontractors, suppliers, Project Manager, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.
- xiv) State-owned enterprise or institution: *[select the appropriate option and delete the other]* *[We are not a state-owned enterprise or institution]* / *[We are a state-owned enterprise or institution but meet the requirements of ITT 3.8];*
- xv) Commissions, gratuities, fees: We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].*

Name of Recipient	Address	Reason	Amount

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

- xvi) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

- xix) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent Tender Determination” attached below.
- xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from \_\_\_\_\_ (*specify website*) during the procurement process and the execution of any resulting contract.
- xxi) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:
- a) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
  - b) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
  - c) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
  - d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal

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

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

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

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

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

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

Date signed \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

**Notes**

\* In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer

\*\* Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.

## A. TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE

### Instruction to Tenderer

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

#### (a) Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	
2	Reference Number of the Tender	
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address ( <i>postal and physical addresses, email, and telephone number</i> ) 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 ( <i>postal and physical addresses, email, and telephone number</i> ) 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 INDEPENDENT TENDER DETERMINATION

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

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

1. I have read and I understand the contents of this Certificate;
2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;
4. For the purposes of this Certificate and the Tender, I understand that the word “competitor” shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
  - a) has been requested to submit a Tender in response to this request for tenders;
  - b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;
5. The Tenderer discloses that [check one of the following, as applicable:
  - a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
  - b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;
6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - a) prices;
  - b) methods, factors or formulas used to calculate prices;
  - c) the intention or decision to submit, or not to submit, a tender; or
  - d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;
7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;
8. the terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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

**C. SELF - DECLARATION FORMS**

**FORM SD1**

**SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015.**

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of ..... (*insert name of the Company*) who is a Bidder in respect of Tender No. .... for ..... (*insert tender title/description*) for ..... (*insert name of the Procuring entity*) and duly authorized and competent to make this statement.
2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.
3. THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

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

Bidder Official Stamp



**FORM SD2**

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

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

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ..... (*insert name of the Company*) who is a Bidder in respect of Tender No. .... for ..... (*insert tender title/description*) for ..... (*insert name of the Procuring entity*) and duly authorized and competent to make this statement.
  
2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ..... (*insert name of the Procuring entity*) which is the procuring entity.
  
3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ..... (name of the procuring entity)
  
4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender
  
5. THAT what is deponed to herein above is true to the best of my knowledge information and belief.

.....  
(Title)

.....  
(Signature)

.....  
(Date)

Bidder's Official Stamp

**DECLARATION AND COMMITMENT TO THE CODE OF ETHICS**

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

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

Name of Authorized signatory..... Sign.....

Position.....

Office address..... Telephone.....

E-mail.....

Name of the Firm/Company.....

Date..... (Company Seal/ Rubber

Stamp where applicable)

Witness

Name ..... Sign.....

Date.....

## D. APPENDIX 1- FRAUD AND CORRUPTION

*(Appendix 1 shall not be modified)*

### 1. Purpose

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

### 3. Requirements

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

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

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

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

- a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
  - i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
  - ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

- iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - v) “obstructive practice” is:
    - deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
    - acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.
- b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:
- "fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.
- c) Rejects a proposal for award<sup>1</sup> 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<sup>2</sup> 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.

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<sup>1</sup> For the avoidance of doubt, a party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and tendering, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

<sup>2</sup> Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

**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 inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of \_\_\_\_\_ under Request for Tenders No. \_\_\_\_\_ ("the ITT").
2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.
3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:
  - (a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or
  - b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.
4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above 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]*  
\_\_\_\_\_  
*[Witness]*

\_\_\_\_\_  
*[Signature of the Guarantor]*  
\_\_\_\_\_  
*[Seal]*

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

## TENDER-SECURING DECLARATION FORM

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

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

Tender No.:.....*[insert number of tendering process]*

To:.....*[insert complete name of Purchaser]* I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.
2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of *[insert number of months or years]* starting on *[insert date]*, if we are in breach of our obligation(s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.
3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
  - a) our receipt of a copy of your notification of the name of the successful Tenderer; or
  - b) thirty days after the expiration of our Tender.
4. I/We understand that if I am/we are/in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:..... Capacity / title (director

or partner or sole proprietor, etc.) ..... Name:

..... Duly authorized to sign the bid

for and on behalf of: *[insert complete name of Tenderer]*

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

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## **PART II - WORK REQUIREMENTS**

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**SECTION V - DRAWINGS**

Annexed to this document; additional drawings shall be provided during the implementation of the project

## **SECTION VI - SPECIFICATIONS**

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, 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.

**SECTION VII – BILLS OF QUANTITIES**

**PROPOSED CHUKA MODERN MARKET IN  
THARAKA-NITHI COUNTY**

# **PREAMBLES**

# **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

## **EXCAVATION AND EARTHWORK**

### **Nature of Excavation**

- A. The Contractor must ascertain for himself the nature of the materials to be excavated and price the work accordingly as no allowance will be made beyond the Contract Sum for any alleged ignorance in this respect.

### **Site Clearance**

- B. The Contractor shall clear the construction areas within the site of all bushes, roots, brush, boulders, natural obstructions, rubbish and any other natural or artificial obstructions which would interfere with construction of buildings, roads, paths and drains.
- C. Clear away all anti/termite hills and nests over the area of the site, excavate for, locate and destroy queens.
- D. Treat the cavity formed by the removal of the nest as described hereinafter under "Soil Sterilization" and backfill with approved material well rammed and consolidated in layers not exceeding 300 mm thick.
- E. All areas of the site must be thoroughly proofed against rodents and special care must be taken to ensure that no unconsolidated areas are left near banks and ditches.

### **Commencing Levels**

- F. Unless specifically stated otherwise the commencing levels for excavation shall be deemed to be existing ground level or underside of reduced level excavation.
- G. All measurements are based upon reduced level excavation being executed first and no adjustment will be made should a differing sequence of operations be adopted, unless specifically ordered by the Architect in writing.

### **Excavations**

- H. Excavations shall be to the widths and depths indicated the drawings or to such lesser or greater depths as the Architect may deem necessary and so instruct the Contractor in order to obtain satisfactory foundations.
- J. Any difference in the quantity of works actually executed under such instructions and that provided in the Bills of Quantities shall be measured and valued by the Quantity Surveyor as a variation under the relevant Conditions of Contract.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- K If, however, the Contractor excavates to any greater depth or widths than are shown on the drawings or directed by the Architect, then the Contractor shall at his own expense fill in such extra depths and widths with concrete similar to that described for foundations to the satisfaction of the Architect.

### **Bottoms to Excavation**

- L The Contractor shall report to the Architect as and when a secure bottom to the excavations has been obtained and the same is ready to receive concrete.
- M Any concrete or other work put in before excavations have been inspected and approved shall, if so directed, be removed and new work substituted after excavations have been approved all at the Contractor's expense.
- N If so directed, the Contractor shall water and well ram the bottoms of excavations to the satisfaction of the architect.

### **Measurement of Excavation Work**

- P Excavation work is measured net as before digging and the Contractor must allow for increase in bulk after digging.

### **Trenches for pipes, cables kerbs, etc., other than drain pipes**

- Q Prices for excavation of trenches for pipes, cables, kerbs, etc., shall include for grading and ramming bottoms to the levels required, all necessary planking and strutting, carefully returning, filling and ramming selected excavated materials and for carting away any surplus materials.

### **Rock**

- R Any rock or other hard materials encountered in excavating to the required depth which, in the opinion of the Architect, can only be removed by wedges or compressor plant shall be paid for as an extra and the price shall include for trimming and levelling. No blasting will be allowed. Hard compacted murram which can be removed by pick will not be classed as rock notwithstanding that the Contractor may decide to remove it by wedges or compressor plant.
- S The Contractor must give notification to the Architect or his representative when such material is encountered and its extent must be agreed with Architect or Quantity Surveyor or their authorised representative before the work is carried out. No allowance will be made for rock excavation unless the foregoing procedure has been followed.

### **Rates for Excavation**

- T The rates for excavation shall include for excavating by hand or machine in all types of materials except rock, as previously specified.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- U Excavations for plain concrete foundations have been measured to the **net sizes** required by concrete dimensions.
- V An allowance for working space and formwork has been measured to reinforced concrete foundation, but if the Architect's approval is given to pouring concrete against the face of the excavations these items will be measured and adjusted in the Final Account.
- W The rates for excavation must include for such excavating in all types of ground encountered including sand, murrum, hard murrum, tree roots and loose boulders.

### **Levelling**

- X No item is measured for levelling and consolidating ground and rates for excavations must include for levelling and preparing the ground for concrete or other works including ramming or rolling.

### **Disposal of Water**

- Y The Contractor shall keep the excavations free from standing water and silt (or excavated materials softened by water) and he shall include for the cost of pumping, construction of temporary drains, soakaway pits, etc., as deemed necessary to achieve this. An item has been included for this in the Bills of Quantities in each relevant section. The cost of pumping to dispose of any spring or running water has been covered by Provisional Sum. If spring or running water is encountered, the cost of any pumping ordered by the Architect will be paid for in accordance with the Dayworks Schedule.

### **Planking and Strutting**

- Z Sides of all excavations must be supported in order to prevent falls from or collapse of the earth face. The term "planking and strutting" is deemed to include any method or methods which the Contractor elects to adopt, uphold, protect and maintain the sides of excavations. The Contractor will be responsible for any consequences of his failure in this respect including clearing away fallen materials and any extra concrete or other works including formwork ordered by the Architect due to such failure. An item has been included in these Bills of Quantities in each relevant section.

### **Return, Fill in and Ram**

- AA Material returned around foundations externally shall be selected hard, dry excavated materials arising from the excavations free from vegetable soil, roots and rubbish carefully filled in, spread, watered and compacted in layers not exceeding 200 mm thick. Backfilling internally shall be hardcore, or selected hard dry granular materials as above to approval.



## Proposed Construction of Chuka Modern Market in Tharaka Nithi

AB No excavations or foundation work shall be filled in or covered up until all measurements necessary for the adjustment of variations have been made. Walling shall not be built upon the foundations until four days after deposition of concrete.

### Cart Away

AC All surplus excavated material, where so directed, and all rubbish is to be removed from the site and the Contractor is to find his own dump and pay all charges.

### Approval Before Filling

AD No fill materials shall be placed before approval has been given by the Architect for filling to begin.

### Measurement of Filling Generally

AE Filling is measured net as after consolidation.

### Earth Filling

AF Levels specified to be made up with surplus soil, etc., are to be filled in with selected soil free from vegetable growth to the approval of the Architect and is to be laid in layers not exceeding 200 mm thick, each layer to be levelled, well rammed and consolidated and watered if necessary.

### Hardcore Filling

AG Hardcore shall consist of clean hard broken stone or rubble graded to pass in all directions a 100 mm ring with sufficient sand added to fill the interstices. The hardcore shall be well packed, rammed and where possible, rolled with a heavy roller. Where rolling is impossible compaction shall be by hand or by mechanical tampers. Before any concrete is laid on hardcore, the hardcore shall be levelled and blinded with sand, rolled and well watered through a sprinkler rose.

### Borrow Pits

AH No borrow pits will be allowed to be opened on the site

### Soil Sterilization

AJ Anti-termite treatment is to be carried out using one of the chemicals below and the Contractor will be required, upon completion of the soil sterilization, to furnish a written guarantee certifying the following:-

- (a) That the chemicals applied comply with the requirements specified herein for chemical concentration and rates of application.
- (b) That the treatment will remain effective against termite infestation for a period of **ten** years.
- (c) That free re-treatment by the Contractor of any areas showing signs of infestation before the expiry of the **ten** year period.

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

### Soil Sterilization

- AK The chemicals used shall be one of the following:-
- 1 Aldrin; 0.5% applied in oil solution or water emulsion
  - 2 Benzene Hexachloride; 0.8% of gamma isomer applied in oil solution or water emulsion.
  - 3 Chlordane; 1.0% applied in oil solution or water emulsion
  - 4 Dieldrin; 0.5% applied in oil solution or water emulsion
  - 5 Termicide A; 1 part to 45 parts water
  - 6 Lindane; 0.8% in oil solution or water emulsion
  - 7 Pentachlorophenol; 5% in oil solution
  - 8 Trichlorobenzene; 1 part to 3 parts oil
- AL Some of the chemicals listed above are toxic to animals and plant life and must, therefore, be applied only with caution by an experienced person. Where individual water supply systems are proposed, precautions must be taken to prevent infiltrating and endangering the water supply. Treatment shall not be made when soils or fill is excessively wet or immediately after heavy rains.
- AM Precautions must also be taken to prevent disturbance of the treatment by animals or human contact with the treated soil. The treated areas are to be covered as quickly as possible after treatment.
- AN The rate of applications is to be 7 litres per square meter and the areas measured include those under floor and around wall and column foundations.

# **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

# Proposed Construction of Chuka Modern Market in Tharaka Nithi

## **CONCRETE WORK**

### **Code of Practice for Reinforced Concrete Work**

AP All workmanship, materials and tests in connection with reinforced concrete work are to be conformity with B.S. Code of Practice B S 8110 : 1985 - The Structural Use of Concrete.

### **Generally**

AQ A competent person shall be employed whose first duty it will be to supervise all stages in the preparation and placing of concrete. All cubes shall be made and site tests carried out under his direct supervision.

AR All materials which have been damaged, contaminated or have deteriorated. or which do not comply in any way with the requirements of the specification, shall be rejected and shall be immediately removed from the site.

AS No materials shall be stored or stacked on suspended floors without the Engineer's prior approval.

### **Samples**

AT Samples of all materials are to be submitted for approval of the Engineer at least one week before it is desired to commence deliveries. All condemned materials are to be removed from the site within 24 hours.

### **Cement**

AU Cement used shall be ordinary Portland cement and shall be obtained only from manufacturers approved by the Engineer, and shall comply in every respect with B.S. 12. The Contractor at his own expense may use rapid hardening Portland Cement (to B.S. 12) in order to speed up progress of the Works. If rapid hardening Portland Cement is used, the prior approval of the Engineer shall be obtained in writing.

AV Each consignment of cement shall be accompanied by the manufacturer's certificate showing that a representative sample of the consignment has been tested and complies with the appropriate specification. From time to time as requested by the Engineer, copies of the cement manufacturer's test certificates shall be delivered to the Engineer or his representative on the site promptly, but such documents shall not preclude the Engineer from rejecting any cement which does not in every way comply with the specification.

### **Cement Storage**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

AW The cement must be delivered in the manufacturer's sealed and branded bags and stored separately in dry, water-tight stores with their floors raised above ground level and shall be at all times carefully protected from moisture.

AX The cement shall be stored in such a way that each consignment may be identified and used in the order of its delivery. Cement may be delivered in bulk containers provided additional suitable arrangements are made for bulk storage on site to the approval of the Engineer.

### **Inferior Cement**

AY Any cement which has failed to pass the tests or has been damaged by water or contaminated in any way on site shall immediately be put into bags and removed from the site.

### **Aggregate**

AZ Aggregates shall be granite or other equal and approved obtained from an approved source and shall comply with B.S. 882. They must be chemically inert, strong, hard, durable, free from adhering coating, salts, organic or other impurities and shall be washed or screened as directed.

### **Fine Aggregate and Sand**

BA Fine aggregate and sand shall be clean, sharp, coarse, hard siliceous materials and equal at all times to the samples which shall be deposited with and approved by the Architect or Engineer. It shall comply with the requirements of B.S. 882, Table 2, Zones 1,2 or 3. The caustic soda tests for organic impurities shall show a colour not deeper than that of the standard solution. The settling test for natural sand shall be made and after being allowed to settle for three hours the layer of silt deposit on the coarse materials shall not exceed 10% for crushed stone and 3% for natural sand or crushed gravel.

BB The Contractor shall supply all necessary equipment for testing of fine aggregate and sand for use of the Clerk of Works.

### **Coarse Aggregates**

BC Coarse aggregates shall be granite from approved quarries, clean, free from earth and extraneous matter, and shall conform to B.S. 882. The amount of fine particles occurring in a free state or as loose adherent shall not exceed 1% when determined by the laboratory sedimentation test.

BD After twenty-four hours in water, a previously dried sample shall not gain more than 1`0% in weight for crushed stone or 3% for natural sand or crushed gravel.

BE The four nominal aggregate sizes shall be 40 mm (1.5"): 20 mm (.75"): 10 mm (3/8"): 6 mm (1/4") : and the grading when analyzed as described in B.S. 812 shall be within the limits given in B.S. 882.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Aggregate Storage**

- BF Each grade of aggregate shall be stored in the works in separate heaps so that there shall be no possibility of any inter-mixing. Any materials which have become inter-mixed shall be removed from the site forthwith by the Contractor.
- BG The materials shall be stored on a timber or concrete floor and the piles shall be as large as possible, flat topped and drained.

### **Water**

- BH All water used on the Works shall be clean, free from earthy vegetable and organic matter and from acidic and alkaline substances in suspension or solution. It shall preferably be obtained from the water mains of the Ministry of Water and Energy Department or Water Authority and shall be stored in proper water storage tanks to the approval of the Architect or Engineer. Any approved water shall be tested in accordance with B.S. 3148.

### **Admixtures**

- BJ Admixtures of any kind for accelerating the setting of cement, plasticiser, hardeners, water proof etc., shall be used only if approved or specified by the Architect or Engineer.

### **Proportion of Concrete Mix**

- BK The quantity of cement shall be measured by weight and each batch of concrete is to use one or more whole bags. The quantity of fine aggregate and coarse aggregate shall be measured separately by weight in an approved weight batching plant. Volume mixing will not be permitted. The weight of damp aggregates must be adjusted to take into account the weight of water in the aggregates, and must be adjusted to take into account the weight of water in the aggregates, and this in turn will affect the amount of water to be added into the mix.
- BL Throughout the carrying out of the Contract "Work Tests" are to be made from concrete drawn from newly laid concrete or concrete about to be placed in position, such cubes being made when directed by the Clerk of Works and in his presence. Such cubes shall be made in 150 mm or six inch cube steel or cast from mould and shall be marked and cured strictly in accordance with Appendices of the Code of Practice, and shall be forwarded carriage paid in time for testing at the required age to a testing laboratory to be nominated by the Architect or Engineer.

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

BM Six cubes shall be made on each occasion, and cured in compliance with B.S. 1881 Part 3, 1983 concrete for each cube being from a difference batch. Three cubes shall be forwarded in time for testing at the age of seven days from casting and three cubes in time to testing in twenty-eight days. Each cube shall be marked with the date of casting and a distinctive reference number in accordance with a system agreed by the Engineer. A record shall be kept of the position from which the concrete for each set of cube was drawn, or to which it was about to be placed.

BN At least three sets of six cubes shall be cast during each week concrete is being cast including sets of cubes for each quality of concrete used during the period.

BP Concrete is required to have the properties and give the strength in Newtons per square millimetre as set out in the table below which is to be considered as the minimum standard that will be accepted in the finished Works.

BQ The workability of the fresh concrete should be such that concrete is suitable for handling, placing and compaction so that it surrounds the reinforcement, tendons and ducts and completely fills the formwork.

Grade	Quality	Maximum size of coarse aggregate	Maximum Water Cement Ratio by weight of Aggregate	Minimum Crushing Strength of Works Test Cubes	
				7 days	28 days
30	1:1:2	20	0.45	30	36
25	1:1.5:3	20	0.55	21	26
25	1:1.5:3	10	0.55	21	26
20	1:2:4	20	0.60	14	21
20	1:2:4	10	0.60	14	21
15	1:3:6	10	0.60	-	12
10	1:3:6	10	0.60	8	10
7	1:4:8	40	0.60	-	7
-	1:10	All in Aggregate		-	-

BR If the strengths required in the table are not attained and maintained throughout the carrying out of the Contract, the Contractor will be required to increase the proportion of cement or substitute better aggregate at his own cost so as to give concrete which does comply with the requirements of this Clause. The Contractor may be required to remove and replace at his own cost any concrete which fails to attain the required strength as ascertained by the Works Cube Tests.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Unsatisfactory Concrete Work**

- BS Should in the opinion of the Engineer any of the results of the specified tests of concrete or materials be unsatisfactory, the Engineer may order the work to be stopped pending his further instructions. Executed work for which test cubes are unsatisfactory shall be liable to rejection and, if so directed by the Engineer, the work represented by the tests shall be cut out and re-executed at the Contractor's expense.
- BT In the case of seven day Works Cube Tests proving unsatisfactory, the work may be stopped, but shall not be liable to rejection until the result of the twenty-eight day test is known.
- BU In the event of the results of the twenty-eight day Works Cube Tests proving unsatisfactory, the work represented shall be immediately liable to rejection. The Contractor may, however, be given the option of cutting three specimens from the completed work subject to the direction of the Engineer, and preparing therefrom test cubes or cores Tests in accordance with the requirements of Part 4 of B.S. 1881 Part 3, 1983. which shall be sent to the Testing Laboratory for testing as for Works Cube
- BV Should the average strength of these specimens attain the specified minimum twenty-eight day strength, the work will, subject to the Engineer's discretion be accepted. Alternatively, the Engineer may instruct the Contractor to make a loading test as described hereinafter. The cost of all cutting, preparation of specimens, testing and making good the portions of the structure affected, shall be borne by the Contractor. The cost of all delays on site due to concrete not attaining the desired strength, or caused by investigation of defects, cutting away and making good, shall be entirely the Contractor's responsibility.

### **Structural Test**

- BW If, in the Engineer's opinion, there is a doubt as to the strength of a structure, solely or in part, for the reason that the site-made concrete cubes fail to attain the specified fail, the Contractor shall be reimbursed for the cost of the test. If the result of the test is not satisfactory, the Contractor shall bear the cost of the test and the cost of correcting any defects in accordance with the instructions of the Engineer. strength, or because of one or more circumstances attributable to alleged negligence on the part of the Contractor to make a loading test on the Works or any part thereof. The nature of the test and the loading shall be in accordance with Clause 605 of C.P. 114. If the result of the test is satisfactory, except where the test has been made because test cubes



## Proposed Construction of Chuka Modern Market in Tharaka Nithi

### Formwork

BX The formwork shall be so constructed as to remain sufficiently rigid during the placing and compaction of the concrete and shall be sufficiently tight to prevent loss of liquid from the concrete. Vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without injury. All rubbish, chippings, shavings and sawdust shall be removed from the interior of the forms before the concrete is placed, and suitable washout holes shall be provided to facilitate this, and the formwork in contact with the concrete shall be clean and thoroughly wetted and treated with the approved mould oil. Care shall be taken that such oil is kept out of contact with the reinforcement and shall be used as sparingly as possible. In no circumstances shall forms be struck until the concrete reaches a cube strength of at least twice the stress to which the concrete may be subjected at the time of striking, and in any case the minimum permissible times shall be as follows:-

Vertical sides of wall and columns	2 days
Sides of beams and lintels	2 days
Soffits of slabs ( Subject to retention of props until 21 days)	14 days
Soffits of beams and lintels ( Subject to retention of props until 21 days)	14 days

BY No formwork is to be removed if, in the opinion of the Engineer, the concrete has not hardened sufficiently. Approval of the Engineer shall not relieve the Contractor of his liability to make good any concrete which may be damaged by premature removal or collapse of forms. Notwithstanding any other clauses in this specification the responsibility for the safe removal of the formwork rests with the Contractor.

BZ All formwork shall be removed without such shock or vibration as would damage the reinforced concrete.

CA Forms shall be true to lines and levels and braced and strutted to prevent deformation.

CB Before placing of the concrete, bolts and fixings shall be in position and cores and other devices used for forming openings, holes pockets, recesses, ducts or other cavities shall be fixed to the shuttering.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- CC Concrete shall not be poured in horizontal layers to a depth exceeding 1500 mm in formwork, except where prior approval of the Engineer has been obtained.
- CD Formwork is measured to the actual net surface of the concrete to be supported and the Contractor shall allow in his prices for any waste, fixing at the various levels, straight cuttings, splayed edges, notchings, fillets to form chamfered arises, extra materials, joints, overleaves for angles, extra labour for narrow widths and small quantities, props, stays, struts, hangers, brackets, edges, wiring, bolts, and everything necessary to keep all quite firm and rigid, and any other labour and materials necessary to fix, ease, adjust and remove the formwork as described.

### **Normal Finish to Faces of Structural Concrete**

- CE After removal of shuttering, unless instructed to the contrary, the face of exposed concrete is to be rubbed down immediately to remove fins or other irregularities. In the event of parts of the concrete being honeycombed, such portions are to be cut to a depth and shape required by the Engineer and made up with fine concrete of equal quality in such a manner as shall be directed. The face of concrete for which shuttering is not provided, other than slab, is to be smoothed with a wooden float to give a finish equal to that of the rubbed-down surface where shuttering is provided. The top face of a slab which is to not intended to cover with other materials is to be levelled and floated before setting to a smooth finish at the level or falls shown on the drawings or elsewhere. The floating must be carried out in such a way as will prevent an excess or mortar being brought to the surface of the concrete. The top face of a slab intended to be surfaced with mortar, granolithic, or similar materials is to be brushed with a stiff broom while still green to remove any laitence © and to provide a roughened surface.

### **Fairfaced Concrete**

- CF Where so described or measured, faced of concrete shall be finished fair by means of formwork lined with approved waterproof plywood so as to produce a perfectly true surface and shall have all imperfections in the concrete face cut out, made good in cement mortar and rubbed down with carborundum stone and finally bag rubbed with cement slurry to finish to a high standard without trace of shuttering marks, joints or other disfigurements.

### **Wrought Boarded Face Formwork to give a Board Mark Finish**

- CG Where so described or measured, faces of concrete shall be finished fair by means of 100 mm or 150 mm (nominal) width tongued and grooved boarding of 25 mm (minimum) thickness. The edges of all boards shall be nominal 2 mm chamfer to form controlled fins.
- CH Such formwork to column faces shall be of continuous length boards between construction joints.
- CJ End joints will be permitted to beams faces, etc., and shall be tongued, staggered and well distributed.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- CK All imperfections shall be cut out and made good in concrete of equal quality.
- CL The resulting concrete shall show grain and individual board marks, be free from honeycombing and excessive air holes, of uniform colour and to the entire satisfaction of the Engineer.

### **Wall Ties**

- CM Where blockwalls abut columns or solid concrete walls two 6 mm diameter steel reinforcing bar ties are to be cast into the concrete at vertical intervals of 400 mm. Ties to be 300 mm long and project 150 mm into blockwork.

### **Holes, Pipes Etc.**

- CN The Contractor shall be responsible for the co-ordination with sub-contractors for incorporating any electrical conduits pipes, fixing blocks, chases, holes, etc., in the concrete members as required. The Contractor shall submit full details of these items to the Engineer for approval before the work is put in hand. Concrete fixing blocks may be embedded in the concrete provided that the strength or effective cover of any part of the structure is not adversely affected nor the finished work damaged by any movement of the blocks. All fixing blocks, chases, holes etc., to be left in concrete shall be accurately set out and cast with the concrete. No openings, chases, holes or other voids shall be cut or formed in concrete without the approval of the Engineer.

### **Blinding Concrete**

- CP No casting of any concrete on the ground shall take place until the ground has been passed as satisfactory by the Engineer. All ground to carry reinforced concrete shall be covered with a 50 mm minimum blinding layer of concrete 1:4:8. The cover for concrete under reinforcement shall be entirely above the blinding layer.

### **Mixing**

- CQ Concrete is to be mixed in a batch mixer of approved type having a drum rotating about a horizontal or inclined axis. The speed of the drum is to be not more than twenty and not less than fourteen revolutions per minute. Each mixer is to be fitted with a water measuring device capable of accurate measurement to one gallon for one cubic yard mixers and pro rate for smaller sizes and so arranged that the accuracy is not affected by variations in the pressure of the water supply line.
- CR The fine and coarse aggregate and the cement are to be mixed for at least four turns of the drum, after which the required amount of water is to be added gradually while the drum is in motion and the concrete then mixed for at least one and a half minutes and until a mix of uniform colour and consistency is attained.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- CS The volume of concrete mixed in any one batch is not to exceed the rated capacity of the mixer.
- CT The whole of the mixed batch is to be removed before materials for a fresh batch enter the drum.
- CU On cessation of work, including all stoppages exceeding twenty minutes, the mixers and all handling plant are to be washed out with clean water.
- CV Concrete mixed as above is not to be modified by the addition of water or otherwise in order to facilitate handling, or for any other purpose.
- CW At least one slump test shall be made each day concreting is in progress under the supervision of the Clerk of Works. The slump shall not exceed 75 mm but at 25 mm slump may be allowed by the Engineer in certain structural members.

### **Transporting**

- CX Concrete is to be handled from the place of mixing to the place of final deposit as rapidly as practicable by the methods which will prevent segregation or loss of ingredients and maintain the required workability. It should be deposited as nearly as practicable in its final position to avoid rehandling.
- CY Concrete shall be placed into the forms from as small a height as possible and shall in no case be dropped from a height of more than 1500 mm except with the approval of the Engineer.
- CZ When chuting is used, the inclination of the chute must be such as to allow the concrete to flow without the use of excessive water and without segregation or loss of the ingredients. Details of any proposed chuting plant must be approved by the Engineer before the plant is delivered to the site.
- DA If the Contractor wishes to distribute concrete by means of pumps, full details of the system must be made available to the Engineer for approval.

### **Placing and Consolidation**

- DB The concrete shall be placed before setting has commenced and in any case within thirty minutes from the time the water is added, and must not be subsequently disturbed. Concrete shall be thoroughly compacted during the operation of placing, and thoroughly worked around the reinforcement, around embedded fixtures, and into corners of the formwork. Mechanical vibration with an approved type insertion vibrator shall be used.
- DC The use of mechanical vibration will not relieve the Contractor of his responsibility for making good work which may be damaged by excessive or ill-applied vibration.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- DE All methods of placing and consolidation of the concrete are to be such as not to cause any disturbance or movement to the formwork or reinforcement. After being placed in position, the concrete is to be left absolutely undisturbed by any movements or thrusts while setting.
- DF An accurate record is to be kept by the Contractor showing dates and times when various portions of the work were concreted. The concreting foreman must not vary the approved mix or water content without the permission of the representative of the Engineer. It may occasionally be found that in constructed structural members or where the proportion of reinforcement to concrete is high, the workability of the concrete must be increased locally in order to effect full compaction. Such increase in workability shall be achieved by an increase in the cement content of not more than 10% of the concrete by weight in any single batch and must be made only with the approval of the representative of the Engineer.
- DG The workability of the concrete must never be altered by the use of additional water or sand alone.

### **Construction Joint**

- DH The form and location of all construction joints shall be approved by the Engineer before commencement of work.
- DJ The Centering to form the stop shall be fitted with splay fillets on the concrete face and will be firmly fixed and scribed around the reinforcing steel. If any concrete shall flow past the stop, it shall be hacked off as soon as the concrete has set. Before any new concrete is placed up against the stopped face, the concrete previously placed shall be hacked and scoured with a wire brush to remove the scum. The joint shall then be soaked with water and covered with a sand cement mortar of proportions in the same ratio in the concrete used. In all cases of application of mortar the punning must be adequate to incorporate the mortar in the body of the concrete. In no circumstances shall the concrete be allowed to finish at a break running down a rough slope. Such cases, if found, will be treated as contrary to the specification and the Contractor will be required to cut out the member and re-cast. In the case of horizontal joints, any excess water and laitence shall be removed from the surface after the concrete is deposited and before it has set.
- DK Before casting slabs the haunchings or seatings for the slab shall be thoroughly hacked, scoured and washed and covered with at least 5 mm of mortar immediately before the slab is cast.
- DL Slabs to be cast using alternate bay construction, maximum size of single panel 40 square meters.

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

### Column Plinths

DM Column kicker plinths 75 mm high not cast monolithically with the beam or slab will be allowed only at the discretion of the Engineer and special precautions must be taken if permission is granted, especially in regard to the quality of the mix used and the curing of concrete.

### Curing

DN The curing of the concrete must receive particularly careful attention. The concrete shall be covered with a layer of a sacking, canvas, hessian or suitable absorbent materials, and concrete, formwork and covering kept constantly wet for the first seven days after casting. Foundation concrete must be protected from falling earth and kept free from deleterious substances.

### Dimensions of Finished Concrete

DP Except where specially noted, dimensions, levels, sizes, positions, and covers are to be exactly as dimensioned or specified with the following tolerances for concrete cast in situ.

- (a) For sizes of beams or columns, slab or wall thicknesses, not less than specified, nor more than 5 mm above. Dimensions between column faces not to have a greater tolerance than 10 mm.
- (b) For layout positions or dimensions horizontal or vertical 5 mm plus or minus.
- (c) Levels of floor, ceilings, beams, lintels, etc., (top and bottom), 5 mm plus or minus and no surface intended to be horizontal must slope more than 2 mm in 1 meter.
- (d) Errors in plumbing 5 mm plus or minus, and no line or surface intended to be vertical must slope more than 2 mm in 1 meter.
- (e) For cover of concrete around reinforcement 3 mm plus or minus.

**Permissible tolerance shall not be cumulative.**

### Steel Reinforcement

DQ Mild steel rod reinforcement shall comply with B.S. 4449.

DR High tensile steel rod reinforcement shall be hot rolled deformed steel complying with B.S. 4661 grade 460.

DS Welded steel fabric reinforcement shall comply with B.S. 4483.

DT The steel shall be stored so that it is kept clean and reasonably free from rust.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- DU All metal for reinforcement is to be free from loose mill scale, loose rust, oil and grease, or other harmful matter immediately before placing of the concrete.
- DV All reinforcement is to be placed and maintained in the positions shown on the drawings. Some definite method of ensuring the amount of cover required by the designer must be agreed between the Contractor and the Engineer.
- DW Reinforcement must be bent or straightened in a manner that will not injure the materials, and in accordance with B.S. 4466.
- DX All bars are to be bent cold.
- DY Starter bars are to be positioned accurately.
- DZ All crossings of bars are to be securely wired.
- EA Bars at the top of slabs are to have substantial support.
- EB The prices of all rod reinforcement are to include for cutting to lengths and for all bending, hooked ends, etc., and for placing in position with distance pieces where necessary to ensure the rigidity of the bars and for tying together with approved wire in order to prevent displacement during concreting.
- EC The placing of all reinforcement shall be checked by the Engineer and in no circumstances is concrete to be deposited around any steel that has not been passed. At least forty eight (48) hours notice shall be given to the Engineer that reinforcement will be ready for inspection.
- ED Where bending schedules are provided, the measured weight of reinforcement for purposes of payment will be taken from the bending schedules and the Contractor must make due allowance in his rates for rolling margins and all the foregoing items and labour including cutting to waste from random lengths.

### **Cover to Reinforcement**

- EF The thickness of the concrete cover to reinforcement shall conform in all respects to the B.S. Code of Practice B. S. 8110 : 1995 unless specifically shown on the drawings. Some approved method of ensuring the correct amount of cover shall be used.

### **Spacing Blocks and Chairs etc.**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- EG Properly formed spacing blocks of concrete with wire ties or other approved means shall be securely wired or attached to the reinforcing bars to ensure the maintenance of the proper cover of concrete.
- EH These shall be dense concrete left with a wire brushed surface or dipped in grout before fixing. These blocks are particularly important where the surface of the concrete is exposed to the weather or dampness. The Contractor must ensure that the bars are securely fixed so as to maintain their indicated positions during the progress or pouring, tamping or vibration of concrete. Four chairs per drop are to be provided around columns to hold steel in positions and chairs are to be made up of 12 mm diameter mild steel bars. The cost of all such fixing steel must be allowed for the Contractor in his rates for reinforcement generally.

### **Precast Concrete**

- EJ Concrete shall all be cast in properly made strong mould to form shapes required. For work described as "finished fair" the mould shall be lined with sheet iron or other approved material.
- EK The coarse aggregate for precast concrete shall be 10 mm gauge where 1:1.5:3 mix concrete is specified.
- EL The concrete shall be of the mixes described and shall be thoroughly tamped in the mould and shall not be removed from them until seven days after placing the concrete, but the sides may be removed after three days providing the mould are such that the sides are easily removable without damaging the concrete.
- EM The precast work shall be cast under sheds and shall remain under same for seven days in the mould and a further seven days after removal from the moulds. During the whole of this period the concrete shall be shield by sacking or other approved materials and kept wet. It shall then be removed from the sheds and stacked in the open for at least seven days to season.
- EN All precast work shall be in lengths convenient for handling, unless otherwise described.
- EP Prices for precast concrete shall include for all moulds, hoisting and fixing to the levels required, bedding and pointing in cement mortar (1:3) and for finishing exposed faces fair and smooth where so described.



# **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **WALLING**

#### **Setting out Walling**

EQ The Contractor shall provide proper setting out rods and set out all work on same for courses, openings, heights, etc., and shall build the walls and piers etc., to the widths, depths and heights indicated on the drawings and as directed and approved by the Architect.

#### **Cement**

ER Cement shall be described in Concrete Work.

#### **Fine Aggregate**

ES Fine aggregate for concrete blocks shall be as described for fine aggregate in Concrete Work.

#### **Coarse Aggregate**

ET Coarse Aggregate for concrete blocks shall be good, hard, clean aggregates from approved quarries. It shall be free from all decomposed materials and shall be graded up to 10 mm all as described for coarse aggregate in Concrete Work.

#### **Concrete Block**

EU Concrete blocks for walling shall be provided by the Contractor complying with B.S. 2028 Type A, and made in approved block making machines or a composition as follows:-

Portland Cement; 1 Cubic Meter

Fine Aggregate (graded up to 5 mm); 3 Cubic Meters

Coarse Aggregate (graded up to 10 mm); 6 Cubic Meters

EV Blocks shall be solid or hollow two-hole type as specified and are to be made under sheds erected by the Contractor to the directions and approval of the Architect. In hollow blocks of the volume of the cavities shall be not less than 45% and not more than 50% of the gross

EW The compressive strength Type A blocks shall be not less than:-

Average of 13 hollow blocks; 5.75 N/mm<sup>2</sup> gross area

Lowest individual hollow block; 4.0 N/mm<sup>2</sup> gross area

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

EX The concrete is to be put into the machine's moulds in thin layers and all properly tamped therein. On removal from the machines the blocks are to be carefully deposited on wet the whole time, after which they shall be put out in the open on racks and protected with the approved matting, sacking or straw and kept wet for a further five days, then kept in the same position and under the same mat cover, but without wetting, for a further two days and then left in the open without matting or wetting for a further seven wet the whole time, after which they shall be put out in the open on racks and protected with the approved matting, sacking or straw and kept wet for a further five days, then kept in the same position and under the same mat cover, but without wetting, for a further two days and then left in the open without matting or wetting for a further seven days to season. All blocks must be left with good sharp edges. The blocks for use in the Works shall be 190 mm high and may vary in length from 300 mm to 400 mm and no variation above or below these lengths will be allowed except where required to form proper bonding at corners, round openings, sills, lintels, beams, etc., and the like positions and the Contractor must make or cut blocks to all the varying sizes required for these purposes and include this in his price. days to season. All blocks must be left with good sharp edges. The blocks for use in the Works shall be 190 mm high and may vary in length from 300 mm to 400 mm and no variation above or below these lengths will be allowed except where required to form proper bonding at corners, round openings, sills, lintels, beams, etc., and the like positions and the Contractor must make or cut blocks to all the varying sizes required for these purposes and include this in his price. racks under sheds erected by the Contractor to the direction and approval of the Architect and there left for three days and kept thoroughly.

### **Bonding Walling**

EY The blocks shall be properly bonded together in such manner that no vertical joint in any one course shall be within 100 mm of a similar joint in the courses immediately above or below. Sufficient through bonders shall be provided as directed by the Architect. Alternate courses of walling at all angles and intersections shall be carried through the full thickness of the adjoining walls. All walling shall be built up entirely solid in blocks without void, allowance being made for joints 10 mm thick only. All perpend, reveals and other angles of the walling shall be built strictly true and square

### **Wall Reinforcement**

EZ Where so specified hollow block walls shall be reinforced vertically with 10 mm diameter mild steel bars built into the cavities of the blocks at 400 mm centres, unless otherwise specified, all bars in walls to have a minimum lap of 350 mm.

FA Prices for walling described as reinforced must include for all extra costs involved in slotting blocks over the vertical reinforcement.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Filling of Hollow Blockwork**

- FB All cavities where specified and shown above ground and all cavities below ground level shall be filled in solid with concrete of the mix described and placed and consolidated in sections not exceeding 1190 mm in height.
- FC In reinforced walls the filling shall be carefully compacted around the reinforcement.

### **Blocks to be Wetted**

- FD All concrete blocks and stone walling shall be well wetted before being laid and the top of walling where left off shall be wetted before re-commencing building. Walls to be kept wet three days after building.

### **Mortar**

- FE Mortar to be used for all walling work shall be composed of 1 part of Portland Cement to 1 part lime to 6 parts of fine aggregate measured by volume in specially prepared dry on clean and watertight mixing platforms, with water added afterwards from a can with a fine rose until all parts are completely incorporated and brought to a proper consistency and then used within thirty minutes of mixing. gauge boxes and thoroughly mixed
- FF No partially or wholly set mortar will be allowed to be used or re-mixed.

### **Fair Face Walling**

- FG Where walling is to be finished with a fair face, the concrete blocks are to be selected for freedom from defects and the joints raked out as the Works proceed and flush pointed with a neat joint in cement mortar.

### **Joints for Walling**

- FH The blocks shall be bedded and jointed in cement mortar as described with beds and joints 10 mm thick, full flushed up and grouted solid as the work proceeds. Joints shall be raked out where the surfaces or walling are to be plastered.
- FJ All walling shall be properly protected while mortar is setting as the Architect shall direct.

### **Building Walling**

- FK All walls throughout the Works shall be carried up evenly in 12 mm course, no part being allowed to be carried up more than 800 mm higher at one time than any other part and in such cases the jointing shall

### **Putlog Holes**

- FL Putlog holes shall be carefully, properly and completely filled up on completion of walling work.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Rough Cutting etc.**

FM The Contractor shall allow in his prices for the walling which is measured net herein, for all ordinary rough cutting, bonding, plumbing angles, forming reveals and fitting up to under side of concrete beams, slabs and lintels etc.

### **Stone Pitching**

FN The ground to receive pitching shall be well compacted and the stones, which shall be flat bedded and not less than 230 mm either way along the bearing surface, shall be punned to the required falls and inclinations so that neither wedges nor spalls are required to keep the pitching rigidly in place. The joints shall be no more than 13 mm thick and shall be solidly filled with 1:3 cement mortar.

FP Stone for pitching shall be coral obtained from approved quarries. It shall be hard, sound, durable and clean.

### **Stone for Walling**

FQ Stone for walling shall be from an approved quarry, roughly square and built random and uncoursed in mortar as described. The stone shall be well bonded with a minimum of one good bond or through stone evenly spaced to each square meter. All cavities and joints in stonework are to be filled in and flushed up solid with mortar.

FS Jointing and pointing is as detailed or instructed.

### **Precast Screen and Louvre Block Walling**

FT Precast concrete screen blocks shall be manufactured in concrete of 30.0 N/mm<sup>2</sup> strength using 10 mm aggregate, the blocks shall be 390 mm and 190 mm long x 190 mm high and 150 mm on bed in accordance with detailed drawings and finished fair on all surfaces and bedded, jointed and pointed in cement mortar with a neat flush joint.

FU Precast concrete louvre blocks shall be of similar concrete, similarly jointed and pointed and constructed to detail drawing.

### **Damp Proof Course**

FV Damp proof courses shall be hessian based bituminous felt to B.S. 743 Type 5A laid on and including a levelling screed of cement and sand and lapped 230 mm at joints.

# **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

# Proposed Construction of Chuka Modern Market in Tharaka Nithi

## **ROOFING - ASPHALT WORKS**

### **Supply:**

#### **Approved Supplier**

- A. All materials shall be supplied by a firm approved in writing by the Architect and the works executed by workmen approved by the supplier.

#### **Guarantee**

- B. The Contractor shall deposit with the Architect, a written guarantee and undertaking to the effect that during a period of not less than twelve calendar months from and after the certified date of completion of the whole of the works the contractor shall at his own expense make good to the satisfaction of the Architect all and any defects in the asphalt work which shall be attributed to improper materials or faulty workmanship and shall bear the cost of any consequential damage as shall be provided for in such guarantee.

#### **Samples**

- C. The Contractor shall when required by the Architect submit samples of any material for testing.

### **Materials:**

#### **Asphalt for roofing**

- D. Asphalt for roofing shall comply with B.S. 1162 tropicalised mastic asphalt for roofing purposes.

#### **Felt underlay**

- E. The underlay shall be saturated "Cabro" sheathing felt complying with B.S. 1162 (or equivalent).

#### **Insulating screeds**

- F. Insulating screeds shall consist of lightweight concrete composed of one part Portland Cement and eight parts vermiculite aggregate and shall be covered with 10 mm cement and sand (1:4) screed wood floated to receive asphalt coverings.

### **Workmanship:**

#### **Preparation of surfaces**

- A. All surfaces to receive asphalt and other roof coverings are to be dry, wood floated and finished to suppliers specifications.

#### **Laying**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- B. Asphalt and other roof coverings shall be laid in bays generally not exceeding 2 m wide and succeeding coats shall be laid at breaking joint. Junctions between bays and fillets shall be properly married the whole being worked so that the joints are neatly made.
- C. Horizontal asphalt for roof coverings shall be 20 mm thick built up into two layers each 10 mm thick. The first layer shall be applied to sheathing felt and the final coat shall be left ready to receive roofing tiles.

### **Air pockets and stains**

- D. Air pockets and stains on the asphalt and other roof coverings will not be permitted and the finished work shall not ring hollow over any parts of its surface.

### **Joints and fillets**

- E. Joints in all asphalt work and other roof coverings shall be carefully made and complete fusion obtained to make them watertight. Fillets shall be run at all internal angles and in at least two operations. Perfectly watertight joints shall be made around pipes passing through walls and floors etc.

### **Felt underlay**

- F. The felt underlay shall be fixed and laid loose or partially bonded in hot bitumen with but joints.

### **Testing for falls**

- G. To ensure that asphalt and other roof coverings have been truly laid to falls, the contractor is to arrange for the roof areas and gutters to be flushed with water in the presence of the Architect. Any defects or depressions in the asphalt or other roof coverings are to be rectified and retested for approval.

## **CARPENTRY**

### **Terminology**

- A. All technical terms shall be as defined in the "Export of Timber Ordinance Export of Timber Rules 1965".

### **Timber Generally**

- B. The timber for carpentry and joinery shall be specified and obtained from an approved sawmill.
- C. The timber for carpentry shall be Second or Select Grade for strength.



## Proposed Construction of Chuka Modern Market in Tharaka Nithi

- D. The timber shall be reasonably straight grained.
- E. All timber for the Works is to be purchased immediately the Contract is signed and is to be open-stacked for as long as possible before use or kiln drying.
- F. All timber as it arrives on the site shall be inspected by the Architect, and any timber brought on to the site and not approved must be removed forthwith.
- G. All timber and assembled woodwork shall be protected from the weather and stored in such a way as to prevent attack by termites, insects or fungi.

### Species of Timber for Structural Work

- H. The following softwoods shall be used for structural work;

Standard Common Name	Botanical Name
Podo	Podocarpus
Cypress	Cuppressues Lusitanica

- J. Both to be second strength Grade P5 or equivalent. Whilst either timber is suitable, intermixing of species will not be accepted.
- K. The Contractor is permitted to propose substitute species but these shall not be used without the written approval of the Architect and no adjustment shall be made to the basic rates for softwood trusses in the event of a substitute species being accepted.

### Insect Damage

- A All timber shall be free from live borer beetle or other insect attack when brought upon the Site. The Contractor shall be responsible up to the end of the maintenance period for executing at his own cost all work necessary to eradicate insect attack of timber which becomes evident, including the replacement of timber attacked or suspected of being attacked, notwithstanding that the timber concerned may have already been inspected and passed as fit for use.

### Seasoning of Timber

- B All timber shall be seasoned to a moisture content of not more than 18% for carpentry and 15% for joinery. The Contractor's price must include for any kiln drying that may be necessary to achieve these figures.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Pressure Impregnation**

- C The softwood described as pressure impregnated shall be treated with the "Celcure A" "Tanalith C" full cell process. Timber must be seasoned to a moisture content not exceeding 25% before being treated. The treatment shall be to the minimum standard of:-  
Solution concentration; 2%  
Absorption of preservative; 520 Litres per cubic meter  
Net dry salt retention; 10.4 Kg per cubic meter
- D After treatment, the timber shall be seasoned to the specified moisture content.
- E Cut ends and faces of timber sawn, drilled and cut after treatment are to be swabbed liberally with approved preservatives until saturated, allowed to dry and then treated with a second coat and rates for timber must include for this. Approved preservatives are: Atlas A; Brunophan Nr 2; Cuprinol Clear or Water Repellant Clear; Ensele Woodtreat 55.

### **Inspection and Testing**

- F The Architect shall be given facilities for inspection of all works in progress whether in workshops or on site. All timber as it arrives on the site must be inspected by the Architect and any timber brought onto the site and not approved by him must be removed forthwith, failing which he may arrange for the removal of the rejects and dispose of them as he may consider advisable at the Contractor's expense.
- G Notwithstanding approval having been given above, any timber incorporated in the Works found to be in any way defective before the expiry of the maintenance period shall be removed and renewed at the Contractor's expense. The Contractor is to allow for testing of prototypes of special construction units and the Architect shall be at liberty to select any samples he may require for the purpose of testing, i.e. for moisture content, or identification of species, strength, etc.
- H Where timbers need to be extended into a wall, they shall be thoroughly "brush treated" with Ensele in addition to preservative treatment as already described above, and as much clear air space maintained around the timber where it adjoins the wall as possible.

### **Clearing Up**

- J The Contractor is to clear out and destroy or remove all cut ends, shavings and other woodwaste from all parts of the building and the site generally, as the work progresses and at the conclusion of the Work.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Workmanship**

- K All carpentry shall be executed with workmanship of the best quality. Scantlings and boardings shall be accurately sawn and shall be of uniform width and thickness throughout. All carpenter's work shall be left with sawn surfaces except where particularly specified to be wrought.
- L All carpentry shall be accurately set out in strict accordance with the drawings.
- M All structural timbers shall be frame or jointed together as is most appropriate in the circumstances in accordance with the rules of good practice. Joints must be executed in strict conformity with the drawings.
- N All joints shall be secured with a sufficient number of nails disposed as shown on the drawings and rates must include for the jointing of timbers. Surfaces must be in good contact over the whole area of the joint before securing. Holes for nails must be pre-drilled undersize; holes for bolts must be bored slightly over size from both sides of the timber and washers must be used under the nut which must be tightened sufficiently to permanently secure the joint but not to crush the timber.
- P Actual dimensions of scantlings for carpentry shall not vary from the specified dimensions by more than 3 mm in deficiency or excess but must be uniform throughout. Boards 25 mm thick or less shall hold up to the specified size. All timbers shall be as long as possible and practicable, in order to eliminate joints.

### **Joints**

- Q All nails, screws, bolts, connectors, etc., are to be as specified under "Metalwork" and as shown on the drawings.

### **General**

- R The provisions contained in the "Carpentry" section shall apply also to the Joinery Section where applicable.

### **Species of Timber**

- S The following timber of First or Prime Grade for appearance shall be used for Joinery Work in conjunction with the term "hardwood" or "approved hardwood":-

*Standard Name; Botanical Name*

Podo (for grounds, etc., only); Podocarpus spp.

African Mahogany; Khaya Nyasica

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

Mninga, Pterocarpus Angolensis

Iroko (Mvula); Chlorophora excelsa

- T The following may also be used as "local hardwood" (referred to hereafter) with the Architect's approval:-  
Adina; East African Afrormosia; East African Afzelia

### Generally

- U All joinery work shall be accurately set out on boards to full size for the information and guidance of the artisans before commencing the respective works, with all joints, iron work and other work connected therewith full delineated. Such setting out must be submitted to the Architect and approved before such respective works are commenced.
- V **All joinery work shall be cut and framed together as soon after the commencement of the building as is practicable**, but not to be wedged up or glued until the building is ready for fixing same. Any portions that warp, wind or develop shakes or other defects within six months after completion of the Works shall be removed and new fixed in their place together with all other work which may be affected thereby, all at the Contractor's own expense.
- W All work shall be properly morticed, tenoned, housed, shouldered, dovetailed, notched, wedged, pinned, bradded, etc., as directed and to the satisfaction of the Architect and all properly glued up with the best quality approved glue.
- X Joints in joinery must be as specified or detailed, and so designed and secured so as to resist or compensate for any stresses to which they may be subjected. All nails, springs, etc., are to be punched and puttied. Loose joints are to be made where provision must be made for shrinkage; with glued joints where shrinkage need not be considered and where sealed joints are required. Glue for load-bearing joints or where conditions may be damp must be of the resin type. For non-load-bearing joints or where dry conditions may be guaranteed casein or organic glues may be used. All exposed surface of joinery work shall be wrought and all arises "eased-off" by planning and sand-papering to an approved finish suitable to the specified treatment.

### Dimensions

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

- Y 3 mm reduction off specified sizes will be allowed for each wrought face except where described as (f) i.e. **finished** size in which case joinery shall hold up to the full dimensions. Dimensions of 25 mm or less shall hold up to the specified sizes.

### Fixing Joinery

- Z All beads, fillets and small members shall be fixed with round or oval brads or nails well punched in and stopped. All large members shall be fixed with brass screws, the heads let in and pelted to march the grain where natural finish timber is specified.

### Mastic

- AA Mastic where specified for bedding, joinery, sills, water bars, etc., is to be approved non-hardening plastic, phylsulphide synthetic rubber or butyl composition filler or sealer.

### Fiberboard

- AB Fiberboard shall be "Celotex" or equal and approved.

### Plywood

- AC Plywood shall be from an approved source and comply with B.S. 1455, first or second grade, as required and unless otherwise stated shall be "interior" quality. Where veneered plywood is specified, samples must be submitted for prior approval. Where stated to be "exterior" quality, this shall be waterproof (Bonding W.B.P.).
- AD Routine tests will be required from time to time to check the quality of manufacture. Plywood used in structural members shall be bonded with a suitable adhesive.

### Chipboard

- A Chipboard shall be approved medium density resin bonded wood chipboard equivalent to B.S. 2604 with sanded finish or thickness stated. Where faced with plastic sheeting the chipboard shall be counterbalanced.

### Blockboard

- B Blockboard shall be laminated board to B.S. 3444. Where faced with plastic sheeting the blockboard shall be counterbalanced.

### Flush Doors

- C Flush doors shall be from an approved source and manufacture, be solid core constructed generally in accordance with B.S. 459 finished with 6 mm veneer plywood (to Architect's approval) and lipped all round with hardwood 12 mm thick.
- D The thickness stated is the overall finished thickness.

### Plastic Sheeting

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- E Plastic sheeting shall be Formica or equal and approved laminated sheeting 1.5mm thick fixed with an approved adhesive. All colours are to be selected by the Architect.

### **Plugging Walls**

- F All work described as plugged shall be fixed with brass screws to plugs formed by drilling concrete, walls, etc., with a proper tool of suitable size at 500 mm spacings and filling the holes completely with an approved proprietary plugging compound used in accordance with the manufacturer's instructions.

### **Protect Joinery**

- G All fixed joinery which, in the opinion of the Architect, is liable to become bruised or damaged in any way shall be completely cased and protected by the Contractor until the completion of the Works.

### **Bottom Edges**

- H Bottom edges of doors shall be painted with one coat of approved primer before fixing .

### **Mosquito Screening**

- J Mosquito screening shall be "Alcad" or equal and approved aluminium fine wire mesh screening.

### **Bird Screening**

- K Bird screening shall be approved galvanized coffee tray wire.

### **Ironmongery**

- L All ironmongery shall be fixed with screws to match. Before the woodwork is painted, handles shall be removed, carefully stored and refixed after completion of painting, and locks oiled and left in perfect working order. Prices for fixing locks must include for organizing masterkeying systems if required and all keys shall be labelled with door references marked on approved labels before handing to the Architect on completion.

## **STRUCTURAL STEELWORK**

### **Standard of Construction**

- A. The whole of the structural steelwork and testing shall comply with the relevant clauses of B.S. 449, B.S 4360; 1980 and B.S. 5940 grade 43.

### **Fabrication by Specialist Firm.**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- B. The steelwork shall be fabricated by a specialist firm or under proper factory conditions to be approved by the Architect.

### **Contractor to Submit Drawings**

- C. The Contractor shall include for the preparation of all shop details from the drawing supplied by the Architect. All such details shall be approved in writing, by the Architect, before the work is put in hand. Every drawing shall show the number and sizes of all rivets and bolts, complete details of welds, type of electrodes, welding procedure, whether the welds are to be made in the shop or elsewhere and any other relevant information.

### **Accuracy of Drawings.**

- D. The Contractor shall be responsible for the correctness of his shop details and for shop fittings and site connections.

### **Erection Scheme**

- E. The Contractor shall submit to the Architect for approval, drawings showing the proposed erection scheme, together with all calculations for erection stresses, etc. The approval by the Architect will not absolve the Contractor in any way from his responsibility.

### **Dimensions to be Verified**

- F. The Contractor shall take the dimensions from the site or buildings and he shall verify all dimensions given on the drawings before the work is put in hand.

### **Copies of Orders**

- G. A copy of all orders for materials shall be supplied by the Contractor to the Architect at the time of ordering, for identification purposes.

### **Damage**

- H. Any damage to materials on the site due to inadequate precautions being taken during the erection of the steelwork shall be made good to the satisfaction of the Architect at the Contractor's expense.

### **Materials**

#### **Quality of Steel**

- A. (i) All structural and rivet mild steel shall comply with B.S 4360 Part 2
- (ii) Nil
- (iii) Nil
- (iv) All structural steel tubes shall comply with B.S. 1775 and B.S. 449

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- (v) Mild steel and medium tensile steel electrodes for metal-arc welding shall comply with the requirements of B.S 2549.
- (vi) High tensile steel electrodes for metal-arc welding shall comply with the requirements of B.S. 2549.
- (vii) All mild steel bolts and nuts shall have a tensile strength of not less than 432 N per Square Millimetre (28 tons per square inch) and a minimum elongation of 17 percent as defined in Clause 2 of B.S. 916 or in B.S. 2708.
- (viii) All high tensile steel bolts, nuts and washers shall have a minimum tensile strength of 570 N per square millimetre (37 tones per square inch).
- (ix) High strength friction grip bolts and washers shall comply with B.S. 3139, Part 1.
- (x) All plan washers shall be of steel. Tapered or other specially shaped washers shall be made of steel or malleable case iron complying with B.S. 3410. shall be made of steel or malleable case iron complying with B.S. 3410.

### **Marking of Steel**

- B. Each piece of steel shall be legibly marked with the maker's name or trade mark and with cast numbers or identification marks by which the steel can be traced to the cast from which it was made.
- C. For rivet bars and small pieces securely bundled, a metal tag marked with the cast number will be sufficient.

### **Standard Dimensions**

- D. The dimensions and allied requirements of all structural rolled sections shall comply with B.S. 4. The dimensions, weight, tolerances etc., of all rivets, bolts, nuts, studs, etc., shall conform to the following standards. Rivets shall comply with the requirements of B.S. 275 for dimensions
- E. Black bolts, nuts, studs, lock nuts and washers shall comply with the requirements of B.S. 916 for dimensions and with B.S. 1580 for unified black bolts etc.
- F. Turned bolts shall have the shank turned to the specified diameter allowing only a minus tolerance up to 0.13mm (0.005 inch).

### **Weight of Steel**

- G. For the purpose of measurement, the weight of mild steel shall be as given in B.S. 648 which will be the basis for measurement of variations. The weights per meter given on the drawings do not include the shelf angles riveted to webs, nor the plates riveted to the flanges of R.S. Js or other sections.



## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Conditions of Surfaces**

- H All surfaces of steel work shall be clean, free from loose millscale and loose rust.

### **Tests and Inspection**

- J Manufacturer's Mill Test Certificates for all structural steel shall be supplied to the Architect as and when required. Where and when directed by the Architect, the Contractor shall take and deliver samples of structural steel for testing to the Employer's Highways and Transportation Testing Station. Should the results of either test be unsatisfactory the whole consignment of steel which the sample represents shall be rejected and shall be replaced by other material of proper quality at the expense of the Contractor.
- K The Architect or his representative shall at all reasonable times, be given free access to the Works.

### **Metallic Coatings**

- L Galvanized steelwork shall comply with B.S. 729 Part 1 entirely coated with zinc after fabrication by complete immersion in a zinc bath in one operation and excess carefully removed. The finished surfaces shall be clean and uniform.
- ii) Zinc sprayed steelwork shall comply with B.S. 2569 Part 1. The nominal thickness of zinc coating shall be not less than 0.102 mm (0.004 inches) and at no point less than 0.076mm (0.003 inches).

### **Generally**

- G. The whole of the fabrication and erection of the steelwork shall be carried out in accordance with B.S. 449
- H The welding of steel to B.S. 15, B.S. 968, B.S. 2762 and B.S. 4360 must conform to: B.S. 1856 - "General requirements for the metal-arc welding of mild steel" or B.S. 2642 - "General requirements for the arc welding of steel to B.S. 968 and similar steel"
- J For welding any particular type of joint the Contractor shall provide evidence acceptable to the Architect that the welder has satisfactorily completed the appropriate tests as described in B.S. 449 Part 6.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- K Any welder's tests shall be made at the Contractor's expense and shall include the cost of any fees incurred by the Employer for witnessing of, or making such tests.
- L The right is reserved to make non-destructive tests on the welding to determine if the welding conforms to the standards laid down in either B.S. 1856 or B.S. 2642 as applicable. This will normally consist of radiography on butt welds, ultrasonic examination of fillet welds or other tests as appropriate to the actual configuration of the weld in question.

### **Rejection**

- M Any portion of the work which, in the opinion of the Architect, is not in accordance with the drawings, or specification shall be rejected whether before or after delivery and must be removed from the site if delivered within 24 hours from receipt of such notice or rejection at the Contractor's expense. Any delay caused by such rejection will not in any way relieve the Contractor from his responsibility with regard to the provisions of the Contract. If any welding is found to be defective the cost of all remedial measures shall be borne by the Contractor, including the cost of re-testing the subsequent inspection of welds as referred to in the P.C. Sum hereafter.
- N The Contractor is responsible for the good quality of all welding work and no exceptions will be made on the grounds that the Architect or his representative have inspected any part or parts of the work at some stage during production.

### **Fabrication**

- P As much of the work of fabrication of the steelwork as is reasonably practicable shall be completed in the manufacturer's works. Field connections shall be made in accordance with the approved drawings. The Contractor shall give four day's clear notice of steelwork ready for inspection at the manufacturer's works, to facilitate inspection before delivery.

### **Cast of Temporary Erection, etc.**

- A. Trial erection of principal or other units may be called for at the discretion of the Architect or his representative.
- B. The cost of any necessary temporary erection, testing, packing, marking, carriage and delivery is deemed to be included by the Contractor in the Tender price.

### **Joints and Connections**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- C. No variation of the number, type or position of the joints or connections shown on the drawings shall be made without the consent of the Architect. If such consent is desired the Contractor shall submit detailed drawings of the proposed joints for the approval of the Architect and no extra cost incurred by reason of such additions or alterations will be allowed to the Contractor.

### **Painting at Works**

- D. Where described as primed at works, steelwork shall be freed of rust, millscale, welding slag and flux residue and shall be dry immediately prior to painting with primer as Clause Q 14 a.
- E. For joints with high strength friction grip bolts the contact surfaces shall be left unpainted but special care shall be taken after assembly to paint all edges and corners near the joints together with bolt head, nuts and washers to prevent the ingress of moisture.
- F. For joints made with other bolts and rivets the contact surfaces shall each be given a coat of priming paint and for shop connections the contact surfaces shall be brought together while the paint is still wet.
- G. For welded connections where the contact surfaces are not completed sealed the contact surfaces shall be painted to within 50mm of the edges that are to be welded.
- H. The primer shall be touched up with similar primer if damaged by subsequent handling.

## **METALWORK**

### **Mild Steel**

- A. Mild steel shall comply with B.S. 4360 Grade 1 and the sizes of all small sections shall be in accordance with B.S. 4 and 4A.

### **Galvanized Work**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- B. Iron and steel, where galvanized, shall comply with B.S. 729 Part 1 entirely coated with zinc after fabrication by complete immersion in a zinc bath in one operation and all excess carefully removed. The finished surface shall be clean and uniform.

### **Aluminium**

- C. Aluminium shall be of the alloys described in and shall comply with B.S. 1470. Aluminium sheet for flashings shall be soft-temper, super purity (S1 or S1A) and not less than 20 s.w.g. (0.9mm) in thickness.

### **Smithying, Shearing and Cutting**

- D. All smithying, welding, cutting and bending shall be soundly and neatly executed, care being taken not to overheat. All flame cut edges and welds shall be neatly ground off on completion.

### **Bolts**

- E. Mild steel bolts, nuts and washers shall comply with B.S. 916 for black bolts with hexagonal heads and nuts. High tensile steel bolts and nuts shall be in accordance with B.S. 3139 Part 1.

### **Anchor Bolts**

- F. Anchor bolts in concrete for steel works etc., are to be self drilling anchor bolts of one of the following types:-

Phillips redhead concrete anchors  
Rawlplug super drilanchor  
Spit self-drilling anchors

- G. Rates are to include for fixing complete with washer. Mortices in concrete have not been measured for this item.

### **Shop Inspection**

- A. The Architect shall be granted full facilities and any necessary assistance for inspection or materials and assembled parts in the Contractor's (or his Sub-Contractor's) workshops. At least two weeks notice shall be given to the Architect in writing prior to the despatch of finished components to the site to enable the Architect to inspect and approve the materials and workmanship at the workshops. Approval of work at the workshop does not relieve the Contractor of this obligations to carry out the work complete at the site to the Architect's satisfaction in accordance with the Contract.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Marking**

- B. All components delivered to the site are to be marked in paint with the Mark number in accordance with any shop and erection drawings.

### **Storage**

- C. All components are to be stored at the site in proper racks provided for the purpose which provide full support to each member to obviate any deflection and distortion. Steelwork is to be stored at least 25cm clear of the ground and temporary protection is to be provided for protection against water and damage from any other source.

### **Erection**

- D. Rates for all metalwork are to include for the complete for the complete erection including any temporary supports required and any necessary templates and wedges.

### **Painting**

- E. All steel is to be thoroughly de-rusted and degreased prior to despatch to the site and is to be given one coat zinc chromate primer at the works. Further painting treatment will be carried out at the site. Painting is measured separately and the cost thereof is not to be included in the rates for metalwork.

## **PLUMBING AND ENGINEERING INSTALLATION**

### **Execution of the Works**

- A. The work shall be carried out strictly in accordance with:-
  - (a) "British Standard Code of Practice" C.P. 310: 1965: Water Supply
  - (b) "British Standard Code of Practice" C.P. 404: 1968: Sanitary Pipework above ground
  - (c) All other relevant British Standard Specifications and Codes of Practice
  - (d) Bye-laws of the Local Authority
  - (e) The working drawings

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Extent of Work**

- B. The Contractor will be responsible for all below ground plumbing and drainage work and the installation of the Sanitary Fittings only, the remainder of the Plumbing and Engineering Installation will be executed by a Nominated Sub-Contractor.

### **Quality of Materials and Workmanship**

- C. All materials, equipment and accessories are to be new and in accordance with the requirements of the current rules and regulations where such exist, or in their absence with the relevant British Standard Specification.
- D. Uniformity of type and manufacture of equipment or accessories is to be preserved as far as practicable throughout the whole work.
- E. The Contractor shall, if required by the Architect, submit samples of materials to the Architect for his approval before placing an order.
- F. If in these Preambles the practice is adopted of specifying a particular item as "similar" to that of a particular firm's product, it is to be clearly understood that this is to indicate the type and quality of the equipment required. No attempt is being made to give preference to the equipment supplied by the firm whose name or product is quoted.
- G. Where particular manufacturers are specified herein, no alternative makes will be considered and the Architect shall be allowed to reject any other makes.
- H. The Contractor will be entirely responsible for all materials, apparatus, equipment, etc., furnished by him in connection with his work, and shall take all special care to protect all parts of finished work from damage until handed over.
- J. The work shall be carried out by competent workmen under skilled supervision. The Architect shall have the authority to have any of the work taken down or changed which is executed in an unsatisfactory manner.

### **Galvanized Steel Tubes and Fittings**

- A. Galvanized steel tubing shall comply with B.S. 1387 with plain galvanized malleable fittings complying with B.S. 143/1256.
- B. Tubes and fittings shall be jointed by means of screwed threads to B.S. 21, by means of P.T.F.E., tape or hemp and "Bosswhite". All joints shall be perfectly smooth inside without excrescences.
- C. Where sleeves are required for pipework passing through concrete, blockwork or below concrete slabs, they shall be galvanized steel tube or drain pipes of sufficient diameter to give at least 25mm clearance all round the water main.
- D. Galvanized water mains below ground level or below slabs shall be double wrapped in "Denso" tape.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Brasswork**

- E. Stop valves shall comply with B.S. 1010 and shall be with crutch handles or loose keys where so described on the drawings. Draincocks shall comply with B.S. 2879.

### **Testing**

- F. Upon completion the whole of the water main shall be tested to a pressure not less than twice times the working pressure for a period of thirty minutes.
- G. Notwithstanding the foregoing clauses, all water mains and fittings and installation thereof shall comply fully with the requirements of the Water Supply Authority.

### **Sanitary and Other Appliances**

- H. The appliances shall be fixed in the positions shown on the drawings or as described by the Architect.
- J. The Contractor shall include in his rates for providing all necessary screws, bolts, etc., together with all jointing materials required and also for temporarily erecting and securing fittings in the required position or service and discharge pipes, taking down, storing and fixing after completion of wall finishings permanently fixing and connecting to service and discharge.
- A. Care shall be taken at all times and particularly after fixing, to protect appliances from damage.
- B. Upon completion of the work, all appliances shall be cleaned of plaster, paint, etc., and carefully examined for defects.

### **Fire Fighting Equipment**

- C. The specified fire fighting equipment shall be supplied and installed by the Contractor in the positions shown on the drawings
- D. Portable fire extinguishers shall comply with the following British Standards:-
  - (a) Water type (soda acid); B.S. 138: 1948
  - (b) Foam type (chemicals); B.S. 740: Part 1: 1948
  - (c) Foam type (gas pressure); B.S. 740: Part 2: 1952

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- (d) Water type (gas pressure); B.S. 1382: 1948
- (e) Carbon tetrachloride and chlorobromethane; B.S. 1721: 1960
- (f) Carbon dioxide type; B.S. 3326: 1960
- (g) Dry powder type; B.S. 3465: 1962
- (h) Water type (store pressure); B.S. 3709: 1964
- E Fire hose couplings and ancillary equipment shall comply with B.S. 336: 1965; rubber reel hose shall comply with B.S. 3169: 1959.
- F Underground fire hydrants and surface box openings for same shall comply with B.S. 750: 1964.
- G The installation of hydrants and fire extinguishers shall be in accordance with C.P. 402:101: 1952 and C.P. 402 part 3: 1964 respectively.
- H If nothing else is specified, fire extinguishers and hose reels shall be supplied in the colour "fire red" and be similar to manufacture "ANGUS".

### **FLOOR WALL AND CEILING FINISHINGS**

#### **Sand**

- A. Sand for backing, floor and wall finishes is to comply with B.S. 1199, Table 1.

#### **Cement**

- B. Cement is to be as described for "Concrete Work:.

#### **Lime**

- C. Lime is to be no-hydraulic hydrated lime to B.S. 890 Class "A" obtained from an approved source and run into putty at least 24 hours before use.

#### **Workmanship**

- D. All concrete beds or slabs shall be thoroughly brushed clean, hacked if necessary and well wetted and flushed over with a cement sand (1:1) grout immediately before screeds or pavings are laid.



## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- E. Screeds and cement pavings shall be laid in accordance with the relevant B.S. Code of Practice. Working joints between bays of the floor finish should be placed in accordance with the Architect's instructions and will be plain butt joints placed over joints in the concrete bed under. Pavings shall be damp cured with sand or sawdust and kept damp for at least 7 days after laying.
- F. All surfaces to be plastered or rendered must be brushed clean and well wetted before plaster is applied. Joints of walling shall be raked out and concrete hacked to form a key. Care shall be taken to see that paving and plastering do not dry out prematurely.
- G. Adequate time intervals must be left between successive coats in two-coat work in order that the drying shrinkage of the undercoat may be substantially complete. All internal and external angles shall be pencil rounded.

### **In-Situ Pavings Generally**

- H. Before laying in-situ floor finishes, the concrete beds are to be thoroughly hacked for key, cleaned off, thoroughly wetted with clean water and coated with a stiff cement slurry and rates for screed, granolithic and terrazzo paving are to include for this. They are also to include for all necessary curing and protecting until the building is handed over.

### **Cement and Sand Paving**

- A. The cement and sand paving shall be in proportions of 1:4 by volume and incorporating or treated with an approved hardener.

### **Polished Granolithic Paving**

- B. The aggregate for granolithic paving shall be in accordance with B.S. 1201 and shall be mixed in the proportions of 1:1:1.50 cement, fine and coarse aggregate respectively. The mix shall incorporate an approved hardener suitable for incorporation and not for surface treatment. The water cement ratio shall be kept as low as possible and shall not in any case exceed 0.45. The paving is to be laid to the full thickness described and to be finished with a wood float and with no extra cement trowelled into the surface which is to be laid true and level. The paving is to be thoroughly cured after laying by covering with polythene sheeting and periodically watered to keep it moist for at least one week after laying. The surface is to be polished with approved rotary carborundum discs mechanically operated coarse and fine grain and with cement and sand slurry to produce a blemish-free surface.
- C. The granolithic shall be laid in bays not exceeding 3.50 square meters with ebonite dividing strips for the full depth of the paving and shall be executed by Specialist who have a thorough knowledge of the work.

### **Polished Terrazzo Paving**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- D. The ins-Situ terrazzo shall consist of white or coloured cement and marble aggregate; the colours of the cement and aggregate shall be selected by the Architect. The mix shall comprise three parts of 6mm nominal aggregate to one part coloured cement by volume. The aggregate shall be clean and granular and shall not contain flaky particles or dust. The underbed shall be cement and sand 1:4 by volume.
- E. The terrazzo shall be laid in bays not exceeding 3.5 square meters with ebonite dividing strips for the full depth of the terrazzo and underbed, and shall be executed by Specialist who have a thorough knowledge of the work.
- F. The terrazzo topping shall be laid to a minimum of 12mm thickness in a plastic condition while the underbed is still green and this should be watered to minimise absorption from the topping. The terrazzo must be well tamped into position and rolled with a suitable hand roller. The topping should be allowed to take an initial set and then any surface voids must be grouted up with neat cement of the same colour used in the mix. The surface should be cured by keeping moist by covering with damp sacking for at least 72 hours. When dry and hard the surface shall be machine polished by grinding with carborundum or other stone discs of suitable grade and with rotary polishing pads.
- G. Rates must include for all necessary protection until the building is handed over to the Architect. The depths stated are for the full depth including topping and underbed.

### **P.V.C. Flooring and Skirting**

- A P.V.C. floor tiles shall comply with B.S. 3260. The tiles and accessories shall be supplied in the sizes and thickness specified in colours selected by the Architect and are to be fixed to the screed base with a suitable adhesive supplied (or recommended) by the Manufacturer and used in accordance with his instructions. Rates for floor tiles shall include for thoroughly washing and cleaning on completion and for the application of one coat of water based wax polish.

### **Brushed Terrazzo Rendering**

- B Brushed terrazzo rendering is to comprise two coats as described. The undercoat shall consist of cement and sand mixed in the proportion of (1:4) by volume and applied to a minimum thickness of 10mm finished with a wood float and scratched to provide key for top coat. The finishing coat shall consist of one part white cement to two parts marble chippings or approved size applied to a minimum thickness of 10mm and the final surface wet brushed to expose the aggregate.
- C The Contractor will be required to produce a sample panel of rendering on site for the approval of the Architect.

### **Internal Plaster**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- D Internal plaster shall be applied in two coats and adequate time intervals must be allowed between successive coats in order that the drying shrinkage of the undercoat may be substantially complete. The first coat must be well scratched, keyed and wetted to receive the finishing coat. The finishing coat shall be finished smooth with a steel float but care must be taken not to overwork the surface in order to minimize the incidence of shrinkage cracks. All internal and external angles shall be pencil rounded.
- E Internal plaster, unless otherwise described, shall be lime plaster of 12mm minimum overall finished thickness applied in two coats, the first coat consisting of cement, lime putty and sand mixed in the proportion of 1:2:9. The finishing coat shall be a skim coat comprising cement and lime putty in the proportion of 1:10.
- F Cement plaster is to be employed where specified on the drawings and is to be applied in two coats of approximately equal thickness to a total of 12mm minimum overall finished thickness. The composition of both coats shall be the same and shall comprise cement and sand (1:3) but a small percentage addition (not more than 10%) lime putty may be permitted if the Architect considers that this will reduce the incidence of shrinkage cracks.
- A The Contractor shall cut out and make good all cracks, blisters and other defects and leave the whole of the plastering and rendering perfect at completion. When making good defects the plaster shall be cut out to a rectangular shape with edges undercut to form dovetailed key, and all finished flush with the face of surrounding plaster.

### **Marmoran Finishings**

- B Prepare and prime surface, apply one coat 3 mm thick PVC Resin Bonded plaster with trowel, apply 3.2 mm thick stone chips with low pressure spray gun or by hand, roll flat by roller immediately after application. Colours and texture of the plaster and stone chips are subject to specifier's approval. Specifications must be strictly in accordance with manufacturer's instructions.

### **Wall Tiles**

- C Glazed wall tiles shall be from an approved manufacturer and shall conform with the requirements of B.S. 1281. Tiles shall be white with slightly rounded or "cushion" edges and unless otherwise specifically described shall be size 150 x 150 x 6mm thick. Tiles shall be laid with continuous straight joint and internal angles shall be butt jointed. Rounded on edge tiles shall be used at all external angles and at edges of panels. Tiles shall be bedded in approved tiles adhesive and pointed in white cement.
- D Backing to tiles is to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 12mm trowelled smooth. Backings have been measured separately.

### **Carpet Tiles**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- E Carpet floor tiles shall be from an approved manufacturer and shall conform to specification as per M/s Protex of South Africa. Graveltex Protex Carpet tiles shall be of heavy duty grade, 100% stain proof miracle fibre with density of 920, g/sq.m (fibre) and 4500 g/sq.m (total) with fire resistance (S.A.B.S) of 3, lavender colour. The size shall be 500 x 500 x 9.50mm thick. Tiles shall be laid with continuous straight joint. Tiles shall be bedded in approved tiles adhesive.
- F Beds to tiles are to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 30mm trowelled smooth. Backings have been measured separately.

### **Floor tiles**

#### **Porcelain tiles**

- G Porcelain floor tiles shall be from an approved manufacturer and shall be of black polished, cocowhite-polished or gardenia green matt. The size shall be size 400 x 400 x 10 x thick. Tiles shall be laid with continuous straight joint. Tiles shall be bedded in approved tiles adhesive.
- A Beds and backings to tiles is to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 30mm trowelled smooth. Beds and backings have been measured separately.

#### **Laying of Marble, Granite, Porcelain or Ceramic Floor Tiles**

- B Before laying the tiles, level the flooring area, ensure the surface is rough and clean.

#### **Laying Floor tiles with Traditional Mortar**

- C H. The cement thickness needed to lay tiles should be around 40 mm. The mixture for indoor is 1 volume of Portland cement and 3 volumes of sand. The mixture must be made with appropriate quantity of water in order to dampen the materials. Clean and wet the flooring area, making sure to leave completely clean. Spread the mixture and level with a ruler, in order to reach the 40 mm of thickness. Spread dry cement over the mixture, until the water that remains over the surface has been completely absorbed. Lay the tiles, already mixed from different boxes, with a wide joint and in the desired way. Wet tiles, then cover to achieve a perfect level.

#### **Laying Floor tiles with Adhesive**

- D The bed needed for this kind of laying, should be around 30 mm. The flooring area should be steel or wood trowelled and levelled. Spread the adhesive with a spatula with ridges. It is very important to lay a good quantity of adhesive so that there is no free space between the tiles.

#### **Mixing the Colour Shades of Floor tiles**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- E Before laying the tiles at least 5 to 6 boxes must be laid over a dry surface in order to ensure that the different shades have a uniform look. The best result is obtained this way.

### **The Joints of Floor tiles**

- F The tiles have to be laid with a minimum of at least a joint separation between tiles of 3 to 10 mm.

### **Setting the Joints of Floor tiles**

- G The cord or wire system can be used in the 4 or 5 joints, ensuring they are all parallel with the reference joint. Plastic crosses used for this purpose, in different sizes, can be obtained in specialized shops, giving a much better finishing and final result.

### **Filling the Joints of Floor tiles**

- A Apply a mixture composed of 2 volumes of Portland cement and 1 of fine washed sand, with enough water in order to amplify the handling. There are suitable preparations for different uses and in different colours now available, so as to achieve the desired effects. Spread the substance by use of a rubber or plastic spatula. Clean the tiles before the mixture dries. After the joints are completely dry, wash with plenty of water several times.

### **Concrete Tiles**

- B Concrete tile for finishing the roofs shall be 25mm thick of natural colour with bevelled top arises on all sides and shall comply with B.S. 1197. The tiles shall be laid to regular pattern with open joints. Care should be taken to ensure that the surface level is even and follows accurately the levels of the roof finish. All cement stains shall be carefully removed.

### **Precast Concrete Paving Slabs and Kerbs**

- C Precast concrete paving slabs shall comply with B.S. 368. precast concrete kerbs shall comply with B.S. 340 figure 5 and shall be finished true and smooth on all exposed faces.
- D Precast paving shall be bedded on a compacted sand bed with 6mm wide joints filled and pointed with cement mortar coloured to match the colour of the slabs. The pavings shall be finished true and even and to the falls shown with no surface irregularities.

# **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

## **GLAZING**

### **Method of Glazing**

- E Notwithstanding reference in the descriptions of glazing method to glazing beads, or the like with associated fixings, and insulating strips, such components will be measured separately in accordance with the appropriate rules of the S.M.M.
- F The provision of glazing compounds and putties and springs, clips and other sundry fixings shall be deemed to be included with all items of glazing.
- G Distance pieces and setting blocks, in appropriate materials, shall be provided in accordance with good glazing practice and they shall be deemed to be included with all items of glazing.

## **MATERIALS**

### **Glass generally**

- A All glass shall comply in all respects with the appropriate section of B.S. 952. Plain sheet clear glass shall be O.Q.; plate glass shall be GG. All glass shall comply in all respects with the latest British Standards including the British Codes of Safety.

### **Putting for glazing to wood**

- B Putty for glazing to wood shall comply with B.S. 544.

### **Samples**

- C Samples not less than 150 mm square, are to be submitted to the Architect for approval before any glass is cut.

## **WORKMANSHIP**

### **Glass to be kept free from moisture**

- D All glass surfaces shall be kept dry during transit and storage. Glass becoming moist from condensation or other causes, shall be thoroughly dried and aired.

### **Rebates and beads**

- E All glazing beads in wood shall be primed, (as measured in Painting and Decorating), before glazing is commenced.

### **Edges of glass**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- F All glass shall have clean cut edges. The edges of louvres shall be rounded and polished.

### **Bead glazing**

- G Glazing fixed by beads shall have both glass and beads bedded and back puttied, and the putty trimmed off flush. Where sealing strip is used, it shall pass round both faces of the glass and be trimmed off flush on both sides. Metal surfaces to receive sealing strip shall be treated with mineral oil before glazing.

### **Method of measurement**

- H Beads and sealing strips have been measured separately. Prices for glazing with beads are to include for taking out and re-fixing beads as required, which shall be deemed to be bradded unless otherwise described.

## **PAINTING**

### **Execution by a Specialist Firm**

- J All work under this section must be executed by a Specialist Firm, approved by the Architect.

### **Approved Paints**

- K All paints shall be obtained from the same manufacturer and shall be approved by the Architect.

- L The Contractor must allow for providing the Architect with colour charts from the approved firm and for executing sample panels as required.

### **Generally**

- M All materials shall be delivered on site intact in the original drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instruction and to the approval of the Architect.

- N The only addition which will be allowed to be made locally will be liquid thinners and driers supplied or recommended by the manufacturers and none shall be thinned more than approved by the Architect.

### **Preparation**

- P All surfaces to receive treatment are to be clean and dry before paint application and surface irregularities are to be removed by filling or the use of suitable abrasives.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **External Rendered Surfaces**

- Q External cement slurry finished wall which are to be painted must be clean and must be thoroughly brushed and washed to remove any dust, loose flakes or other foreign matter and must be well wetted prior to the application of finish.

### **Plastered Surfaces**

- R Internal plastered surfaces which are to be painted are to be allowed to dry out thoroughly prior to paint application. All cracks and surface imperfections are to be cut back and filled with a patent filler in accordance with the manufacturer's instructions and rubbed down to a true and even surface.

### **Woodwork Preparations**

- S Large knots in woodwork are to be cut and replace with sound wood or scorched back and after priming the surface made good with stopping. All knots are to be treated with two thin coats of patent knotting free from resin. After priming, all nails holes and other imperfections shall be filled with stopping and the whole surface rubbed down to a smooth even finish. The stopping must be "Sadofill" or other approved make.

### **Woodwork - Fittings**

- T Unless otherwise specified, fittings are to be treated with two coats of linseed oil.

### **Metalwork**

- U All rust and loose scale on steel and iron work must be removed by wire brushing and rubbing with emery paper. Where patches of ingrained rust cannot be removed they are to be thoroughly rubbed down and treated with one coat of "Galvafroid" or other zinc rich paint in accordance with the manufacturer's instructions. One coat of zinc chromate primer will then be applied followed by two undercoat and one finishing coat of gloss paint as described for Woodwork above. The Contractor is tonote that where mild steel burglar bars are housed into wood frames, the full length or the bar is to be treated before fixing.



## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- V Galvanized metalwork is to receive one coat of white spirit or mordant degreasing solution washed off prior to the application of calcium plumbate primer followed by two undercoats and one finishing coat of gloss as previously described.
- W Galvanized metal work is to be painted only where instructions are given by the Architect as in some cases galvanized metalwork is to be left untreated.

### **DRAINAGE**

#### **Generally**

##### **Preambles to Other Sections**

- A The preambles contained in other sections of this document shall apply equally hereto where applicable, so far as is consistent with the clauses following.

#### **Notices**

- B The Contractor shall give all requisite noticed. Uncoloured plans will be supplied by the Architect at the Contractor's request.

#### **Drainage Bye-Laws**

- C All of the works shall comply with the requirements of the drainage bye-laws made by the Local Authority and shall be executed to the satisfaction of the Architect and Local Authority.

#### **Inspections**

- D The Contractor shall give written notice to the Architect for the purpose of inspections and measurements, whenever section of:-
  - (a) excavations are completed
  - (b) concrete beds are laid
  - (c) drains are completed

and no further work shall be executed until each stage of the work has been inspected.

#### **Levels of Existing Drains**

- E The Contractor shall check the invert levels of existing drains, sewer and manholes before laying new drains, and shall notify the Architect immediately if the declared invert levels are found to be inaccurate

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Pitch Impregnated Fibre Drain Pipes, Couplings and Fittings**

- F Pitch impregnated fibre drain couplings and fittings shall comply with B.S. 2760.

### **UPVC Pipes and Fittings**

- A UPVC pipe and fittings shall comply with B.S. 3506 Class O to be obtained from a manufacturing source approved by the Architect in writing.

### **Spun Cast Iron Drain Pipes and Cast Iron Fittings, Gullies etc.**

- B Spun cast iron drain pipes shall be coated centrifugally cast (spun) iron pipes complying with B.S.1211 Class B.
- C Fittings, gullies, etc., shall be of coated cast iron and shall comply with B.S. 1130.

### **Concrete Pipes and Fittings**

- D Concrete pipes and fittings shall comply with B.S. 556. They shall be reinforced, and of sulphate resisting cement if specified.

### **Manhole Covers and Road Gratings**

- E Manhole covers and road gratings and frames shall comply with B.S. 497.

### **Step Irons**

- F Step irons shall be galvanized malleable cast iron complying with B.S. 1247.

### **Mesh Reinforcement**

- G Mesh reinforcement shall be steel fabric complying with B.S. 1221 Part A or B.S. 4483.

### **Setting Out**

- H The Contractor shall set out all drains in accordance with the drawings, and provide all profiles, etc., necessary for the execution of the work.

### **Excavation**

- J The bottoms of all excavations shall be trimmed and consolidated to the correct levels. Unauthorized excavations below the required levels shall be filled with concrete of the same composition as for drain beds, at the Contractor's expense.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- K Where the bottom is insufficiently firm, the Contractor shall excavate until, in the Architect's opinion, a firm bottom is obtained and the level shall be made up with concrete of the same composition as for drain beds. Particulars of such additional work shall be agreed with the Architect's representative before the work is covered up, otherwise no claim in this respect will be entertained.

### **Planking and Strutting**

- L Care shall be taken not to undermine the foundations of the buildings and, if so directed by the Architect, planking and strutting shall be left in, or other means adopted to protect the foundations. Details of such additional items shall be agreed with the Architect's representative before the work is covered up, otherwise no claim in this respect will be entertained.

### **Backfilling**

- M Trenches for pitch impregnated fibre of UPVC pipes shall first be filled with selected screened excavated materials carefully hand-tamped between the pipe and sides of the trench, followed by 150mm - 200mm of similar materials before the general filling is carried out.
- N Trenches for concrete or cast iron drains shall first be filled to a depth of 300mm with selected fine materials carefully hand-packed around the pipe. On no account shall materials be tipped into the trench until first 300mm has been completed.
- P Filling shall be continued in layers not exceeding 300mm thick, well rammed and, if necessary, watered.

### **Laying Drains**

- Q Drains shall be laid truly straight on line and gradient with sockets upstream and the full bore shall be unobstructed.

### **Pitch Impregnated Fibre Drains**

- R All hard obstructions shall be removed from trench bottoms before laying pitch impregnated fibre pipes. The pipes shall be bedded in sand and laid and jointed in accordance with Appendix "C" to B.S. 2760.

### **UPVC Drains**

- S UPVC drain pipes shall be laid and jointed with solvent welded joints entirely in accordance with the manufacturer's instructions.
- T Pipes shall be bedded in sand after all hard obstructions have been removed from trench bottoms.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Cast Iron Drains**

- U Cast iron drains shall be laid on concrete beds where specified or shown on the drawings and shall be jointed with gasket of hemp, well caulked, to a depth of 30mm for 100mm pipes and 40mm for large pipes, and remainder of the socket shall be filled with molten lead or lead fibre solidly caulked.
- V Connection of iron to concrete drains shall be jointed as described for concrete drains.
- W Cast iron drains fixed to walls or beams shall be supported on brackets at 1,350mm centres.
- K Gullies, outlets, etc., on drains under concrete floors shall be set in position at correct levels before the floors are laid.

### **Concrete Drains**

- Y Concrete drains shall be jointed with one turn of tarred gaskin, well caulked and the remainder of the socket filled with cement and sand (1:3), finished with an angle fillet around the pipe. All surplus mortar shall be removed from the inside of the pipe with a badger. Where pipes are sulphate resisting, the jointing mortar shall contain sulphate resisting cement.

### **Z Concrete Beds, Haunches and Coverings**

Where specified or shown on drawings, drains shall be laid on concrete, (105kg/sq.cm - 40mm aggregate), beds 100mm thick, 400mm wide for 100mm diameter drains and 450mm wide diameter drains. The concrete shall be haunched up both sides of the barrel to give lateral support.

- AA Where drains, other than cast iron drains, are laid under buildings or pavings carrying vehicular traffic, they shall be completely surrounded in concrete, (105kg/sq.cm - 40mm aggregate), 150mm thick, (i.e. 400mm x 400mm overall for 100mm pipes and 450 x 450mm overall for 150mm pipes). Where directed, drain beds shall be reinforced.
- AB Gullies shall be bedded and surrounded in concrete 105kg/sq.cm - 40mm aggregate minimum 150mm thick all round.

### **Sleeves**

- AC All drains passing through walls or foundations shall have sleeves of cast iron pipe of sufficient size to allow a clearance round the drain.

### **Benching**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

AD Benching in bottom of manholes shall be concrete (105kg/sq.cm - 40mm aggregate) to falls of not less than 10 degrees to channels finished with cement and sand (1:2), 25mm thick, trowelled hard and smooth with all angles rounded.

### **Bedding and Sealing Covers and Frames**

AE Frames to manhole covers shall be bedded in cement mortar (1:3), and the covers in grease and sand.

### **Testing**

AF All drains and manholes shall be tested for water tightness and straightness to the satisfaction, and in the present of, the Architects and the Local Authority. Drains shall be filled with water to a head of 1.50 meters and are to be tested in sections agreed with the Architect:-

- (i) after jointing
- (ii) after haunching and backfilling
- (iii) after completion of the works

AG The Contractor shall provide all necessary testing apparatus and shall carry out such other tests as are required by the Architect and the Local Authority.

### **Clean and Flush all Drains**

AH All drains, gullies, manholes, etc., shall be cored, cleaned and flushed on completion.

### **Method of Measurement**

AJ Where not otherwise stated, the starting level for trench manhole excavation shall be:-

- (i) the formation level in areas where the site is excavated to reduce levels.
- (ii) existing ground level in areas where no excavation is required, or where filling is required.

AK The depths of all the trenches in the following description lie within the same 1.5m stages as the average depths stated.

AL Prices for excavating pipes trenches shall be deemed to include keeping them free from general water (i.e. all water except spring or running water).

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- AM Notwithstanding the provisions of SMM Clause V.7 (a) to (c) the descriptions of excavating manholes, yard gullies, septic tanks and soakpits shall be deemed to include grading bottoms, planking and strutting, return filling and compacting, disposal of surplus soil and keeping excavation free from water.
- AN Prices for building pipes into manholes shall include for building in on rake where necessary.
- AM Prices for concrete beds, benchings and covering for pipes laid in trenches, shall be deemed to include for any necessary formwork. Formwork required for beds, etc., for pipes above ground, and for casing to vertical pipes, is referred to in the descriptions of such items.
- AP Prices for all gullies shall be deemed to include for all necessary excavation, return filling, disposal of surplus excavated materials, planking and strutting, and trimming and ramming bottoms.

### **EXTERNAL PAVINGS**

#### **Generally**

- A. The Preambles contained in other sections of the document shall apply equally to this sections so far as is consistent with the following clauses.

#### **Materials**

#### **Soil for Planted Areas**

- B. Soil for planted areas shall be vegetable soil free from roots and rubbish and treated with weed killer to prevent the growth of weeds.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- M The wiring course shall be applied at a later date, and prior to laying, the base course shall be made good in accordance with the requirements specified herein. The Contractor shall make good at his own expense any damage to kerbs.

### **Surveying**

- N The Contractor shall verify all dimensions and levels prior to the commencement of work.
- P All surveying necessary for the accomplishment of the works shall be done by the Contractor at his own expense and he shall give notice of his intention to carry out such work in order that the arrangements can be made for supervision and checking. The Contractor shall also provide, without extra charge, all necessary instruments, appliances, labour and any other materials required for checking the survey work.
- Q The Contractor shall make all necessary surveys using given bench marks as reference points. These bench marks he shall carefully preserve.
- S The Contractor shall draft, in accordance with these surveys, all plans and drawings which are necessary for the completion of the work, and shall submit these plans and drawings to the Architect for approval in writing.

### **Levels, Falls, Crossfalls and Cambers**

- T The works shall be executed to the levels, falls, crossfalls and cambers shown on the drawings

### **Accuracy**

- A The Contractor shall be responsible for ensuring that the works are carried out to the line, levels and dimensions shown on the drawings, and shall provide camber gauges and straight edges for checking to ensure that the surfaces are within the following tolerances:-
- (a) **Sub-Grade**  
The camber or crossfall shall not vary more than 20mm from that shown on the drawings. In the longitudinal direction the variations from a 3 meter straight edge placed parallel to the centre line of the road shall not exceed 12mm.
- (b) **Base**  
The camber or crossfall shall not vary more than 12mm from that shown on the drawings. The variation on the longitudinal section shall be as above for sub-grade

### **Sub-Grade**

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- B The sub-grade shall be shaped to the required falls and cambers and any depressions filled with approved materials having a minimum C.B.R. of 8 percent. This value shall be obtained at optimum moisture content and compacted to 100 percent of the maximum dry density as determined by B.S x1377. The Contractor shall carry out standard compacting tests on the sub-grade in accordance with Test Nr 10 of B.S. 1377. Such tests shall be taken at 30metre intervals. The standard of compaction required shall be 98 percent of the maximum dry density as determined by Test No. 9 of B.S. 1377.
- C The sub-grade shall be approved by the Architect before any materials to be used in construction of the carriageway are deposited or laid.

### **Sub-Base Course**

- D The sub-base shall consist of a layer of crusher dust finishing to the thickness specified after compaction. The bed shall be watered as necessary and rolled to produce a smooth and uniform surface with no irregularities.

### **Base Course**

- E The base course shall consist of a layer of stone in which the interstices shall be filled by application of crusher fines after the stone is in place, to finish to the thickness specified after compaction. The base course shall not be blinded with crusher fines, but with 4mm gauge stone chippings to provide a clean hard surface. If any irregularities develop, they should be corrected by loosening the material at these places and adding or removing material and recompaction until the surface is smooth and uniform with no irregularities.

### **Application of Bitumen**

- F The plant used by the Contractor for transporting, heating and spraying bitumen shall be in suitable rubber-tyred units and shall ensure adequate and uniform heating without the introduction of steam or moisture, and giving rise to the cooking or burning of the bitumen, and shall be fitted with a thermometer and heating control. Distributors shall be equipped to provide a constant rate of application per square meter of surface and there shall be visible speedometer indicating the speed of the vehicle in meters per minute.
- G Spray bars shall be capable of spreading the bitumen evenly to the full width of the work. The bitumen shall be heated to the temperature specified below and sprayed on the clean surface of the base at the rates specified.
- H Application temperatures shall be in accordance with those recommended by the manufacturer, or where this information is not available, they shall be as follows:-



## Proposed Construction of Chuka Modern Market in Tharaka Nithi

Bitumen Grade	Sprayed Temperature (Degree Celcius)
N.C.I	54-80
500/700	124-149

### Prime Coat

- J Prior to the application of the prime coat, the surface of the base shall be swept clean of dust and foreign materials to the satisfaction of the Architect. Approximately 30 minutes before applying the bitumen the surface of the base shall be lightly sprayed with water.
- K The prime coat shall be applied at the rate of 0.70 litres per square meter.

### Wearing Course

- L After the application of the priming coat, and where directed and approved by the Architect, the Contractor shall lay bitumen type 500/700 spread at the rate of 3 square meters per 5 litres immediately followed by spreading dry, clean approved 12mm chippings at the rate of 130 square meters per cubic meter, rolled six to eight passes of a six to eight tonne roller. A second and similar surfacing layer shall be laid at the end of the defects liability period.

- F. Alternatively, where specified, the wearing course shall consist of a premix macadam carpet of 500/700 grade bitumen and approved quality aggregate graded and mixed together prior to laying in the proportions and by the methods given in B.S. 1621 table 4, laid to finish to the thicknesses shown after compaction. The compaction shall be achieved with six to eight passes of a six to eight tonne roller.

### Wet Weather

- G. No bitumen spraying shall be carried out when either the carriageway surface of the aggregate are wet, without the prior approval, in writing, of the Architect who may allow such work to proceed by the use of an approved adhesive agent at the Contractor's expense

### Murram Roads

- H. Murram roads shall be laid in layers not exceeding 150mm compacted thickness, to finish compacted to the thicknesses shown on the drawings.
- J. Each layer shall be watered, rolled and compacted as previously described herein to produce a smooth dense surface free of all irregularities.

### Laying Precast Paving Slabs

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

- K Precast paving slabs shall be bedded on a sandbed compacted to the thickness specified with 6mm wide joints, filled and pointed with cement mortar coloured to match the colour of the slabs and recessed 5mm deep. The paving shall be finished true and even to the falls shown on the drawings with no surface irregularities.

### **Grassing**

- L Grassing shall be carried out by a Specialist using approved local grass. Prices for grass shall include for tending, watering, cutting and keeping weed free for a period of twelve months, to produce a dense and healthy weed free grass carpet.

## **Proposed Construction of Chuka Modern Market in Tharaka Nithi**

### **Sand for Filling under Footpaths**

- C. Sand for filling under footpaths shall be clean, dry, pit or river sand, free from vegetable soil, roots and rubbish.

### **Crusher Dust for Sub-Base Course of Macadam Paving**

- D. Crusher dust shall be from an approved source and shall be free from clay or other deleterious matter.

### **Stone for Base Course to Macadam Paving.**

- E. Stone for base course to macadam paving shall be 40mm gauge, clean and hard and free from clay or other deleterious matter.

### **Blinding For Stone Base Course**

- F. Blinding for stone base course shall be 4mm gauge hard stone chippings, free from clay, dust or other deleterious matter.

### **Precast Paving Slabs**

- G. Precast paving slabs shall comply with B.S. 368 except for sizes.

### **Kerbs**

- H. Precast concrete kerbs shall comply with B.S. 340, and shall be finished true and smooth on all exposed faces.

### **Prime Coat for Macadam Paving**

- J. The prime coat for macadam paving shall be bitumen grade M.C.I.

### **Bitumen for surfacing**

- K. The bitumen for surfacing shall be made 500/700 grade bitumen.

### **Workmanship**

#### **Generally**

- L. The sub-grade, sub-base and base courses for roads and parking area shall be prepared and laid at a convenient time before completion of the contract, as shall be agreed between the Architect and the Contractor, together with their kerbs and foundations.

# ELECTRICAL INSTALLATIONS

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
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- 2.13 Conduit Boxes and Accessories
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- 2.16 Cables and Flexible Cords
- 2.17 Armoured PVC Insulated and Sheathed Cables
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- 2.33 Lamps
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- 2.35 Position of Points and Switches
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- 2.38 Wiring System for Street Lighting
- 2.39 Metal control Pillar
- 2.40 Current Operated Earth leakage circuit breaker
- 2.41 MV Switchboard
- 2.42 Steel Conduits and Steel Trunking
- 2.43 Testing on Site

## 2.1 GENERAL

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

## 2.2 STANDARD OF MATERIALS

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

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

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

## 2.3 WORKMANSHIP

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

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

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

## 2.4 PROCUREMENT OF MATERIALS

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

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

## 2.5 SHOP DRAWINGS

Before manufacture or Fabrication is commenced the sub-contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent information including sizes, capacities, construction details, etc., as may be required to determine the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the 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, Electric Power Act, Kenya Bureau of Standards (KeBS), Institution of Electrical Engineers (I.E.E) Wiring Regulations, Current recommendation of CCITT and CCIR and with the Regulations of the Local Electricity Authority and the Communications Authority of Kenya (CA).

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

## 2.8 SETTING OUT WORK

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

## 2.9 POSITIONS OF ELECTRICAL PLANT AND APPARATUS

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

## 2.10 MCB DISTRIBUTION PANELS AND CONSUMER UNITS

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

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

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

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

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of Perspex, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart. Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

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

## 2.11 FUSED SWITCHGEAR AND ISOLATORS

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

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

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

Isolators shall be load breaking/fault making isolators.

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

## 2.12 CONDUITS AND CONDUIT RUNS

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

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

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

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

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

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

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

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

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

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

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

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

## 2.13 CONDUIT BOXES AND ACCESSORIES

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

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

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

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

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

#### 2.14 LABELS

Labels fitted to switches and fuse boards; -

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

#### 2.15 EARTHING

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

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

- (ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.
- (iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).
- (iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided
- (v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.
- (vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.
- (vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6M. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.
- (viii) Earth plates will not be permitted
- (ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.
- (x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.
- (xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.
- (xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.
- (xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.
- (xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

## 2.16 CABLES AND FLEXIBLE CORDS

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

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

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

P.V.C. insulated cables shall be 500/1000-volt grade. No cables smaller than 1.5mm<sup>2</sup> shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform to the details stated in the "Cable Braid and insulation Colours" Clause.

## 2.17 ARMOURED P.V.C. INSULATED AND SHEATHED CABLES:

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

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

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

## 2.18 CABLE SUPPORTS, MARKERS AND TILES

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

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

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 backstraps 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 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 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 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.

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

## 2.24 SUB-CIRCUIT WIRING

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

Lighting circuits P.V.C. cable.

- (i) 1.5mm<sup>2</sup> for all lighting circuits indicated on the drawing.

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

- (ii) 2.5mm<sup>2</sup> for one, two or three 5Amp sockets wired in parallel.
- (iii) 2.5mm<sup>2</sup> for one 15Amp socket.
- (iv) 2.5mm<sup>2</sup> 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 lamp holders 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 up to 150mm shall be surrounded with concrete. The top bracket and plain section of the columns shall be common to and interchangeable with all brackets with maximum mismatching tolerance of 3mm between any pole and bracket. After manufacture and before erection the columns shall be treated with an approved mordant solution which shall be washed off and the whole allowed to dry. Thereafter, the columns shall be painted with one undercoat and two coats of gloss paint to an approved colour. All columns shall be complete with fused cut-outs.

#### 2.37 TIMING CONTROL SWITCH

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

#### 2.38 WIRING SYSTEM FOR STREET LIGHTING

Cables shall be as indicated on the drawings, and shall be laid in a cable trench 450mm deep along the road sides and 600mm deep across the roads and 900mm away from the road kerb or 1500mm away from the edges of the road. 'Loop-in' and 'Loop-out' arrangement shall be used at every pole. Wiring to the lanterns on each pole shall be with 1.5mm<sup>2</sup> PVC twin insulated and sheathed cable with earth wire shall be laid at least 600mm below the finished road level on a compact bed of murrum at least 50mm thick and covered with a concrete surrounded 150mm thick.

#### 2.39 METAL CONTROL PILLAR

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

## 2.40 CURRENT OPERATED EARTH LEAKAGE CIRCUIT BREAKER

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

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

## 2.41 M.V. SWITCHBOARD AND SWITCHGEAR

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

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

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

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

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

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

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

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

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

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

## 2.42 STEEL CONDUITS AND STEEL TRUNKING

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

Metal trunking shall be fabricated from mild steel of not less than 18 swg. All sections of trunking shall be rigidly fixed together and attached to the framework or fabric or the building at intervals of not less than 1.2m. Joint trunking shall not overhang fixing points by more than 0.5m.

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

All trunking fittings (i.e. Bends, tees, etc.) shall leave the main through completely clear of obstructions and continuously open except through walls and floors at which points suitable fire resisting barriers shall be provided as may be necessary. The inner edge of bends and tees shall be chamfered where cables larger than 35mm<sup>2</sup> are employed.

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

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

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

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

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

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

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

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

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

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

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

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

All boxes shall conform to BS 6843 – 1986, to be of malleable iron, and black enamelled or galvanised according to the type of conduit specified. All accessory boxes shall have threaded brass inserts.

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

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

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

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

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

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

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

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

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

## 2.43 TESTING ON SITE

The Subcontractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specifications No. 1 and No.2, Electric Supply Company's By-Laws, Communications Authority/Commission of Kenya (CAK/CCK) requirements or any other supplementary Regulations as may be produced by the engineer.

- (a) Tests shall be carried out to prove that all single pole switches are installed in the 'live' conductor.
- (c) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the 'live' conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system. Tests shall be carried out to verify the continuity of all conductors of each 'ring' circuit.
- (d) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the Sub-contractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.
- (e) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the Sub-contractor at his own expense.
- (f) The Sub-contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be made available to the services engineer to enable him to carry out such tests as he may require.
- (g) The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.
- (h) The Sub-contractor shall test to the services engineer's approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment, plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.
- (i) Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. air conditioning system) the Sub-contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the service engineer's approval.

## APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

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

1. Government Electrical Specifications No. 1 and No. 2.
2. All requirements of Energy and Petroleum Regulatory Authority, Kenya Power Company Limited, and Communications Authority of Kenya (CA).



SECTION E

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

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As shall be issued by the Engineer	

SECTION F  
PARTICULAR SPECIFICATIONS  
OF  
MATERIALS AND WORKS

PARTICULAR AND TECHNICAL SPECIFICATIONS OF MATERIALS AND WORKS FOR ELECTRICAL, STRUCTURED CABLING & IP PBX, CCTV AND ACCESS CONTROL.

CLAUSE

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2.1.14	Statement of Compliance

## PART 1

### 1.00 PARTICULAR SPECIFICATIONS

#### 1.01 DESCRIPTION OF THE SITE

The site of the proposed works is at CHUKA MARKET– THARAKA NITHI.

#### 1.02 DESCRIPTION OF THE PROJECT

The works entail the Supply, Installation, Testing and Commissioning of Electrical, Fire Detection & Alarm, Data, CCTV & Power Reticulation.

#### 1.03 SCOPE OF WORKS

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

- a) Electrical Works  
This shall include conducting, cabling, fittings and accessories.
- b) Fire Detection & Alarm System  
This shall include fire alarm control panel, smoke/heat detectors, sounders, break glass and earthing.
- c) Structured Cabling  
This shall include data network infrastructure: and earthing.
- d) CCTV Surveillance  
CCTV Surveillance System – This shall include CCTV surveillance system and networking infrastructure: infrared cameras, UPS, PDUs, UTS & Fiber Optic Cabling, Patch Panels and equipment cabinets, Monitors, Server and Data Storage (NVR) Systems and earthing.

#### 1.04 CLIMATIC CONDITIONS

Mean Maximum Temperatures: 28°C

Mean Minimum Temperature: 11°C

Range of Relative humidity: 42% - 86%

Salt in the atmosphere: 0.02%

Altitude: 1415m above sea level

Latitude Longitude: -0.32763600

Longitude: 37.64788800

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

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

**1.05 MATERIALS FOR THE WORKS**

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

**1.06 BROCHURES FOR FIRE ALARM PANEL**

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

**1.07 BOND FOR I.P. P.B.X WITH PROVISIONAL TYPE APPROVAL**

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

**1.08 REGULATIONS**

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

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

- Any other regulations applicable to Electric and Electronic Installations or Communications systems in Kenya.
- The Employer's Safety Regulations.

#### 1.09 POSITION OF SERVICES AND EQUIPMENT

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

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

#### 1.10 SETTING TO WORK AND REGULATING SYSTEMS

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

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

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

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

#### 1.11 IDENTIFICATION OF PLANT AND COMPONENTS

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

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



#### 1.12 WORKING DRAWINGS

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

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

#### 1.13 RECORD DRAWINGS

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

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

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

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

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

#### 1.14 TESTS

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

### 1.15 QUALITY OF MATERIALS

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

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

### 1.16. TRAINING

In the direction and to the satisfaction of the Engineer the contractor shall arrange for the training of the attendant console operators, users and the administrators at the site or the sub-contractor's office on the workings of the CCTV & Access Control System and I.P. P.B.X System. The cost of such training shall be included in the subcontractor's prices.

### 1.17 EQUIPMENT GUARANTEE

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

### 1.18 PATENT RIGHTS

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

## A. PARTICULAR SPECIFICATIONS FOR STRUCTURED CABLING

### 1.0 SITE LOCATION

The site of the proposed works is located at Chuka Market – Tharaka Nithi.

### 2.0 SCOPE OF WORKS

The works to be carried out comprise the following;

- Proposed supply, installation, testing and commissioning of a structured cabling system to cater for computer data points and telephone points.
- Configure and set up the structured cabling system to be used on LAN,
- Produce test result, warranty certification, reports and as installed drawings.
- The Network will be capable of supporting approximately 132 data/voice points.
- Supply, install appropriate telephone cables to interconnect the data cabinets to the I.P.P.B.X (*to be supplied by others*). The works shall include inter-wiring, programming and activating all voice points.

### 3.0 REGULATIONS

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

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

### 4.0 WORKING DRAWINGS

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

### 5.0 NETWORK CABINETS

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

### 6.0 ACTIVE CONTROL EQUIPMENTS AT THE NETWORK CORE

The active control equipment at the core should have the following features:

- a. Backplane/switch fabric Bandwidth Capacity of 150 GBPS or more.
- b. IEEE 802.3 compliant for power over Ethernet
- c. IEEE 802.1 based security compliant
- d. SNMP compliant for security
- e. Layer 2/3/4 switch
- f. Should support Gigabit Ethernet to the desktop
- g. Should have at least 10-slots or higher chassis
- h. The core switches should have two links to each floor configured in active/active configuration. The links should deliver 2GBPS throughput when all ports are active.

- i. The core switch should have redundant power supply, redundant fan tray and redundant CPU/ supervisor engine installed
- j. Fiber cable linking stacks on each floor to the core should be connected to 1000Base X(GBIC) port on the core switch.
- k. Should be installed with the latest version of system software at the time of delivery.
- l. Should support Quality of service for various applications.

## 7.0 ACTIVE CONTROL EQUIPMENTS AT THE LAN EDGE

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

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

## 8.0 NETWORK MANAGEMENT SYSTEM

Bidders must propose the manufacturers Network Management system for centralized configuration, maintenance and troubleshooting of active equipment. Third party standalone systems should not be offered as part of the solution. Features and functionalities of the system should include the following:

- a) Should be compatible with Microsoft windows/Linux operating systems
- b) Graphical User Interface for central Management and network viewing
- c) Network discovery and inventory management
- d) VLAN, multicast, security and load-balancing/fail over configuration
- e) Downloading and saving of log file from the device flash memory
- f) Centralized upgrade/backup and archiving of active devices
- g) Export of network topology to JPEG or other standard formats.

## 9.0 CABLES

### UTP CABLE

The UTP cable must be CAT 6/6E compliant UTP cable, with the following specifications;

- a) 4-pair cables with 100 ohm impedance.
- b) Compliant to standards such as TIA/EIA – 268-B. 2-1 and IEC 61156-5
- c) Made of polyethylene insulation
- d) Pulling force should support up to 50N/mm<sup>2</sup>

### OPTICAL FIBRE CABLE

The fibre cable must be 8 core multimode fibre with the following specifications:-

- a) Cable size: 8 cores.
- b) Termination: SC Duplex connectors.
- c) Graded Index: Nominal 62.5/125 micron

#### 10.0 CAT 6 PATCH PANELS

The Contractor shall provide factory made patch panels, cat 6 complete with rear cable management and front designation strips, 110 PCB mounted connectors and integral RJ mounted jack sockets.

#### 11.0 FIBER PATCH PANELS

All Backbone Fiber links to individual floors should be terminated on Fiber Patch Panels. Connector interfaces should support ST, SC simplex, SC duplex, FC, LC or MT-RJ.

#### 12.0 BACK BONE

Backbone cabling inclusive of switches and all necessary accessories shall be carried out in readiness for the termination of edge switches.

The Backbone cabling shall be flexible and allow for easy 'add-ons' for future expansions. Hence enough capacity shall be allowed for future expansion.

#### 13.0 EDGE/FLOOR SWITCHES

These shall be per floor and have enough capacity for expansion

#### 14.0 ADDITIONAL NOTES

Tenderers should take note of the following:-

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

#### 15.0 BROCHURES AND TECHNICAL LITERATURE

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

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

## PART 2 – STRUCTURED CABLING & IP PBX

### TECHNICAL SPECIFICATIONS

#### A. STRUCTURED CABLING

##### 1. SCOPE OF WORKS

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

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

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

##### 2. REFERENCES/STANDARDS

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

1. ANSI/TIA/EIA-568-B.1 – Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
2. ANSI/TIA/EIA-568-B.2 – Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components
3. ANSI/TIA/EIA-568-B.3 – Optical Fiber Cabling Components Standard
4. ANSI/TIA/EIA-569-A – Commercial Building Standard for Telecommunications Pathways and Spaces
5. ANSI/TIA/EIA-606(A) – The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
6. ANSI/TIA/EIA-607(A) – Commercial Building Grounding and Bonding Requirements for Telecommunications
7. ANSI/TIA/EIA-526-7 – Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
8. ANSI/TIA/EIA-526-14A – Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant
9. ANSI/TIA/EIA-758(A) – Customer-Owned Outside Plant Telecommunications Cabling Standard
10. ISO/IEC 1101 Amendment 2

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

### 3. PERMITS, FEES, AND CERTIFICATES OF APPROVAL

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

### 4. SYSTEM DESCRIPTION

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

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

4.2. Vertical/horizontal backbone cabling consists of 62.5/125  $\mu\text{m}$  multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC.

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

### 5. SUBMITTALS

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

1. By submitting shop drawings, product data, and samples, the contractor represents that he or she has carefully reviewed and verified materials, quantities, field measurements, and field construction criteria related thereto. It also represents that the contractor has checked, coordinated, and verified that information contained within shop drawings, product data, and samples conform to the requirements of the work and of the contract documents. The engineer/designer remains responsible for the design concept expressed in the contract documents as defined herein.
2. The P.M approval of shop drawings, product data, and samples submitted by the contractor shall not relieve the contractor of responsibility for deviations from requirements of the contract documents, unless the contractor has specifically informed the engineer/designer in writing of such deviation at time of submittal, and the engineer/designer has given written approval of the specific deviation. The contractor shall continue to be responsible for deviations from requirements of the contract documents not specifically noted by the contractor in writing, and specifically approved by the engineer in writing.
3. The P.M approval of shop drawings, product data, and samples shall not relieve the contractor of responsibility for errors or omissions in such shop drawings, product data, and samples.
4. The P.M review and approval, or other appropriate action upon shop drawings, product data, and samples, is for the limited purpose of checking for conformance with information given and design concept expressed in the contract documents. The engineer's review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the contractor as required by the contract documents.

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

b) Shop drawings: Submit the following:  
*Coordinate with Part 2.Backbone (riser) diagrams*

1. System block diagram, indicating interconnection between system components and subsystems
2. Interface requirements, including connector types and pin-outs, to external systems and systems or components not supplied by the contractor  
Fabrication drawings for custom-built equipment

c) Product Data – Provide catalog cut sheets and information for the following:  
*Coordinate with Part 2.*



1. Wire, cable, and optical fiber
  2. Outlets, jacks, faceplates, and connectors
  3. All metallic and nonmetallic raceways, including surface raceways, outlet boxes, and fittings
  4. Terminal blocks and patch panels
  5. Enclosures, racks, and equipment housings
  6. Over-voltage protectors
  7. Splice housings
- d) Samples – Submit samples as required by the Engineer.
- e) Project record drawings:-
- 1) Submit project record drawings at conclusion of the project and include:-
    - (a) Approved shop drawings
    - (b) Plan drawings indicating locations and identification of work area outlets, nodes, data cabinet rooms, and backbone (riser) cable runs
    - (c) Cross-connect schedules including entrance point, main cross-connects, intermediate cross-connects, and horizontal cross-connects.
    - (d) Labeling and administration documentation
    - (e) Warranty documents for equipment.
    - (f) Copper certification test result printouts and diskettes.
    - (g) Optical fiber power meter/light source test results.
    - (h) Operation and maintenance manuals:

## 6. QUALITY ASSURANCE

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

## 7. WARRANTY

- 7.1. Unless otherwise specified, unconditional guarantee shall be in writing for the materials, equipment, and workmanship for a period of not less than fifteen (15) years from date of commissioning of the project for active components.

7.2. Transfer manufacturer's warranties to the owner in addition to the General System Guarantee. Submit these warranties on each item in list form with shop drawings. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the guarantee period. Final payment shall not relieve you of these obligations.

## 8. DELIVERY, STORAGE, AND HANDLING

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

## 9. SEQUENCE AND SCHEDULING

9.1. Submit schedule for installation of equipment and cabling. Indicate delivery, installation, and testing for conformance to specific job completion dates. As a minimum, dates are to be provided for bid award, installation start date, completion of station cabling, completion of riser cabling, completion of testing and labeling, cutover, completion of the final punch list, start of demolition, owner acceptance, and demolition completion.

## 10. USE OF THE SITE

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

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

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

## PRODUCTS

### 1. MANUFACTURERS

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

### 2. FABRICATION

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

### 3. SUITABILITY

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

### 4. VOICE/DATA TELECOMMUNICATIONS SERVICE BACKBONE CABLE

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

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

#### 5. VOICE TELECOMMUNICATIONS STATION CABLE

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

#### 6. DATA STATION CABLE (Copper)

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

#### 7. DATA STATION CABLE (Optical Fiber)

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

#### 8. UNDERGROUND TELECOMMUNICATIONS CABLE (Copper)

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

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

#### 9. UNDERGROUND TELECOMMUNICATIONS CABLE (Optical Fiber)

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

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

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

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

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

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

- a) Data Outlet - 8-pin modular, category 6e, unkeyed, black, pinned to either T568 (A or B) standards.
- b) Optical Fiber Connectors – simplex ST - ST adapter.  
Provide two optical fiber adapters for each faceplate

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

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

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

#### 12. VOICE ONLY WORK AREA OUTLET

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

#### 13. TERMINATION BLOCKS

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

- a) Product(s) as approved by the P.M: Wiring blocks are to be in following configurations:-
  - 1) List dimensional configurations
  - 2) ER – List pairs categorized for PBX portion of ER and pairs field terminated for backbone and CO portion of ER
- b) Provide wiring troughs between ER frame sections.

#### 14. PATCH PANELS

Specification Note: Alter quantities to match job requirements.

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

#### 15. WALL MOUNTED OPTICAL FIBER PATCH PANELS

Specification Note: Alter quantities to match job requirements

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

#### 16. RACK MOUNTED OPTICAL FIBER TERMINATION PANEL

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

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

#### 17. SPLICE TRAYS

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

#### 18. OPTICAL FIBER CONNECTORS

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

#### 19. OPTICAL FIBER JUMPERS

Dual 62.5/125- $\mu\text{m}$  (*and/or single mode*) optical fiber jumper cable, 1 m long with 3.0 mm Duplex 568SC optical fiber connectors on each end.

Dual 62.5/125- $\mu\text{m}$  (*and/or single mode*) optical fiber jumper cable, 1 m long with approved alternative duplex optical fiber connectors on each end.

## 20. OPTICAL FIBER PIGTAILS

62.5/125  $\mu\text{m}$  (*and/or single mode*) optical fiber pigtail 1 m long with 3.0 mm single 568 SC optical fiber connectors on one end

## 21. OPEN FRAME EQUIPMENT RACK

Open frame, 19 in. equipment rack, 7 foot 6 in. overall height with flange base, mounting rails drilled front and back and tapped to EIA standards, and a front-rack mountable 10 outlet multiple outlet electrical strip or 42u enclosed glazed.

## 22. EQUIPMENT RACKS/CABINETS

Specification Note: Use 19 in. or change to 23 in. as required. If using wall-mounted racks or cabinets, add required specifications here. Add and delete features as required.

a) The 19 in. equipment rack shall have the following minimum requirements:

- 77 in. (44 rack spaces) of panel space
- Welded frame construction
- Locking front and rear doors
- Adjustable front and back equipment mounting rails drilled and tapped to EIA standards
- 10 position electrical outlet strip
- Removable side panels
- Top mounted, thermostatically controlled exhaust fan
- Smoked acrylic front door.

## 23. LISTED BUILDING ENTRANCE PROTECTORS

Use when copper cables are run outside of building.

Use appropriate protector modules.

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

## 24. SPLICE HOUSING

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

- a) Encapsulated, re-enterable splice housing, sized as required with bonding straps, accessories, end caps and encapsulant as required
- b) Splice modules (such as 710 series or MS<sup>2</sup>) for use within splice housing

## 25. SPARES

Change quantities to suit job size. Edit to match that which is actually specified.

a) Furnish the following spare equipment and parts:

Terminal block connectors, if required

Test set cords, if required

Install one test cord set in each telecommunications closet

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

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

Five thousand (5000) ft of each type of station cable  
One thousand (1000) ft of one-pair cross-connect wire for each telecommunications closet  
One thousand (1000) ft of two-pair cross-connect wire for each telecommunications closet  
Five (5) percent of base bid quantity of protector modules

## EXECUTION

### 1. PRE-INSTALLATION SITE SURVEY

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

### 2. HANDLING AND PROTECTION OF EQUIPMENT AND MATERIALS

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

### 3. PROTECTION OF OWNER'S FACILITIES

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

### 5. INSTALLATION

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

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

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

1) Where manufacturer does not provide bending radii information, minimum-bending radius shall be 15 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the P.M and the client.

e. Penetrations through floor and fire-rated walls shall utilize intermediate metallic conduit (IMC) or galvanized rigid conduit (GRC) sleeves and shall be fire stopped after installation and testing, utilizing a fire stopping assembly approved for that application.

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

g. Installation shall conform to the following basic guidelines:

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

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

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

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

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

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

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

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

## 6. GROUNDING

Edit as required.

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

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

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

## 7. LABELING

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

Use 6g if the owner does not have a standard for outlet numbering.

Use 6h if required. Alter time as requested.

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

- a) Label each outlet with permanent self-adhesive label with minimum 3/16 in. high characters.
- b) Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:
  - 1) Inside receptacle box at the work area.
  - 2) Behind the communication closet patch panel or punch block.
- c) Use labels on face of data patch panels. Provide facility assignment records in a protective cover at each telecommunications closet location that is specific to the facilities terminated therein.
- d) Use color-coded labels for each termination field that conforms to ANSI/TIA/EIA-606(A) standard color codes for termination blocks.
- e) Mount termination blocks on color-coded backboards.
- f) Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.
- g) Label cables, outlets, patch panels, and punch blocks with room number in which outlet is located, followed by a single letter suffix to indicate particular outlet within room, i.e., S2107A, S2107B. Indicate riser cables by an R then pair or cable number.
- h) Mark up floor plans showing outlet locations, type, and cable marking of cables. Turn these drawings over to the owner two (2) weeks prior to move in to allow the owner's personnel to connect and test owner-provided equipment in a timely fashion.
- i) Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form (3.5" floppy disks) and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

## 8. TESTING

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

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

- 1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements.
- 2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable.

Use 2 or 3 as required.



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

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

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

#### FIELD QUALITY CONTROL

- a) Employ job superintendent during the course of the installation to provide coordination of work of this specification and of other trades, and provide technical information when requested by other trades. This person shall maintain current RCDD® (Registered Communications Distribution Designer) registration and shall be responsible for quality control during installation, equipment set-up, and testing.
- b) At least 30 percent of installation personnel shall be *BICSI Registered Telecommunications Installers*. Of that number, at least 15 percent shall be registered at the *Technician Level*, at least 40 percent shall be registered at the *Installer Level 2*, and the balance shall be registered at the *Installer Level 1*.

Specification Note: Use this or insert manufacturer’s requirements for installer qualifications to meet extended warranty program requirements.

- c) Installation personnel shall meet manufacturer’s training and education requirements for implementation of extended warranty program.

## B. IP PBX

### 2.0.0 TECHNICAL SPECIFICATIONS

#### 2.0.1 SCOPE OF THE WORK

The sub-contractor shall supply, deliver, unload, test, commission, guarantee and be liable for defects, and be responsible for the initial maintenance, all as specified herein, of I.P. P.B.X, Telephone instruments and structured cabling works. The I.P. P.B.X will be entirely I.P., ISDN native and with time multiplexing architecture.

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

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

#### 2.0.2 MINIMUM REQUIREMENTS

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

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

#### 2.0.3 EQUIPMENT FINISH

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

#### 2.0.4 INTERFERENCE SUPPRESSION

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

#### 2.0.5 DOOR KEYS

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

#### 2.0.6 EQUIPMENT HARDWARE

The tenderer shall quote for multimedia applications digital I.P. P.B.X .The equipment shall operate on duplicated processor.

#### 2.0.7 EQUIPMENT SOFTWARE

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

- Open Source Asterisk IP PBX
- Interactive Voice Response(IVR)
- Video Conference

- Built in call recording
- Voice Mail to Email
- Distributed office set up
- Centralized Administration
- Call Detail Report
- FOP-Web Based Receptionist Console
- GSM Integration
- Parallel Ringing
- Voice Logger
- Audio Conference Bridging
- Fax Support
- Logical Partitioning

#### 2.0.8 SYSTEM FEATURES

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

- ✚ Direct inward dialing
- ✚ Direct outward dialing
- ✚ Dial pulse signaling
- ✚ DTMF to dial pulse conversion (Tone to pulse conversion)
- ✚ Direct Trunk access
- ✚ Class of Service
- ✚ Flexible assignment of printer ports
- ✚ Flexible numbering of extensions
- ✚ Flexile tone plan
- ✚ Group Hunting
- ✚ Multiple operator console
- ✚ Music on hold
- ✚ Tandem trunks
- ✚ Tie trunks
- ✚ Extension features e.g. call forwarding, busy override, conference, (up to 8 conferences) camp on etc.

#### 2.0.9 BARRING AND ROUTE RESTRICTION

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

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

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

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

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

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

#### 2.0.10 CLASS OF SERVICE

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

- Full Access

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

- Trunk Route Restriction

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

- Trunk Barred

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

- Restricted Access

Those permitted incoming calls and internal calls only.

- Barred Access

Those permitted tie line and internal calls only.

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

There shall be a means of re-allocating subscriber access to the various I.P.P.B.X facilities which shall be promoted by a security system that will prevent unauthorized alterations.

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

### 2.0.11 ATTENDANT CONSOLE

One or more operator attendant consoles shall be computer based and shall be supplied, together with two operators' handsets and two operators' lightweight headsets per position. They shall be fitted with suitable lightweight plugs and jacks.

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

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

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

Call presentation, chaining process, call back will be entirely managed by the I.P.P.B.X; however it will be possible to put certain call on individual hold, on keys which have been reserved to that effect.

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

### 2.0.12 TELEPHONE INSTRUMENTS

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

#### (a) IP Executive Telephone Instruments

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

- Standard telephone facilities
- Abbreviated dialing
- Automatic ring back indication
- Calling number display
- Calls indication
- Call waiting display
- Do-not disturb indication
- Extension status indication
- Hands free
- Individual speed dialing
- Intercom
- LCD display (16 characters)
- Microphone unit.
- On hook dialing
- Password protection
- Repeat last number
- Ringing level and tune selection
- Store and redial
- Single key access to line features

## **(b) IP Standard Telephone Instruments**

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

- Standard telephone facilities
- Automatic ring back indication
- Extension status indication
- Individual speed dialing
- On hook dialing
- Repeat last Number
- Ringing level and tune selection
- Store and redial.

### **2.0.13 NUMBER SYSTEM**

The number scheme will be:-

Level 9	Access to the main exchange
“ 8	Night service
“ 7	spare for future tie line access
“ 6	Tie line access
“ 5	spare for extensions
“ 4	Extensions
“ 3	Extensions
“ 2	Extensions
“ 1	Spare for special facilities.
“ 0	Access to IP PBX Telephone Operator

### **2.0.14 EXCHANGE LINES**

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

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

### **2.0.15 TIE LINES**

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

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

### **2.0.16 SYSTEM MAINTENANCE**

- Test Equipment and Tools

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

- Maintenance Features

The IPPBX shall have the following system maintenance features:-

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

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

- Maintenance and Operating Manuals

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

They will include but not limited to:-

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

## 2.0.17 POWER SUPPLY

### Rectifier

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

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

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

### Battery

A stationery battery is required to supply power during peak hours and mains supply failures and to provide smoothing for DC output from the rectifier.

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

#### Voltage stabilizer

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

#### Earthing

An independent telecommunication earth shall be provided for the I.P.P.B.X and the MDF (*if available*). The earth lead cable shall not be less than 6mm<sup>2</sup> and shall terminate to copper earth electrode(s) in a concrete manhole (300mm x 300mm) with a suitable concrete cover.



## PARTICULAR AND TECHNICAL SPECIFICATIONS FOR CCTV & ACCESS CONTROL

### PART 1

#### A. CCTV SURVEILLANCE SYSTEM

##### PARTICULAR SPECIFICATIONS

###### 1.1 Location of site

The site of the proposed works is located at Chuka Market– Tharaka Nithi.

###### 1.2 Extent of the works

The works to be carried out include the supply, delivery, installation, testing, commissioning and leaving in servicing condition the Closed Circuit TV network INTEGRATED with an Automatic Access Control systems in the proposed office block facility as herein described in this specification. The works shall include, but not limited to the supply and installation of the following:

- a) Fixed IP Cameras
- b) Colour Network Video Recorder
- c) Cabling
- d) Colour LED Monitors

###### 1.3 Regulation and Standard

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

- Communication Authority of Kenya (CAK)
- The Kenya Communications Act
- The Electronic Power Act and the Rules made there under.
- The Kenya Power and Lighting Company Limited's Bye-Laws.
- The current edition of the "Regulations for the Electric Equipment of Buildings" issued by the Institution of Electrical Engineers.
- The requirements of the Chief Inspector of Factories for the Kenya Government.

- Kenya Bureau of Standards (KBS) Standard Specifications and Codes of Practice, or other equal and approved standard specifications and codes.
- The Bye-Laws of the Local Authority.
- Any other regulations applicable to Electric and Electronic Installations or Communications systems in Kenya.
- The Employer's Safety Regulations.

## PART 2

### 2.1.0 TECHNICAL SPECIFICATIONS

#### 2.1.1 EXTENT OF WORKS FOR SECURITY SURVEILLANCE SYSTEM

The security surveillance system shall consist of the following:-

Supply, installation, testing and commissioning of video surveillance system complete with cameras, Video monitors, NVR. The work also includes ducting and laying of cables.

Fixed IP Cameras. The cameras specified should be able to cover the intended areas with clear images displayed on the video monitor. The cameras shall be linked to Video Monitors and the control room equipment. Highly sensitive areas should be covered with more cameras able to take pictures of any person coming in both from the front and the rear. The resolution of the cameras should be able to give pictures that are clear.

Color TV Monitors. The color monitors must be of high resolution and preferably of LCD screen. The size of the monitor should be big enough to allow the operators make correct deductions both in real time operation and during playbacks.

Network Video Recorder. The Network Video Recorder resolution has to be equally high for the monitor to display images with a high resolution.

The IP based Surveillance system should be able to support the following:-

- ✚ IP based recording system with motion detection.
- ✚ Digital zooming into recorded images/live view
- ✚ Multi-level password protection and logging facilities
- ✚ Integrates with access control, burglar control, burglar alarms and Fire alarm system and other building management systems as may be specified by the engineer.

Image compression for remote web live and playback viewing in case of IP.

Multi display monitors

Automatic daily archiving to hard drive or optical drive.

Fully adjustable digital video motion detection with exclusion/inclusion multi regions per camera.

Efficient video collection, storage and retrieval.

Advanced and instant search capability

Digitally signed recordings, with audit trails of all operator actions and system event.

Storage capacity of the Network Video Recorder should be a minimum of twelve (12TB) NVR space to provide back up and redundancy.

Infra-red illuminators in poor lighting conditions

Able to interface with other systems on the ground

Support IP connectivity.

## 2.1.2 MINIMUM ALLOWABLE TECHNICAL SPECIFICATIONS FOR THE CCTV SYSTEM

### POWER REQUIREMENTS

The equipment to be supplied shall be capable of being operated from 240V AC, 50Hz power supply.

### CCTV SYSTEM SETUP

- ❖ The proposed Video Surveillance System shall be open standard type integrated system with IP protocol function and management architecture.
- ❖ The system should provide inter-operability of hardware , operating system software, networking , data base connectivity , reporting and communication protocols, system expansion should be possible through off-self available hardware.
- ❖ The offered system will cover all entrances and exits (external and floor level), general areas and will give a detailed view of all the targeted areas.
- ❖ All designated area will be covered by fixed high resolution indoor cameras as well as Outdoor fixed Day/Night cameras and where specified PTZ cameras in order to get a comprehensive view of the activities in the buildings and areas surrounding them. The offered system will allow recording for all cameras at any time at 30 FPS and 4CIF.
- ❖ The system will allow for at least 1 month storage of the recording from all cameras.

### SYSTEM DESIGN

- ✚ The offered System will be based on NVRs that allow connectivity of cameras through CAT 6 as well as other IP infrastructure. Should be to interface with other existing infrastructure.
- ✚ The offered system will allow viewing of any camera from the control room.
- ✚ Cameras will be connected using UTP cables and fiber optic infrastructure.
- ✚ The offered system should have an open architecture that will allow unlimited expansion for any number of cameras.
- ✚ The offered system will allow for secure mode of communication.
- ✚ The system will be operated through a central video console station.
- ✚ The controller will be able to view and control all cameras from one control room.

## NETWORK VIDEO RECORDER

- ❖ Should be installable on a Linux/Windows PC.
- ❖ The NVR/NAS should have no limitations on the kind of storage to be used (RAID 5 & 6, NAS, etc.).
- ❖ The NVR/NAS must be capable of recording 100 cameras simultaneously.
- ❖ The NVR/NAS must be providing for a disk management system which will automatically reap old recordings to overwrite with new ones when max disk usage is reached.
- ❖ Should support ENVR-F16S, ECMS-DVR, PowerCon, 4series and NVR software
- ❖ Industrial Grade NVR designed
- ❖ Gigabit LAN
- ❖ Dual-Monitor support with one VGA, one DVI-I, one D-USB and one HDMI port
- ❖ HDAS with two-way audio
- ❖ 4Xusb2.0. 1Xrs232
- ❖ Windows software compatible

## SPECIFICATIONS:

ITEM	DESCRIPTION	REQUIREMENT
1.0	Video Compression	H.264,MPEG4,MJPEG
2.0	Supported No. of Channels	64
3.0	Minimum Storage capacity	30TB Expandable to 48TB
4.0	Ethernet	2GB
5.0	Display	1xVGAport,1xDVI/1xD-SUB/1xHDMI port
6.0	USB	4* USB2.0
7.0	Serial port	1*RS232
8.0	Audio	HAD with Mic-in/Line/Line output
9.0	Power Input	240Vac
10.0	Chassis Construction	Heavy duty Metal
11.0	Indicators	Power LEDs, HDD, LAN
12.0	Operating System(OS)	Windows based
13.0	Operating Temperature	0° C to 45 ° C (10% to (90%) Humidity
14.0	Mounting	Rack Mount
15.0	EMC/Safety	FCC class B, CE
16.0	WARRANTY	2 Years parts and labour

## RAID STORAGE

- ❖ RAID-5 & 6 compliant
- ❖ Up to fifteen (15) 1-inch-by-3.5-inch SATA II hot-pluggable 3.0 Gbps hard drives at speeds of 7200 rpm
- ❖ Loaded with 12TB usable storage (after RAID 5 implementation) with hot-pluggable drives and minimum one spare drive. Maximum capacity up to 32TB using fifteen 1TB drives.
- ❖ Upgradable for dual host support providing direct connectivity to drives 0 through 6 and a separate connectivity to drives 7 to 14
- ❖ LED indications for systems status, power, split mode, activity, drive indicator per drive, fan fault, SAS ports etc.
- ❖ Configured with RAID 5 support for RAID levels 0,1,5,10,50
- ❖ Operating temperature up to 35 degree Celsius

## CAT 6 CABLE

- ✚ Operating temperature up to 35 degree Celsius
- ✚ 23 AWG Annealed bare solid copper, CAT-6 UTP Cable, Channel optimized to 350 Mhz
- ✚ Meets EIA/TIA 568-B.2-1 Category 6 specifications, Passed UL 444 test and meets CM and CMR ratings
- ✚ Worst Case Cable Skew : 45 nsec/100 meters
- ✚ Characteristic Impedance : 100(+/- 3 ) Ohms 500MHz , Tested till 700 Mhz
- ✚ Conductor Annealed copper wire Diameter 0.52 mm (nominal)
- ✚ Insulation High Density polyethylene, Diameter 0.94 mm (nominal)
- ✚ Support for Fast Ethernet and Gigabit Ethernet IEEE 802.3/5/12, Voice, ISDN, ATM 155 & 622 Mbps and Broadband
- ✚ DC Resistance Max: 6.6 Ohms/100m
- ✚ UL Listed and Third Party verified by ETL to "ANSI/TIA/ EIA-568-B-2.1" specifications
- ✚ Zero Bit Error verified by ETL
- ✚ Sheath Fire retardant PVC Compound (FRPVC) Flame Rating : 60 deg. C As per UL 1685 CM
- ✚ PAIRS Color code: Blue / White-Blue, Orange / White-Orange Green / White-Green, Brown / White – Brown
- ✚ Outer Sheath PVC compound Thickness Diameter 0.5 mm (nominal) Outer diameter 6.5 mm (nominal)
- ✚ ELECTRICAL CHARACTERISTICS at 20° C Input Impedance (0.772-100 MHz) : 100 + 15 Ohms, (125-250 MHz) : 100 +/- 22 Ohms
- ✚ Mutual Capacitance : 5.0 nF/100m Capacitance, unbalance (Max.) : 330pF/100m
- ✚ Standard length: 305 Mtrs (1000 ft.)

## NETWORK CABINETS

To be located on each floor in designated rooms as indicated in the electrical drawings.

Must be metallic (appropriately sized as specified in the BQ) with a front clear glass, free standing, complete with lock and key and the following accessories:

- ❖ Cable Management channel rack
- ❖ Cable support hooks
- ❖ Cable support rings and straps
- ❖ Cable duct cover
- ❖ Feed through cable panels
- ❖ Vented equipment shelving
- ❖ Blank filler panels
- ❖ Hinged wall mounted brackets

- ❖ Glass viewing window
- ❖ Colored Designation strips
- ❖ Management lock and key
- ❖ Cooling extractor fans
- ❖ Caster wheels
- ❖ Inbuilt 2-gang power socket outlet

#### ACTIVE CONTROL EQUIPMENT AT THE NETWORK CORE

The active control equipment at the core should have the following features:

- a) Backplane/switch fabric Bandwidth Capacity of 150 GBPS or more.
- b) IEEE 802.3 compliant for power over Ethernet
- c) IEEE 802.1 based security compliant
- d) SNMP compliant for security
- e) Layer 2/3/4 switch
- f) Should support Gigabit Ethernet to the desktop
- g) Should have at least 10-slots or higher chassis
- h) The core switches should have two links to each floor configured in active/active configuration. The links should deliver 2GBPS throughput when all ports are active.
- i) The core switch should have redundant power supply, redundant fan tray and redundant CPU/ supervisor engine installed
- j) Fiber cable linking stacks on each floor to the core should be connected to 1000Base X(GBIC) port on the core switch.
- k) Should be installed with the latest version of system software at the time of delivery.
- l) Should support Quality of service for various applications.

#### ACTIVE CONTROL EQUIPMENT'S AT THE LAN EDGE

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

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

#### NETWORK MANAGEMENT SYSTEM

Bidders must propose the manufacturers Network Management system for centralized configuration, maintenance and troubleshooting of active equipment. Third party standalone systems should not be offered as part of the solution. Features and functionalities of the system should include the following:-

- a) Should be compatible with Microsoft windows/Linux operating systems
- b) Graphical User Interface for central Management and network viewing
- c) Network discovery and inventory management
- d) VLAN, multicast, security and load-balancing/fail over configuration

- e) Downloading and saving of log file from the device flash memory
- f) Centralized upgrade/backup and archiving of active devices
- g) Export of network topology to JPEG or other standard formats.

#### HIGH DEFINITION INDOOR FIXED DOME IP CAMERAS

1. The indoor fixed mini dome system with camera and lens shall be quick and easy to install.
2. The indoor fixed mini dome system shall provide multiple methods of installation including: surface mounting onto ceiling or wall, recessed mounting in ceiling or wall, and pendant mounting with an optional parapet mount.
3. The indoor fixed dome Camera shall meet or exceed the following design and performance Specifications:-
  - a) Resolution: 3Megapixels (Minimum)
  - b) Focus: Automatic
  - c) Lens type: Varifocal 3-8mm
  - d) Scanning System: progressive scan
  - e) Minimum illumination: 0.01lux
  - f) Selectable H.264, MPEG4, MJPEG compressions with dual streaming
  - g) Vandal resistant
  - h) POE enabled 12vDC/24vAC
  - i) Infra-Red range : Minimum 30metres

#### HIGH DEFINITION OUTDOOR BULLET TYPE CAMERA

- a) Resolution: 3Megapixels ( Minimum)
- b) Focus: Automatic
- c) Lens Type: Varifocal 3-8mm
- d) Scanning System: progressive scan
- e) Minimum illumination: 0.01lux
- f) Selectable H.264, MPEG4, MJPEG compressions with dual streaming
- g) Vandal resistant
- h) POE enabled
- i) Housing: Must be to IP 66 rating
- j) Infra-Red range: Minimum 30metres

#### HIGH DEFINITION IP 360° PANORAMIC/FISH EYE CAMERA

- 5Megapixels
- Surface mount

- Digital PTZ
- Auto switching with manual override
- Coverage: No blind Spots
- IP66 Rated
- POE Enabled
- H264, /MJPEG Multi stream camera

#### HIGH DEFINITION IP PTZ CAMERA

- a) Resolution: 2Megapixels (Minimum)
- b) Focus: Automatic 32XOptical and 16 Digital Zoom
- c) Lens Type: Varifocal3-8mm
- d) Scanning System: progressive scan
- e) Pan /Tilt Speed: Pan Speed; Preset 700 ° /sec, Manual: 0 , 024° /sec to 120 ° /sec ( Proportional Zoom ratio) : Tilt Range 190 ° (-5 ° to 185 °: Tilt Speed250 °/sec: manual: 0.024 °/sec
- f) Minimum illumination: 0.01lux
- g) Selectable H.264, MPEG4, MJPEG compressions with dual streaming
- h) Vandal resistant
- i) POE enabled
- j) Infra-Red Minimum viewable range 150metres

#### FIXED THERMAL IP OUTDOOR CAMERAS

Fixed thermal Imaging camera

- ✚ 38Microns
- ✚ 2xZoom
- ✚ Weather proof Maximum rain protection, IP 66Rated
- ✚ Sun Shroud

#### 2.1.3 PC WORKS STATIONS

- This shall be work station-class personal computer with USB ports, Key board and mouse.
- Shall be able to process high quality video streams simultaneously and MPEG4 Video.
- Shall have plug and play installation and detection of cameras and devices.
- Shall interface and allow user to view live video, control cameras record video, search, play back and export video.



- Shall allow authorised officers to configure devices, set up users adjust network settings.
- Operating system: At least Windows 11 or equal and approved equivalent, Core i7 , 8GB RAM and 4TB SSD/DVD/RW win10/21" Screen of MultiMonitor Support complete with a printer for central monitoring.
- Support 8th Generation Intel® Core™ i7 + processor (Core™ i7 and Intel® Optane™ memory)
- Support Chipset Intel® Q370 (vPro); Intel® Q370 (non-vPro)
- Form factor Tower
- Support Up to 128 GB DDR4-2666 SDRAM memory
- Support Up to Transfer rates up to 2666 MT/s.
- Support Up to Memory slots 4 DIMM
- Support Up to 2 TB 7200 rpm SATA HDD
- Support Up to 512 GB SATA SED Opal 2 TLC SSD
- Support Up to 16 GB NVMe™ Intel® Optane™ Memory for storage acceleration
- Support Up to Intel® UHD Graphics 630; Intel® UHD Graphics 610
- Support Up to NVIDIA® GeForce® GTX 1060 (4 GB GDDR5 dedicated
- Support Up to: 1 DisplayPort™ 1.2; 1 HDMI 2.0; 1 serial; 1 USB 3.1 Type-C™ Gen 1 (DisplayPort™); 1 VGA
- Support Drive Bays 1 slim ODD; One 5.25" ODD; One 2.5" HDD; One 5.25" HDD; Two 3.5" HDD
- Support Environmental Operating temperature: 10 to 35°C; Operating humidity: 10 to 90% RH
- **(State make and type, and enclose brochures/catalogues)**

#### 2.1.4 CONTROL ROOM

- The control room set up should include furniture and air conditioning equipment. If possible the control room should be partitioned to allow major equipment to be inaccessible to user personnel or operators unless specifically authorized to do so.
- Secure doors and controlled access.

#### 2.1.5 CONTROL EQUIPMENT

The control equipment shall be computer and screen based

Features to include:

- On screen level meter for setting up VMD.
- On screen scope function to set up camera video level.
- PTZ CAMERA Control macros to enable auto start and control via single keystroke 2 levels of menu of share user level functions.
- "covert mode" for secret recording · Keyboard lockout
- Innovative.
- On screen engineer's overview of machine set up and parameters with prints out capability via RS232 port.

- Individual dwell times.
- Alarm log.

#### 2.1.6 CABLES AND CONNECTIONS

- All the cabling shall be carried out in conduits or trunking. Basically cables carrying video signal between cameras and TV monitoring via video control equipment shall be Optic fibre and four pair Cat 6 cables.. The positions for connectors and the equipment shall be identified by the contractor on site.
- Bidders shall be required to visit the proposed site to ascertain cable routes and cable lengths before pricing the Bills of Quantities in this document. In this regard, the bidders shall be required to get in touch with the Project Manager, during official working hours.
- It shall be the responsibility of the contractor to provide wiring and connection diagrams for approval by the Project Manager.
- All cables to be terminated neatly and with appropriate flex conduits where necessary. No loose, hanging or exposed cables will be allowed.

#### 2.1.7 UNINTERRUPTIBLE POWER SUPPLY (UPS)

This shall be an on-line Un-interruptible power supply with output rating of 1KVA, 2KVA, 5KVA & 10KVA, 240V, 50HZ single-phase supply. It shall provide power to the security surveillance system.

It shall be microprocessor- based so that both output voltage and frequency are closely regulated and continuously monitored and also provide system diagnostic and shut down protection functions. It shall feature a maintenance by-pass to enable normal routine maintenance operations to be performed without interruptions to the system.

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

- ✓ input power problems
- ✓ ups faults
- ✓ ups overload
- ✓ battery discharging

Other parameters are:

Input supply:	240V AC 50Hz
Power factor:	0.7 lag at full load
Current limit:	125% of the normal
Output voltage:	240V AC 50 Hz
Output voltage tolerance:	2.5%
Output frequency tolerance:	0.05%

SECTION G

SCHEDULE OF UNIT RATES

## SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of equal and approved quality will be accepted.
5. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including 16% VAT and all other taxes applicable at the time of tender
6. Any bid returned with unfilled Schedule of Unit Rates shall be considered technically non-responsive, and the bidder shall automatically be disqualified.

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

Item	Description	Unit	Qty	Rate (KShs)
	<p>The rates entered in the schedule unless otherwise stated shall be the complete cost of supply, transportation, , Insurance, Installation etc, to be added or deducted from the sub-contract Price in respect to variations ordered during the course of the work.</p> <p>The rates entered below shall be used in conjunction with and not in place of the rates entered within the BoQ. The rates below are intended to complement the BoQ where sections have been priced on lump sum basis Where any conflict occurs between the rates entered below and the rates entered in the BoQ the lowest rate shall be applied throughout. Certain items entered below may not be applicable to the Sub-contract requirements as at present designed. However, the sub-contractor shall enter a rate against these items as future designed/alterations may include Some or all of the items scheduled</p>			
1.00	<p><u>Switchgear</u> Distribution boards of the following types and ratings, as Crabtree, Schneider or Approved Equivalent:-</p> <p>16 way TP&amp;N with integral 125 ampere isolating switch</p> <p>Consumer Units of the following types and ratings, as Crabtree, Schneider or Approved Equivalent:-</p> <p>12 way SP&amp;N with integral 100 ampere isolating switch 8 way SP&amp;N with integral 100 ampere isolating switch</p>	No     No No	1     1 1	
2.00	<p><u>Cables</u> Unarmoured PVC/PVC copper cables with conductors of the following sizes: 1.5 sq. mm 3 core 2.5 sq. mm 3 core 6.0 sq. mm 3 core 10.0 sq. mm 3 core 16.0 sq. mm 3 core</p> <p>PVC/SWA/PVC copper cables with conductors of the following sizes: 10 sq. mm 4 core 16 sq. mm 4 core 35 sq. mm 4 core 70 sq. mm 4 core</p>	m m m m m  m m m m	1 1 1 1 1  1 1 1 1	

Item	Description	Unit	Qty	Rate (KShs)
3.00	150 sq. mm 4 core	m	1	
	240 sq. mm 4 core	m	1	
	300 sq. mm 4 core	m	1	
	<u>Conduits</u>			
	Supply and Installation per linear metre including fixing of all accessories of PVC conduit of the following sizes:			
	20mm	m	1	
	25mm	m	1	
	32mm	m	1	
	40mm	m	1	
	50mm	m	1	
	As above but PVC sheathed flexible steel conduit:			
	20mm	m	1	
	25mm	m	1	
	32mm	m	1	
40mm	m	1		
4.00	<u>Cable trunking</u>			
	Supply & install sheet steel cable trunking complete with all necessary supports, fixings and dividing			
	75 x 50mm	m	1	
	150 x 50mm	m	1	
	300 x 300mm	m	1	
5.00	<u>Miniature Circuit Breakers (MCBs)</u>			
	Supply and installation into distribution board of triple pole MCB of the following ratings:			
	63 amperes	No	1	
	250 amperes	No	1	
6.00	<u>Bonding &amp; Earthing</u>			
	Earthing rod inspection pit with cover	No.	1	
	Copper Flat Tape Conductor	No.	1	
	Copper Earth Rods	No.	1	
	Copper Earth Rod Clamps	No.	1	
	Copper Fixings, Bonds & Clamps	No.	1	
7.00	<u>Lighting Switches</u>			
	10A Screwless Polished Georgian Brass coated lighting switch plates flush mounted on masonry wall as Crabtree, Schneider or an approved equivalent.			
	(a) 1 gang 1 way	No	1	
	(b) 2 gang 1 way	No	1	

Item	Description	Unit	Qty	Rate (KShs)
	(c) 1 gang 2 way	No	1	
	(d) 2 gang 2 way	No	1	
	(e) Intermediate switch	No	1	
Item	Description	Unit	Qty	Rate (KShs.)
1.	64 Port Edge Switch POE capabilities	No.	1	
2.	2KVA and 1 KVAUPS	No.	1	
3.	21U Wall Mounted Cabinet	No	1	
4.	24 Port Patch Panel	No.	1	
5.	24 Port Edge Switch with POE Capabilities	No.	1	
6.	12TB SSD/Micro ISCSI storage		1	
7.	Viewing LED screen 40"	No.	1	
8.	IP Indoor Dome Camera complete with housing and all other accessories as described in the particular specifications.	No.	1	
9.		No.	1	
10.	IP Indoor Bullet Camera Complete with all other accessories and as Described in the Particular Specs.	No.	1	

SECTION H

BILLS OF QUANTITIES



## BILLS OF QUANTITIES

### A) PRICING OF PRELIMINARIES ITEMS

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

The Bills of Quantities are divided generally into three sections:

#### (a) Preliminaries – Bill No.1

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

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

- (i) The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
- (ii) The unit of measurements and observations are as per those described in clause 1.05 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 Contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

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

B)

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes including (including 16% VAT and all other taxes applicable at the time of tender).
3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of equal and approved quality will be accepted.

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

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

**The brochures are to be used to ascertain the suitability of the components offered by the bidders. Bidders not complying with this requirement may be considered technically non-responsive and may subsequently be disqualified.**

Statement of Compliance

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

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

Date: .....

Official Rubber Stamp: .....

SECTION I

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

## TECHNICAL SCHEDULE

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

**TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED**

(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	MODEL	COUNTRY OF ORIGIN
1	LIGHTING FITTINGS ✚ Type Exit ✚ Type S  Lighting Switches  D.P Switches			
2	Socket outlet plates (13 Ampere)			
3	Distribution Boards			
4	MCB			
5	MCCB			
6	Cables ✚ Single core PVC Copper ✚ Unarmoured Copper (PVC/PVC) ✚ Armoured Copper (PVC/SWA/PVC)			
8	PVC conduits			
9	Fire Alarm Panel			
10	Smoke Detectors			
11	Heat Detectors			
12	Sounder			
13	Fire Evacuation Speakers			

1/3



REPUBLIC OF KENYA

STATE DEPARTMENT FOR HOUSING AND

URBAN DEVELOPMENT

ELECTRICAL

TESTING & COMMISSIONING GUIDE

FOR

ELECTRICAL INSTALLATION WORKS ON SITE



STATE DEPARTMENT FOR HOUSING AND  
URBAN DEVELOPMENT

TESTING AND COMMISSIONING OF ELECTRICAL INSTALLATION WORKS ON SITE.

PROJECT  
NAME.....  
...

W. P ITEM No.....JOB No.....

The subcontractor shall test in accordance with the relevant section of IEE regulations, Rule 3 of the Electrical Power Act for additional tests not covered by the regulations, Government Electrical specifications I & II and the Kenya Power & Lighting Co. Ltd by-laws.

A. PRELIMINARY CHECKS

The Engineer shall check to establish the following data: -

ITEM	DESCRIPTION		REMARKS
(i)	Type of installation (New/Renovation/Addition/ to existing installation)		
(ii)	a) Power supply 240V/415V/11KV		.....
	b) Frequency of the mains supply		.....
	c) Installation power factor		.....
(iii)	Method of Metering (New /Monitoring/Existing meter)		
(iv)	Are Testing/Measuring instruments available		
(v)	Are there maintenance/operational manuals for specialized systems (if any)		
(vi)	List of 'as installed drawings'	Drg No.	Description

B. TESTS

ITEM	TEST DESCRIPTION	OBSERVATIONS/ RESULTS	REMARKS
1	Tests shall be carried out to ensure:		
	a) All fuses and single pole switches are installed in live conductor		
	b) All outlets and switched socket outlets are connected to 'LIVE' conductor in the Terminal marked so and each earth pin effectively bonded to earth continuity system		
	c) Verify continuity of all final conductors of each 'Ring' circuit. (0.05 to 0.8Ω)	..... Ohms	
	d) All radial circuits emanate from respective distribution boards/consumer units and that they do not supply any other Equipment		
	e) The correct phase sequence is maintained throughout the installation		
	f) Effective 'Discrimination' in the arrangement of protective devices. i.e. a fault in the furthest power point/Lighting point should not blow or trip Fuses/MCBs respective in the Meter board.		
2	Inspect to ensure:		
	a) No terminal in the Ceiling Rose is 'LIVE' when the corresponding switch is in the off position.		
	b) All conduit termination conduit boxes, Consumer unit, DB's and Adaptable boxes have smooth edges and are properly bushed.		
	c) All fixed metal works close to Electrical installation are bonded to earth continuity conductor.		
	d) All Fuse ways and Circuit breakers for final sub circuits are properly labeled		

B TESTS CONT'D

ITEM	TEST DESCRIPTION	OBSERVATIONS/ RESULTS	REMARKS
3	<p>Carry out the following tests:</p> <p>a) Insulation Resistance tests</p> <p>    i) Between phases</p> <p>        a) R - Y            .....MΩ</p> <p>        b) R - B            .....MΩ</p> <p>        c) B - Y            .....MΩ</p> <p>    ii) Phase to Neutral</p> <p>        a) R - N            .....MΩ</p> <p>        b) R - N            .....MΩ</p> <p>        c) B - N            .....MΩ</p> <p>    iii) Phase to Earth</p> <p>        a) R - E            .....MΩ</p> <p>        b) R - E            .....MΩ</p> <p>        c) B - E            .....MΩ</p> <p>Minimum thresholds for above and for:</p> <p>    i) ELV circuits (SELV &amp; PELV) = 0.25 MΩ</p> <p>    ii) LV Circuits up to 500V = 0.5 MΩ</p> <p>    iii) LV Circuits above 500V = 1 MΩ</p>		
	b) Earth continuity conductor impedance (0.005 to 2Ω)	..... Ohms	
	c) Earth fault Loop impedance (0 - 2000 Ω)	..... Ohms	
	d) Earth Electrode resistance (Less than 4Ω)	..... Ohms	
	e) Earth Lead resistance (Less than 4Ω)	..... Ohms	
	f) The operation of protection MCCBS & MCBS (Tripping under faulty conditions)		
	g) Check the mechanical toggling (make & break) of all the switches to installed accessories.		
4	Underground cabling, Check for:		
	i) Continuity of the phases		
	ii) Factory tests done (avail certification)		
	iii) Proper termination		
	iv) Route markers		

B. TESTS CONT'D

ITEM	TEST DESCRIPTION	OBSERVATIONS/ RESULTS	REMARKS	
5	Installed load			
	i) Lighting points (No.)			
	ii) Socket outlets (No.)			
	iii) Motors (Give rating)			
	iv) Other machines (Attach list if more)			
	Item	Description	Rating	
6	Type of Earthing: TN-C/TN-S/ TN-C-S/TT/IT.			
7	LV switchboard: The board shall be checked to ascertain the following			
	i) Rating of the switchboard			
	ii) Rating of main incomer MCCB			
	iii) Form of construction (1/2B/3B/4)			
	iv) Degree of protection (IP rating)			
	v) Nameplates for identification of all circuits entering/leaving switchgear			
	vi) Proper Electrical & Mechanical operation of functional parts i.e. MCCBs, Indicating meters, CTs & VTs .			
	vii) Check cable terminations, type & terminals			
	viii) General comments on the appearance of the finished mechanical assembly including welding, full nuts & tightness of bolted parts.			
8	Fireman's switch.			
	i) Make and manufacturer			
	ii) The rating of the switch			
	iii) Test for the Electrical and Mechanical operation of the switch			
	iv) State the types of loads supported by the maintained board on the switch.			
	** see foot note			



BILL NO. 1:

**GENERAL & PARTICULAR PRELIMINARIES**

ITEM	DESCRIPTION	KSHS. CTS.
	<p><b><u>BILL NO. 1</u></b></p> <p><b><u>GENERAL AND PARTICULAR PRELIMINARIES</u></b></p> <p><b><u>GENERAL PRELIMINARIES</u></b></p> <p><b>A    <u>PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES</u></b>  Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification.</p> <p>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.</p> <p>The Contractor is advised to read and understand all preliminary items.</p> <p><b>B    <u>ABBREVIATIONS</u></b>  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.</p> <p>C.M.                    Shall mean cubic metre</p> <p>S.M.                    Shall mean square metre</p> <p>L.M.                    Shall mean linear metre</p> <p>MM                     Shall mean Millimetre</p> <p>Kg.                     Shall mean Kilogramme</p> <p>No.                     Shall mean Number</p> <p>Prs.                    Shall mean Pairs</p> <p>B.S. - Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England.</p> <p>Ditto - Shall mean the whole of the preceding description except as qualified in the description in which it occurs.</p> <p>m.s.                    Shall mean measured separately.</p> <p>a.b.d                   Shall mean as before described.</p> <p>Approved             Shall mean approved by the Project Manager</p> <p>As directed            Shall mean as directed by the Project Manager</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>ALTERATIONS TO BILLS, PRICING, ETC.</b> 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.</p>	
B	<p><b>LIMITATIONS OF THE SITE</b> The site of the works shall be used solely for the purpose of executing and completing the Contract to the satisfaction of the Architect.</p> <p>The Contractor shall make every effort to avoid, and in any event shall be liable for, any undue disturbance amounting to nuisance to the occupiers of the contiguous properties and/or to the Government's activities by reasons of noise, dust, traffic and the like or by neglect to control his workmen or materials and shall be responsible for all damage caused to any existing buildings, equipment or services of the Government on the site.</p>	
C	<p><b>PRELIMINARY INVESTIGATION OF THE SITE AND EXAMINATION OF DRAWINGS</b> The Contractor shall be deemed to have visited, inspected and acquainted himself with the site and surroundings, general site and soil conditions, availability of materials, means of access or any other matter which may affect his tender previously to tendering. If the Contractor is unable to locate the site, he shall apply to the office of the Project Manager for direction to enable him to do so.</p> <p>Details of drawings and other documents in connection therewith may be inspected at the office of the Project Manager during normal working hours by prior appointment.</p> <p>No claim arising from the Contractor's failure to comply with the above will be considered. The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries herein.</p>	
D	<p><b>SETTING OUT</b> The Contractor shall set out the work in accordance with the dimensions and levels shown on the drawings and shall be responsible for the correctness of all dimensions and levels so set out by him and will be required to amend all errors arising from inaccurate setting out at his own cost and expense.</p> <p>In the event of any error or discrepancy in the dimensions levels marked on the drawings being discovered, the Contractor shall report such errors or discrepancies to the Project Manager for his immediate attention. The Contractor shall not commence construction work until he has received written instruction from the Project Manager to adjust such proved discrepancies. Upon receipt of such instructions, the Contractor shall thereupon be responsible for adjustments necessary.</p> <p>No claim for extra expense or relief from the provisions of the Contract based on any discrepancy or error in the dimensions or levels shown on the drawings may be made thereafter.</p> <p>Before any work is commenced by Sub-Contractors or specialist firms, dimensions must be checked on the site and or building and agreed with the Contractor irrespective of the comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.</p>	
	<b>CARRIED TO COLLECTION</b>	



ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>BID SECURITY</b></p> <p>The Contractor shall furnish, as part of his bid, a security as specified in the tender advertisement. The bid security shall, at the Contractor's option, be in the form of a certified cheque, bank draft, standby letter of credit or guarantee from a reputable bank located in Kenya or foreign bank which has been determined by the bidder to be acceptable to the Government. The format of the bank guarantee shall be in accordance with the sample forms of bid security included herein, other formats may be permitted, subject to the prior approval of the Government. Letters of credit, bank Guarantees issued as surety for the bid shall be valid for a period of One Hundred and Fifty (150) days from the date of Tender Opening.</p>	
B	<p><b>PERFORMANCE BOND.</b></p> <p>The Contractor shall find and submit on the Performance Bank Guarantee an approved bank who will be willing to be bound to the Government in an amount equal to ten per cent (10%) of the Contract amount for the due performance 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.</p> <p>No payment on account for the works executed will be made to the Contractor until he has submitted the Performance Bond to the Employer duly signed, sealed and stamped from an approved Bank.</p>	
C	<p><b>INSURANCE</b></p> <p>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 an Insurance Certificate that the provision of the forgoing 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</p>	
D	<p><b>PLANT, TOOLS AND VEHICLES</b></p> <p>Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.</p> <p>All such plant, tools and scaffolding shall comply with all regulations whether general or local in force throughout the period of the Contract and shall be altered or adapted during the contract as may be necessary to comply with any amendments in or additions to such regulations.</p>	
E	<p><b>TRANSPORT TO AND FROM THE SITE</b></p> <p>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.</p>	
<b>CARRIED TO COLLECTION</b>		

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>MATERIALS AND WORKMANSHIP.</b></p> <p>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.</p> <p>The Contractor shall be responsible for the provision of all materials, transport and workmen required for the works except in so far as may be stated otherwise herein and shall allow for the provision of the foregoing except for such items specifically and only required for the use of Nominated Sub-Contractors as described herein.</p> <p>Any Materials for the work condemned by the Project Manager shall be removed immediately from the site at the Contractor's expense.</p>	
B	<p><b>SIGN FOR MATERIALS SUPPLIED.</b></p> <p>The Contractor will be required to sign a receipt for all articles and materials supplied by the Project Manager at the time of taking delivery 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.</p>	
C	<p><b>MATERIALS ON SITE</b></p> <p>All materials for incorporation in the works must be stored on 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.</p>	
D	<p><b>STORAGE OF MATERIALS</b></p> <p>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 Subcontractors are to be made liable for the cost of any storage accommodation provided especially for their use.</p>	
E	<p><b>SAMPLES</b></p> <p>The Contractor shall furnish at the earliest possible opportunity before work commences and 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.</p> <p>Such samples when approved shall be deemed to represent the minimum standard for the work to which they apply.</p> <p>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.</p> <p>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.</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>PROGRESS CHART.</b></p> <p>The Contractor is to prepare and submit within two weeks of possession of site, a time and progress chart (in a format to be agreed with the Project Manager) showing the time and order in which he proposes to carry out the works within the total construction time stated in the contract for the Project Manager's approval. The chart shall show in detail the construction time and order in which each section of the work is to be carried out and be sub-divided into trades or tasks. One copy of said progress chart is to be handed to the Project Manager and a further copy to be retained on Site</p> <p>Upon letting of sub-contracts, the Contractor shall incorporate times and details of each separate Sub-Contractors' work (which information is to be agreed by the sub-contractors) and the chart shall be so designed to accommodate this information.</p> <p>At the end of each week the Contractor shall mark on the chart in a different colour the actual times taken to complete the respective stages and sections of the work. The Contractor shall also show the anticipated weekly resource mobilization (labour &amp; equipment) required (divided into labourers and craftsmen) and shall similarly mark up the actual numbers employed. The Contractor shall prepare and submit weekly and monthly progress reports (including photographs) in a format to be approved by the Architect.</p>	
B	<p><b>HOARDING</b></p> <p>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. 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.</p>	
C	<p><b>AREA TO BE OCCUPIED BY THE CONTRACTOR</b></p> <p>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.</p>	
D	<p><b>OFFICE AND SHEDS</b></p> <p>The Contractor shall erect and maintain temporary office accommodation for his own use and ample temporary watertight sheds for the proper storage and protection of materials and for the use of artisans and remove when ordered. Floors of sheds shall be at least 150mm above ground level.</p>	
E	<p><b>OFFICE ETC. FOR THE PROJECT MANAGER</b></p> <p>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.</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>WATER FOR THE WORKS</b></p> <p>The Contractor shall provide at his own risk and cost all necessary water required for use in the works, including the work of Sub-Contractors. 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 fees and obtain all permits in connection herewith.</p> <p>All water shall be fresh, clean and pure, free of earthy, vegetable or organic matter, acid or alkaline substance in solution or suspension.</p> <p>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 used and for any installation provided especially for their own use and recovering payments due from the Sub-Contractors shall be the Contractor's sole responsibility.</p>	
B	<p><b>LIGHTING AND POWER FOR THE WORKS</b></p> <p>The Contractor shall allow for providing and maintaining a temporary electricity supply for the works including that required by Sub-Contractors and specialist requirements on site and for connection, metres, wiring and fittings, etc. to give artificial lighting and power necessary for the execution of the work. The Contractor shall pay all charges in connection and clearing away and make good all works disturbed after completion. The Contractor shall pay all fees and obtain all permits in connection therewith. Nominated Sub-contractors are to be made liable for the cost of any electricity used and for any installation provided especially for their own use and recovering payments due from the Sub-Contractors shall be the Contractor's sole responsibility.</p> <p>The Contractor shall allow for upgrading of the temporary power supply, if so required, to meet all the requirements for the completion of the works.</p>	
C	<p><b>SECURITY OF THE WORKS</b></p> <p>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 by day and night to ensure due protection and security of the works against theft, loss or damage and the protection of the public and other persons.</p> <p>He shall provide all barriers, notices and watchmen to prevent access of unauthorised persons into the site. The Contractor will be liable on all consequences of theft from the site of his own or Sub-Contractors' or Suppliers' materials or equipment. Any such theft will not relieve the Contractor of his liability for completion on time. No claim will be entertained from the Contractor for not maintaining adequate security for both the works and the workers.</p>	
D	<p><b>SANITATION OF THE WORKS</b></p> <p>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.</p>	
E	<p><b>SUPERVISION AND WORKING HOURS</b></p> <p>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.</p>	
<b>CARRIED TO COLLECTION</b>		

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>CONTRACTOR'S SUPERINTENDENT/SITE AGENT</b></p> <p>The Contractor shall provide full and adequate supervision during the progress of the works and shall constantly keep <b>upon each site</b> of 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.</p>	
B	<p><b>PROVISIONAL WORK</b></p> <p>All work described as "Provisional" in these Bills of Quantities is subject to re-measurements 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 be 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 measurement to be taken and afterwards reinstate at his own expense.</p>	
C	<p><b>PROVISIONAL SUMS.</b></p> <p>The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A6(i) of the Standard Method of Measurement. Such sums are nett and no addition shall be made to them.</p>	
D	<p><b>ADJUSTMENT OF PROVISIONAL SUMS.</b></p> <p>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 Prime Cost Sum, and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added</p>	
E	<p><b>PRIME COST (OR P.C.) SUMS.</b></p> <p>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 A6 (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.</p>	
F	<p><b>ADJUSTMENT OF PRIME COST SUMS.</b></p> <p>In the final account all Prime Cost 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 Prime Cost Sums shall be adjusted in the final account proportionately (pro-rata) to the net amount properly expended. Items of "attendance" shall not be subject to proportional adjustment of the Prime Cost Sums but to the physical extent of the work executed. This shall apply even though the Contractor's priced Bills of Quantities show a percentage in the rate column in respect of this item.</p> <p>Should the Contractor be permitted to tender and his tender be accepted of any work for which a Prime Cost 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.</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>NOMINATED SUB-CONTRACTORS</b></p> <p>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".</p>	
B	<p><b>DIRECT CONTRACTS</b></p> <p>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 Prime Cost Sum in the Bills of Quantities and to pay for the same directly. In any such instances, profit relative to the P.C. Sum in the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.</p>	
C	<p><b>ATTENDANCE UPON OTHER TRADESMEN, ETC.</b></p> <p>The Contractor shall allow for the attendance 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.</p>	
D	<p><b>NOMINATED SUPPLIERS</b></p> <p>The Contractor shall take delivery as directed by the Project Manager of all materials or goods supplied by the Nominated Suppliers and shall sign a receipt as having received them in good order and condition. The Contractor shall insure, off load, transport to site, unload, hoist, provide safe storage and thereafter be responsible for any loss or damage or replacement of any such lost or damaged articles at his own expense and shall return empty cases if so required.</p>	
E	<p><b>FIXING ONLY</b></p> <p>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 in weather protected storage, unpack, assemble as necessary, distribute to position, hoist and fix only.</p> <p>Fixing only items to be supplied under Provisional or Prime Cost Sums or items to be supplied by the Government shall include the above.</p>	
F	<p><b>BLASTING OPERATIONS</b></p> <p>Blasting will only be allowed with the express permission of the Project Manager in writing. All blasting activities 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.</p>	
<b>CARRIED TO COLLECTION</b>		

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>MATERIALS ARISING FROM EXCAVATIONS</b></p> <p>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.</p>	
B	<p><b>PROTECTION OF THE WORKS.</b></p> <p>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.</p> <p>In the event of any damage occurring to the works, materials, sewers, drains, gullies, paths or other works on the site in temporary possession of the Contractor for the purpose of this contract either from the weather, want of proper protection, defects or insufficiency of the works of any other cause whatsoever during the progress of the works, the Contractor shall be responsible and shall without extra charge, make good all damage and pay all costs which may be levied.</p>	
C	<p><b>REMOVAL OF RUBBISH ETC.</b></p> <p>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.</p>	
D	<p><b>WORKS TO BE DELIVERED UP CLEAN</b></p> <p>Before handing over any building the Contractor shall properly clean and flush all gutters, rainwater and waste pipes, manholes and drains and wash (except where such treatment might cause damage) all floors, sanitary fittings and finished surfaces, clean 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 metal work and leave all sanitary and other appliances in full working order. He shall also cut and weed all grassed areas, clean down external steps, paths and roads and leave the whole in perfect condition ready for occupation. The whole of the building shall be left watertight, clean, perfect and fit for occupation to the approval of the Project Manager.</p>	
E	<p><b>GOVERNMENT ACTS REGARDING WORKPEOPLE ETC.</b></p> <p>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</p> <p>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</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>TRAINING LEVY</b> 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. His tender must include for all costs arising or resulting therefrom.</p>	
B	<p><b>STANDARD LEVY</b> The Contractor's attention is drawn to the Legal Notice No. 267 of 22nd June 1990 which require payment by the Contractor of a Standard Levy. His tender must include for all costs arising or resulting therefrom.</p>	
C	<p><b>THE NCA REGULATIONS</b> The Contractor's attention is drawn to The National Construction Authority Regulations Legal Notice No. 74 dated 6th June 2014. The Contractor must ensure that the project, his workers and site supervisors are registered and accredited under the NCA regulations.</p>	
D	<p><b>NEMA REQUIREMENTS</b> The Contractor shall be responsible for complying with NEMA requirements and shall allow for all costs arising or resulting therefrom. No claim of extension of time shall be allowed as result of complains regarding NEMA requirements.</p>	
E	<p><b>COVID-19 REGULATIONS COMPLIANCE</b> The Contractor is required to comply with all COVID-19 regulations and requirements as stipulated in by-laws (and any subsequent revisions) of the Republic of Kenya and any directives issued at any time by the Government of Kenya.</p>	
F	<p><b>FIRM PRICE CONTRACT</b> Unless otherwise specifically stated, this is a <b>firm price contract</b> and the Contractor must allow in his tender rates for any increase in the cost of labour and/or materials during the currency of the contract.</p>	
G	<p><b>VALUE ADDED TAX</b> The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993, and any other amendments thereafter, which requires payment of VAT on all Building Construction Contracts. The Contractor should therefore include allowance in his rates and prices for prices for VAT and any other Government taxes currently in force.  The Contractor is to <b><i>insert tender prices inclusive of VAT</i></b> and the tender will be deemed to include for all costs arising or resulting therefrom.</p>	
H	<p><b>OCCUPATION CERTIFICATE</b> The Contractor's attention is drawn to the requirement of obtaining an occupation certificate from the County Government of Uasin Gishu upon completion of the works and subsequent occupation of the completed premises. The Contractor shall therefore allow for any sums or monies payable to the County for the same including liaising with them to obtain the said Certificate.</p>	
J	<p><b>STAMP CHARGES</b> The Contractor shall allow for the payment of all stamp charges in connection with the Surety Bond and the Contract Agreement.</p>	
	<b>CARRIED TO COLLECTION</b>	



ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>WARRANTY, GUARANTEES &amp; MAINTENANCE MANUALS</b></p> <p>The Contractor shall submit all warranties, guarantees and manuals for specialized materials, workmanship and installed equipment, all in their name, to the Employer within the defects liability period.</p>	
B	<p><b>AS-BUILT DRAWINGS &amp; DOCUMENTATIONS</b></p> <p>The Contractor is to allow for costs of preparing as-built/ as-installed drawings and requisite documentation (in a format approved by the Project Manager). These shall be submitted within the defects liability period and shall be a true representation of all the works carried out on ground.</p>	
C	<p><b>GENERAL SPECIFICATION</b></p> <p>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.</p>	
D	<p><b>COPYRIGHT, DETAILS TO BE PRIVATE AND CONFIDENTIAL</b></p> <p>The copyright of these Bills of Quantities is vested in the Project Manager and they may not be reproduced in whole or in part without the Project Manager's written permission.</p> <p>The Drawings, Bills of Quantities and Contract documents applicable to this contract are restricted by copyright. The Contractor shall treat the details of this Contract as private and confidential for his own information only and shall not publish or disclose the details of the Contract in any trade or technical paper or elsewhere (except as necessary for the purpose hereof) without the previous consent in writing of the Project Manager.</p>	
<b>CARRIED TO COLLECTION</b>		

ITEM	DESCRIPTION	KSHS. CTS.
	<b>COLLECTION</b>	
	Brought Forward from Page Bill 1/ 1	
	Brought Forward from Page Bill 1/ 2	
	Brought Forward from Page Bill 1/ 3	
	Brought Forward from Page Bill 1/ 4	
	Brought Forward from Page Bill 1/ 5	
	Brought Forward from Page Bill 1/ 6	
	Brought Forward from Page Bill 1/ 7	
	Brought Forward from Page Bill 1/ 8	
	Brought Forward from Page Bill 1/ 9	
	Brought Forward from Page Bill 1/ 10	
	Brought Forward from Page Bill 1/ 11	
	<b>TOTAL</b>	
	<b>GENERAL PRELIMINARIES</b>	
	<b>CARRIED TO SUMMARY OF BILL NO. 1</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b><u>BILL NO. 1</u></b></p> <p><b><u>GENERAL AND PARTICULAR PRELIMINARIES</u></b></p> <p><b><u>PARTICULAR PRELIMINARIES</u></b></p> <p><b>PARTIES</b></p> <p><u>(i) Employer</u>  The Term "Employer" shall be deemed to mean <b>The Principal Secretary, State Department For Housing and Urban Development (SDHUD)</b>, represented by the Secretary, Urban and Metropolitan Development, P.O. Box 30450-00100, NAIROBI.</p> <p>The term "Employer" and "Government" wherever used in the contract document shall be synonymous.</p> <p><u>(ii) Project Manager</u>  The term "Project Manager" or "P.M." wherever used in these Bills of Quantities shall be deemed to imply the Project Manager as defined in the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.</p> <p><u>(iii) Architect</u>  The term "Architect" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is Metropolitan Development Department, P.O. Box 30450-00100, NAIROBI.</p> <p><u>(iv) Quantity Surveyor</u>  The term "Quantity Surveyor" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is Metropolitan Development Department, P.O. Box 30450-00100, NAIROBI.</p> <p><u>(v) Electrical Engineer</u>  The term "Electrical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is Metropolitan Development Department, P.O. Box 30450-00100, NAIROBI.</p> <p><u>(vi) Mechanical Engineer</u>  The term "Mechanical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is Urban Development Department, P.O. Box 30450-00100, NAIROBI.</p> <p><u>(vii) Civil/ Structural Engineer</u>  The term "Structural Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is Metropolitan Development Department, P.O. Box 30450-00100, NAIROBI.</p> <p><b>LOCATION OF THE SITE</b>  The site for works is located <b>within the jurisdiction of the County Government of Tharaka-Nithi</b>. The Tenderer shall be deemed to have visited the site and familiarised himself with all site conditions prior to submission of tenders. No claims arising from tenderer's failure to do so will be entertained.</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>SCOPE OF THE CONTRACT</b></p> <p>The works to be carried out under this contract comprise of development of a modern market consisting of 3No. Levels - ground floor, lower ground floor, and first floor. The works include associated electrical and mechanical works</p>	
B	<p><b>DESCRIPTION OF THE WORKS</b></p> <p>The works comprise of development of a retail market with associated facilities as per the above scope to completion to the specifications given.</p>	
C	<p><b>MEASUREMENTS</b></p> <p>The measurements for all Contract Bills shall be in accordance with the Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, published by the Architectural Association of Kenya, Quantity Surveyors Chapter; 2nd Edition Metric; (June 2008).</p> <p>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 the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with the said Conditions.</p>	
D	<p><b>EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT</b></p> <p>Attendance; Clause B20(a) of the Standard Method of Measurement is deleted and the following clause is substituted:-</p> <p>Attendance on nominated Sub-Contractors shall be given as an item in each case and 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.</p> <p>Provisional Sums; Clause A6(i) of the Standard Method of Measurement is deleted and the following clause is substituted:-</p> <p>The term "provisional sum" shall mean a sum provided for work or for costs which cannot be entirely foreseen, defined or detailed at the time the tendering documents are issued. Such sum shall be deemed to be exclusive of any profit and any attendance required by the general contractor and provision shall be made for the addition thereof.</p>	
<b>CARRIED TO COLLECTION</b>		

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>TENDER DOCUMENTS</b> Tender documents are as listed in the Instruction to Tenderers.</p>	
B	<p><b>PRICING RATES</b> 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.</p>	
C	<p><b>SIGNING OF THE TENDER DOCUMENTS</b> The bidder shall append his / her signature and / or company's rubber stamp on <i>each and every page of tender document</i>.</p>	
D	<p><b>DELIVERY OF TENDER</b> Tenders and all documents in connection therewith must be delivered in an 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.</p> <p>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.</p>	
E	<p><b>SUFFICIENCY OF TENDER</b> The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works, the rates and prices stated in the priced Bills of Quantities, which rates and prices shall cover all his obligations under the contract and all matters and things necessary for the proper execution, completion and maintenance of the works.</p>	
F	<p><b>CONTRACT PERIOD</b> The contract period in accordance with of the conditions of contract must be adhered to.</p> <p>The Project Manager shall strictly monitor the Contractor's 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 additional labour, plant, etc. and working overtime shall be at the Contractor's cost.</p>	
G	<p><b>URGENCY OF THE WORKS</b> The Contractor is notified that these "works are urgent" and should be completed within the period stated in these Particular Preliminaries.</p> <p>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.</p>	
H	<p><b>SIGNBOARD</b> 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.</p>	
J	<p><b>LABOUR CAMPS</b> 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.</p>	
	<p><b>CARRIED TO COLLECTION</b></p>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>EXISTING SERVICES</b></p> <p>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.</p>	
B	<p><b>DEMOLITIONS AND ALTERATIONS</b></p> <p>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 executed to the satisfaction of the Project Manager.</p> <p>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 carted 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.</p>	
C	<p><b>MATERIALS FROM DEMOLITIONS</b></p> <p>Any reusable materials arising from demolitions and not re-used in this contract shall become the property of the Government. The Contractor shall allow in his rates the cost of transporting the such materials to the location specified by the Project Manager.</p>	
D	<p><b>PREVENTION OF ACCIDENT, DAMAGE OR LOSS</b></p> <p>The Contractor is instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of normal activities being carried out by the Employer. The Contractor shall allow in his rates any expense he deems necessary by taking such care within site.</p>	
E	<p><b>CLEARING AWAY</b></p> <p>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.</p>	
F	<p><b>WORKING CONDITIONS</b></p> <p>The Contractor shall also allow in his rates for any interference that he may encounter in the course of execution of the works for the Government may, in some cases, ask the Contractor not to proceed with the works until some activities within the site are completed.</p>	
	<b>CARRIED TO COLLECTION</b>	

ITEM	DESCRIPTION	KSHS. CTS.
A	<p><b>PAYMENTS</b></p> <p>All payments shall be made in accordance with the Conditions of Contract. The tenderer's attention is drawn to the fact that no payments shall be effected other than as prescribed. 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.</p>	
B	<p><b>PAYMENT FOR MATERIALS ON SITE</b></p> <p>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.</p>	
C	<p><b>CLAIMS</b></p> <p>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.</p>	
D	<p><b>FORM OF CONTRACT</b></p> <p>The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Works: Building and Associated Civil Engineering Works (2021 Edition) included herein.</p>	
E	<p><b>SPECIAL CONDITIONS OF CONTRACT</b></p> <ul style="list-style-type: none"> <li>- Procuring Entity's name and address: <u>As prescribed in the Particular Preliminaries</u></li> <li>- Name and Ref. NO. of Contract: <u>As prescribed in the Particular Preliminaries</u></li> <li>- Project Manager name and Address: <u>As prescribed in the Particular Preliminaries</u></li> <li>- Contractor's Representative name: <u>To be advised by the Contractor upon Contract Award.</u></li> <li>- Key Personnel names: <u>To be advised upon Contract Award.</u></li> <li>- Time for completion: <u>To be filled by the Tenderer in the Form of Tender</u></li> <li>- Defects Notification period: <u>6 months</u></li> <li>- Sections: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Electronic Transmission Systems: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Time for the Parties entering into a Contract Agreement: <u>Within 30 days</u></li> <li>- Commencement date: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Time for access to the Site: <u>No later than the Commencement Date, and not later than 14 days after Commencement Date</u></li> <li>- Project Manager duties and Authority: <u>Variations resulting in an increase of the Accepted Contract Amount in excess of 1% shall require approval of the Procuring Entity.</u></li> </ul>	
	<p><b>CARRIED TO COLLECTION</b></p>	

ITEM	DESCRIPTION	KSHS. CTS.
	<p><i>Special Conditions of Contract (cont.)</i></p> <ul style="list-style-type: none"> <li>- Performance security: <u>5% of the contract amount from a reputable bank/ Financial Institution/Approved Insurance Company</u></li> <li>- Liquidated and Ascertained damages: <u>At the rate of Kshs.. 40,000... per week or part thereof</u></li> <li>- Maximum amount of damages: <u>2% of the final Contract Price.</u></li> <li>- Provisional Sums: <u>2%</u></li> <li>- Adjustment for changes in cost: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Total Advance Payment: <u>20% of the accepted Contract Price.</u></li> <li>- Repayment amortization rate of advance payment: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Percentage of Certified Value Retained: <u>10% of the Contract Price</u></li> <li>- Limit of Retention: <u>5% of the Contract Price</u></li> <li>- Plant and Materials: <u>To be advised by the Contractor upon Contract Award.</u></li> <li>- Minimum amount of Interim Payment Certificates: <u>5% of the Contract Price</u></li> <li>- Publishing source of commercial interest rates for financial charges in case of delayed payment: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Maximum total liability of the Contractor to the Procuring Entity : <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Periods for submission of insurance: <u>30 days</u></li> <li>- Maximum amount of deductibles for insurance of the Procuring Entity's risks: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- Minimum amount of third-party insurance: <u>To be advised by the Project Manager upon Contract Award.</u></li> <li>- The place of arbitration : <u>Kenya</u></li> </ul>	
	<b>CARRIED TO COLLECTION</b>	



ITEM	DESCRIPTION	KSHS. CTS.
	<b>COLLECTION</b>	
	Brought forward from page Bill 1/13	
	Brought forward from page Bill 1/14	
	Brought forward from page Bill 1/15	
	Brought forward from page Bill 1/16	
	Brought forward from page Bill 1/17	
	Brought forward from page Bill 1/18	
	<b>TOTAL</b>	
	<b>PARTICULAR PRELIMINARIES</b>	
	<b>CARRIED TO SUMMARY OF BILL NO. 1</b>	

ITEM	DESCRIPTION	KSHS. CTS.
	<b><u>PROPOSED CONSTRUCTION OF CHUKA MARKET</u></b>	
	<b><u>BILL NO. 1</u></b>	
	<b><u>GENERAL AND PARTICULAR PRELIMINARIES</u></b>	
	<b><u>BILL SUMMARY</u></b>	
	<b>PAGE NO.</b>	
	1. GENERAL PRELIMINARIES	
	: Bill 1/12	
	2. PARTICULAR PRELIMINARIES	
	: Bill 1/19	
	<b>TOTAL</b>	
	<b>GENERAL AND PARTICULAR PRELIMNARIES</b>	
	<b>CARRIED TO GRAND SUMMARY</b>	

BILL NO. 2:

# **PRIME COST AND PROVISIONAL SUMS**

ITEM	UNIT	QTY	RATE	KSHS.	CTS.
<b>BILL NO. 5</b>					
<b>PROJECT PROVISIONS</b>					
<b>PROJECT MANAGER'S PROVISIONS</b>					
<i>Sums in this section shall be expended in whole or in part only upon the instruction/direction of the Project Manager. The Contractor is advised to price for his preliminaries under the General and Particular Preliminaries bill in this tender document.</i>					
<u>Project Manager's Supervision</u>					
A	ITEM			9,800,000.00	
Allow a Provisional Sum of Kenya Shillings Nine Million Eight Hundred Thousand only (Kshs. 9,800,000) for the Project Management Team and other stakeholders facilitation allowances during project implementation, as and whenever it is necessary.					
B	ITEM			580,000.00	
Allow a Provisional Sum of Kenya Shillings Five Hundred and Eighty Thousand Only (Ksh. 580,000) for stakeholder's engagement.					
C	ITEM			1,000,000.00	
Allow a Provisional Sum of Kenya Shillings One Million only (Kshs. 1,000,000) for the Project Manager's miscellaneous account for the due performance of the Project Manager's office, to be reimbursed against receipts.					
<u>Profit and Overheads</u>					
E	%		10%		
Allow for Profit and overheads in relation to items A-C Above					
<b>Carried Forward to Next Page</b>					

ITEM		UNIT	QTY	RATE	KSHS. CTS.
	<b>Brought Forward from Previous Page</b>				
	<u>Services for the Project Manager's Staff and Offices</u>				
A	Allow a Provisional Sum of Kenya Shillings Five Million One Hundred Thousand (Kshs. 5,100,000) for supervision as follows: 1 No. Clerks of Works, 1 No. Work Inspectors, 1 No. Office Assistants, and 1 No. Surveyor for the duration of the Project.	ITEM			<b>5,100,000.00</b>
B	Allow a Provisional Sum of Kenya Shillings Two Hundred and Fifty Thousand (Kshs. 250,000) for documentation and review of as-built drawings by the Project Manager.	ITEM			<b>250,000.00</b>
C	Allow a Provisional Sum of Kenya Shillings One Million (Kshs. 1,000,000) for carrying out an EIA and all other NEMA-mandated activities, including payment of NEMA licenses as instructed by the Project Manager.	ITEM			<b>1,000,000.00</b>
D	Allow a Provisional Sum of Kenya Shillings One Hundred Thousand (Kshs. 100,000) for HIV/AIDS awareness creation and sensitization during project implementation.	ITEM			<b>100,000.00</b>
E	<u>Profit and Overheads</u> Allow for Profit and overheads in relation to items A-D Above	%			
	<b>Carried Forward to Next Page</b>				

ITEM		UNIT	QTY	RATE	KSHS. CTS.
	<p><b>Brought Forward from Previous Page</b></p> <p><u>Project Manager's Vehicle</u></p> <p>Allow a Provisional Sum of Kenya Shillings One Million Seven Hundred Thousand Only (Kshs. 1,700,000.00) to be expended at the discretion of the Project Manager for fueling and maintaining Project Manager's vehicle for the duration of the project upto to end of Defects Liability Period.</p>	ITEM			<b>1,700,000.00</b>
B	<p><u>Profit and Overheads</u></p> <p>Allow for Profit and overheads in relation to items A Above</p>	%			
	<b>TOTAL</b>				
	<b>PROJECT PROVISIONS</b>				
	<b>CARRIED TO GRAND SUMMARY</b>				

**BILL NO. 3**  
**BUILDER'S WORKS**

**BILL NO. 3; SECTION NO. 1**

**PROPOSED CHUKA MARKET**



ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>BILL NO. 3: SECTION NO. 1</u></b>				
	<b><u>LOWER GROUND FLOOR</u></b>				
	<b><u>SUBSTRUCTURE [PROVISIONAL]</u></b>				
	<b><u>SITE PREPARATION</u></b>				
<b>A</b>	Clear site of all vegetation, bushes or scrubs, grub up their roots and clear/burn arising debris	2,038	SM		
	<b><u>EXCAVATION AND EARTHWORK</u></b>				
	<b><u>Excavation</u></b>				
<b>B</b>	Bulk Excavation for basements in all types of soil, depth not exceeding 1.5m deep commencing from ground level.	3057	CM		
<b>C</b>	Ditto, depth 1.5m - 3.0m deep ditto.	3057	CM		
<b>D</b>	Ditto depth 3.0m - 4.5m deep	1631	CM		
<b>E</b>	Mass excavation for fuel interceptor: depth not exceeding 1.50m from formation level.	16	CM		
<b>F</b>	Excavate oversite average 200mm deep to remove vegetable soil, load, wheel and deposit as directed, later spread on site as directed	2,038	SM		
<b>G</b>	Excavate trenches for foundation strip footings commencing at stripped level, not exceeding 1.50 metres deep.	195	CM		
<b>H</b>	Ditto but for column bases	927	CM		
<b>J</b>	Return, fill and ram selected excavated materials around foundations	586	CM		
<b>K</b>	Load and cart away surplus excavated materials from site	7,745	CM		
	<b><u>PLANKING AND STRUTTING AND DISPOSAL</u></b>				
<b>L</b>	Allow for planking and strutting to uphold sides of excavations as required		ITEM		
<b>M</b>	Allow for keeping all excavations free of water		ITEM		
	<b>Carried Forward to Next Page</b>				


Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>HARDCORE OR THE LIKE</u></b>				
<b>A</b>	300mm thick approved hardcore fill well packed and compacted in layers not exceeding 150mm thick	2,038	SM		
<b>B</b>	50mm thick quarry dust blinding on surfaces of hardcore	2,038	SM		
	<u>Filling</u>				
<b>C</b>	Approved imported fillings in murrum or red soil to make up levels and around foundations: backfill, water and compact in 150 mm layers.	4,562	CM		
	<b><u>ANTI-TERMITE TREATMENT</u></b>				
<b>D</b>	Chemical anti-termite treatment executed completed by an approved specialist under a ten year guarantee to: Surfaces of filling	2,038	SM		
	<b><u>CONCRETE WORK</u></b>				
<b>E</b>	Plain insitu concrete; class 15/20 (1:3:6 mix); using ordinary portland cement in: 50mm thick blinding under foundation strip footing	130	SM		
<b>F</b>	Ditto to column bases	617	SM		
<b>G</b>	Ditto to retaining wall base	121	SM		
	<b><u>Reinforced vibrated insitu concrete; class 25 (1:1.5:3 mix) using ordinary portland cement in:</u></b>				
<b>H</b>	Foundation strip footings	36	CM		
<b>J</b>	Column bases	255	CM		
<b>K</b>	Columns	38	CM		
<b>L</b>	150mm thick floor bed	2,001	SM		
<b>M</b>	Retaining wall with "Xypex C1000" or other equal and approved equivalent waterproofing admixture.	56	CM		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>FORMWORK</u></b>				
	<b><u>Wrot Formwork to:</u></b>				
<b>A</b>	Vertical sides of strip footings	108	SM		
<b>B</b>	Edges of slab over 75mm but not exceeding 150mm thick	194	LM		
<b>C</b>	Vertical sides of column bases	372	SM		
<b>D</b>	Vertical sides of columns	176	SM		
<b>E</b>	The retaining wall	71	SM		
	<b><u>REINFORCEMENT</u></b>				
	<b><u>Reinforcement in different sizes. High yield square twisted bars or ribbed reinforcement to KS573:2005 Kenya standard specification for cold worked high yield steel bars for reinforcement of concrete bars for reinforcement ( or other equal and approved) with and including tying wire, distance blocks and ordinary spacers, all necessary cutting, bending and laying. The rate shall be deemed to include the binding wire and the spacer block</u></b>				
<b>A</b>	Assorted reinforcement bars in strip footing	2,880	KG		
<b>B</b>	Ditto in column bases	15,300	KG		
<b>C</b>	Ditto in columns	45,056	KG		
<b>D</b>	Ditto in the retaining wall	8,640	KG		
<b>E</b>	Fabric; reference A142 mesh; 200 x 200 mm; weighing 2.22 kg per square metre; B.S. 4483; including 400 mm laps, bends, tying wire and spacer blocks In floor bed or steps	2,001	SM		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>FOUNDATION WALLING</u></b>				
	<b><u>Load bearing natural stone walling: bedded and jointed in cement and sand (1:4) mortar</u></b>				
A	200mm thick walls	270	SM		
	<b><u>Polythene sheeting: 500 gauge; 150 mm laps; laid on:</u></b>				
B	Surfaces of hardcore filling to receive concrete	2,038	SM		
	<b>Water bar</b>				
C	200mm wide PVC water bar at retaining wall joint	101	LM		
	<b>French drain</b>				
D	Approved geotextile fabric 200mm perforated pvc french drain surrounded with 20mm single grain gravel inlet	101	LM		
	<b><u>PLINTH FINISHES</u></b>				
E	Cement and sand (1:4) render 20mm thick to plinths	17	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
	<b><u>Prepare and apply three coats black bituminous paint to:</u></b>				
F	Rendered surfaces	17	SM		
	<b>SUBSTRUCTURES WORK CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>SUPERSTRUCTURE WORK</u></b>				
	<b><u>EXTERNAL WALLING</u></b>				
	<i><u>Natural hard rough chisel dressed natural stone from approved quarry with a crushing strength of 7.5 N/mm<sup>2</sup>; walling bedded and jointed in cement and sand (1:4) mortar, zero jointed both vertical and horizontal joints and reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in:</u></i>				
A	200mm thick walling	292	SM		
	<b><u>INTERNAL WALLING</u></b>				
	<i><u>Machine cut "Ndarugo" or equal and approved quarry stone walling bedded, bonded and jointed in cement, sand (1:3) mortarreinforced as necessary with hoop iron at every alternate course.</u></i>				
B	200mm thick walling	414	SM		
C	150mm thick walling	119	SM		
	<b><u>DAMP PROOF COURSES</u></b>				
	<i><u>B.S 743: type A: bitumen hessian base: 150 mm laps; under walls; including levelling bed with cement mortar (1:4) C</u></i>				
C	200mm wide	216	LM		
D	Sika 1 admixture waterproofing on the retaining wall or other equal and approved	364	SM		
	<b>Thicknessing</b>				
E	Extra over 150mm thick bed for thicknessing underside sizes 600mm (average) x 300mm (average) including handpacking hardcore to a slope both sides and all necessary formwork.(concrete 1:3:6)	5	LM		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>Concrete class 25 vibrated and reinforced as described in:</u></b>				
<b>A</b>	600X300mm beams	122	CM		
<b>B</b>	600x200mm beams	22	CM		
<b>C</b>	600x200mm Ramp beams	5	CM		
<b>D</b>	Ramp	86	CM		
<b>E</b>	Columns	60	CM		
<b>F</b>	Staircase	5	CM		
<b>G</b>	Landing	4	CM		
<b>H</b>	Soffits of the staircase	5	CM		
<b>J</b>	Suspended Slab	400	<b>CM</b>		
<b>K</b>	Retaining wall with "Xypex C1000" or other equal and approved equivalent waterproofing admixture.	73	CM		
	 <p style="text-align: center; color: red; font-weight: bold;">Rough Chisel Dressed Masonry Wall</p>				
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>REINFORCEMENT</u></b>				
	<b><u>High yield square twisted bars or ribbed reinforcement to KS573:2005 Kenya standard specification for cold worked highyield steel bars for reinforcement of concrete bars for reinforcement ( or other equal and approved) The rate shall be deemed to include binding wire and spacer blocks used</u></b>				
	Assorted bars in:				
<b>A</b>	Beams	29,800	KG		
<b>B</b>	Columns	15,360	KG		
<b>C</b>	Ramp	12,900	KG		
<b>D</b>	Staircase	750	KG		
<b>E</b>	Landing	440	KG		
<b>F</b>	Soffit of the staircase	550	KG		
<b>G</b>	Retaining wall	8,322	KG		
<b>J</b>	The suspended slab	36,018	KG		
	<b><u>FORMWORK</u></b>				
	<b><u>Wrot formwork to:</u></b>				
<b>K</b>	Sides and soffits of 600x300mm beams	1,217	SM		
<b>L</b>	Sides and soffits of 600x200mm beams	296	SM		
<b>M</b>	Sides and soffits of 600x200mm ramp beams	71	SM		
<b>N</b>	The retaining wall	727	SM		
<b>P</b>	Columns	605	SM		
<b>Q</b>	Staircase	50	SM		
<b>R</b>	Landing	22	SM		
	<b>Carried Forward to Next Page</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
<b>A</b>	Soffit of the staircase	19	SM		
<b>B</b>	Ramp	103	SM		
<b>C</b>	The suspended slab	37	SM		
<b>SUPERSTRUCTURE CARRIED TO SUMMARY</b>					



ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>DOORS</b>				
	<b>STEEL CASEMENT DOORS</b>				
	<i><b>Supply and fix the following purpose made mild steel doors:Hinges,mosquito gauze and sheet metal hood etc assembled and fixed to opening including cutting and pinning lugs to concrete or blockwork surround and bedding frame in cement and sandmortar (1:4) (Grille, 3 lever "Union" or approved equivalent steellock and Glazing included )</b></i>				
<b>A</b>	Door overall size 900x2100mm high (Entrance doors)	4	NO		
<b>B</b>	Door overall size 1800x2100mm high (Entrance doors)	1	NO		
	<b><u>Prepare and apply 3 coats of approved gloss paint to exposed steel surfaces</u></b>				
<b>C</b>	Steel door surfaces	22	SM		
	<b><u>TIMBER DOORS</u></b>				
<b>D</b>	50 mm thick semi-solid cored flush door leaf size 820 x 2060 mm overall (plywood finished for painting)	12	No		
<b>E</b>	100 x 50 mm rebated cypress door frame with rounded edges	51	LM		
	<b>Ironmongery</b>				
<b>F</b>	Two lever door mortise lock with lever furnisher	12	No		
<b>G</b>	Pressed steel butt hinges	24	PR		
<b>H</b>	Rubber door stop	6	No		
	<b>Carried Forward to Next Page</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b>ROLLER SHUTTER DOORS</b>				
	<u>Roller shutter door complete with chainblock system. Manually Operated including all fixtures necessary for erection,Including red oxide primer before fixing and 3 coats gloss oil paint after fixing.From steel structures Limited or equal and approved supplier</u>				
<b>H</b>	Roller Shutter door overall size 2000x2500mm high	110	NO		
<b>J</b>	Roller Shutter door overall size 4800x2500mm high	1	NO		
<b>K</b>	Roller Shutter door overall size 3700x2500mm high	1	NO		
<b>L</b>	Roller Shutter door overall size 6000x2500mm high	2	NO		
	<b>DOORS TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WINDOW</u></b>				
	<b><u>Supply &amp; fix the following purpose made steel casement window fabricated from standard sections complete with frames, mullions and transoms including all necessary locking and window stays, screws and nuts once shop primed before delivery to site</u></b>				
A	Steel casement window size 2000 x 1500mm high	3	No		
B	Steel casement window size 1500 x 1500mm high	3	NO		
	<b><u>GLAZING</u></b>				
	<b><u>4mm clear sheet glass and glazing to metal windows including fixing with approved putty</u></b>				
C	In panes not exceeding 0.10 square metres	16	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
D	Touch up primer, prepare and apply two undercoats and one finishing coat gloss paint on metal work General surfaces of mild steel windows( both sides)	32	SM		
	<b><u>WINDOW CILL</u></b>				
E	150 x 45mm thick precast concrete window cill throated and bedded in cement and sand (1:3) mortar to raked external wall window cill: building ends to window jamb	11	LM		
	<b><u>BURGLARPROOFING GRILLES (Varies depending on pattern)</u></b>				
F	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	16	SM		
	<b>WINDOWS TOTAL CARRIED TO SUMMARY</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WALL FINISHES</u></b>				
	<b><u>EXTERNAL WALL FINISHES</u></b>				
A	Bush stone cladding to external columns to match rough chiselled masonry a.b.d	104	SM		
B	Supply labor and material for key pointing to external walls in cement/sand (1:3) mortar	292	SM		
C	12mm thick cement and sand (1:3) render with wood float finish to beams	1,513	SM		
	<b><u>Prepare and apply one undercoat and two finishing coats first quality plastic emulsion paint to:</u></b>				
D	Rendered concrete or keyed surfaces, externally	1,513	SM		
	<b><u>INTERNAL WALL FINISHES</u></b>				
	<b><u>12mm (minimum) two-coat lime plaster, with steel trowelled finish including anticracking mesh or gauze where neccessary to jointson walls, beams, columns as described to:</u></b>				
E	Masonry and Concrete surfaces	1,358	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
	<b><u>Prepare and apply three (3) coats of silk vinyl matt emulsion paintor other and approved in:</u></b>				
F	Plastered concrete surfaces	1,358	SM		
	<b><u>COLUMN FINISHES</u></b>				
	<u>Plaster</u>				
G	12mm (minimum) two-coat lime plaster, with steel trowelled finishing including anticracking mesh or gauze where neccessary	605	<b>SM</b>		
H	Well cut and fitted Mazeras stones to Architect's approval.	605	<b>SM</b>		
	<b>WALL FINISHES TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>FLOOR FINISHES</u></b>				
	<b><u>SCREED</u></b>				
	<b><u>In situ cement and sand (1:3) screeded beds with necessary balancing for different floor finishes</u></b>				
A	32mm thick wood float screed	2,001	SM		
	<b><u>NON SLIP CERAMIC TILING</u></b>				
	<b><u>Supply and fix 8mm thick approved first quality non - slip ceramic floor tiles including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary</u></b>				
B	300 x 300mm rustic ceramic floor tiles to bathrooms	84	SM		
	<b><u>Terrazzo Paving</u></b>				
C	38 mm thick (24mm c&s backing & 15mm thick terrazzo layer) on the ramp and staircase	1,917	SM		
	<b><u>SKIRTING</u></b>				
D	150 high x 25mm thick ceramic skirting including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary	48	LM		
	<b><u>STAIRCASE BALUSTRADES</u></b>				
E	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	51	SM		
	<b><u>Ramp Balustrades</u></b>				
F	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	75	SM		
	<b>FLOOR FINISHES TOTAL CARRIED TO SUMMARY</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>SUMMARY:LOWER GROUND FLOOR</u></b>				
<b>A</b>	Substructures				
<b>B</b>	Superstructures				
<b>C</b>	Doors				
<b>D</b>	Windows				
<b>E</b>	Wall Finishes				
<b>F</b>	Floor Finishes				
	<b>TOTAL FOR LOWER GROUND FLOOR CARRIED TO BILL NO. 3 SUMMARY</b>				


**BILL NO. 3: SECTION NO. 2**

**PROPOSED CHUKA MARKET**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>BILL NO. 3: SECTION NO. 2</u></b>				
	<b><u>GROUND FLOOR</u></b>				
	<b><u>SUPERSTRUCTURE WORK</u></b>				
	<b><u>EXTERNAL WALLING</u></b>				
	<i><u>Natural hard rough chisel dressed natural stone from approved quarry with a crushing strength of 7.5 N/mm<sup>2</sup>; walling bedded and jointed in cement and sand (1:4) mortar, zero jointed both vertical and horizontal joints and reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in;</u></i>				
A	200mm thick walling	421	SM		
B	150mm thick building clay works solid Brick class SW for more severe Exposure	48	SM		
	<b><u>INTERNAL WALLING</u></b>				
	<i><u>Machine cut "Ndarugo" or equal and approved quarry stone walling bedded, bonded and jointed in cement, sand (1:3) mortarreinforced as necessary with hoop iron at every alternate course.</u></i>				
C	200mm thick walling	548	SM		
D	150mm thick walling	175	SM		
	<b><u>DAMP PROOF COURSES</u></b>				
	<i><u>B.S 743; type A; bitumen hessian base; 150 mm laps; under walls; including levelling bed with cement mortar (1:4) C</u></i>				
E	200mm wide	216	LM		
	<b><u>Thicknessing</u></b>				
F	Extra over 150mm thick bed for thicknessing underside sizes 600mm (average) x 300mm (average) including handpacking hardcore to a slope both sides and all necessary formwork.(concrete 1:3:6)	5	LM		
	<b>Carried Forward to Next Page</b>				



ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>Concrete class 25 vibrated and reinforced as described in:</u></b>				
A	600X300mm beams	122	CM		
B	600x200mm beams	22	CM		
C	600x200mm Ramp beams	5	CM		
D	Columns	55	CM		
E	Staircase	5	CM		
F	Landing	4	CM		
G	Soffits of the staircase	5	CM		
H	Ramp	86	CM		
J	The suspended slab	400	CM		
	<b><u>REINFORCEMENT</u></b>				
	<b><u>High yield square twisted bars or ribbed reinforcement to KS573:2005 Kenya standard specification for cold worked highyield steel bars for reinforcement of concrete bars for reinforcement ( or other equal and approved)</u></b>				
	<b><u>The rate shall be deemed to include binding wire and spacer blocks used</u></b>				
	Assorted bars in:				
K	Beams	29,800	KG		
L	Columns	14,193	KG		
M	Staircase	750	KG		
N	Landing	440	KG		
P	Soffit of the staircase	550	KG		
Q	Ramp	12,900	KG		
R	The suspended slab	40,000	KG		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>FORMWORK</u></b>				
	<b><u>Wrot formwork to:</u></b>				
<b>A</b>	Sides and soffits of 600x300mm beams	1,217	<b>SM</b>		
<b>B</b>	Sides and soffits of 600x200mm beams	296	<b>SM</b>		
<b>C</b>	Sides and soffits of 600x200mm ramp beams	71	<b>SM</b>		
<b>D</b>	The suspended slab	37	<b>SM</b>		
<b>E</b>	Columns	605	<b>SM</b>		
<b>F</b>	Staircase	50	<b>SM</b>		
<b>G</b>	Landing	22	<b>SM</b>		
<b>J</b>	Soffit of the staircase	19	<b>SM</b>		
<b>K</b>	Ramp	103	<b>SM</b>		
					
	<b>Rough Chisel Dressed Masonry Wall</b>				
	<b>SUPERSTRUCTURE TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>DOORS</u></b>				
	<b><u>STEEL CASEMENT DOORS</u></b>				
	<b><u>Supply and fix the following purpose made mild steel doors:Hinges,mosquito gauze and sheet metal hood etc assembled and fixed to opening including cutting and pinning lugs to concrete or blockwork surround and bedding frame in cement and sandmortar (1:4) (Grille, 3 lever "Union" or approved equivalent steellock and Glazina included )</u></b>				
A	Door overall size 900x2100mm high (Entrance doors)	4	NO		
B	Door overall size 1800x2100mm high (Entrance doors)	3	NO		
	<b><u>Prepare and apply 3 coats of approved gloss paint to exposed steel surfaces</u></b>				
C	Steel door surfaces	26	SM		
	<b><u>TIMBER DOORS</u></b>				
D	50 mm thick semi-solid cored flush door leaf size 820 x 2060 mm overall (plywood finished for painting)	12	No		
E	50 mm thick Solid cored ordinary flush door leaf size 820 x 2060 mm overall	0	No		
F	100 x 50 mm rebated cypress door frame with rounded edges	51	LM		
	<b><u>Ironmongery</u></b>				
G	Two lever door mortise lock with lever furnisher	12	No		
H	Three lever door mortise lock with lever furnisher	0	No		
J	Pressed steel butt hinges	24	PR		
K	Rubber door stop	7	No		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b>ROLLER SHUTTER DOORS</b>				
	<u>Roller shutter door complete with chainblock system.</u> <u>Manually Operated including all fixtures necessary for</u> <u>erection,Including red oxide primer before fixing and</u> <u>3 coats gloss oil paint after fixing.From steel structures</u> <u>Limited or equal and approved supplier</u>				
<b>A</b>	Roller Shutter door overall size 2000x2500mm high	36	NO		
<b>B</b>	Roller Shutter door overall size 1850x2500mm high	18	NO		
<b>DOORS TOTAL CARRIED TO SUMMARY</b>					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WINDOW</u></b>				
	<b><u>Supply &amp; fix the following purpose made steel casement window fabricated from standard sections complete with frames, mullions and transoms including all necessary locking and window stays, screws and nuts once shop primed before delivery to site</u></b>				
<b>A</b>	Steel casement window size 2400 x 1500mm high	2	<b>NO</b>		
<b>B</b>	Steel casement window size 2000 x 1500mm high	3	<b>NO</b>		
<b>C</b>	Steel casement window size 1500 x 1500mm high	3	<b>NO</b>		
<b>D</b>	Steel casement window size 1800 x 1500mm high	2	<b>NO</b>		
	<b><u>GLAZING</u></b>				
	<b><u>4mm clear sheet glass and glazing to metal windows including fixing with approved putty</u></b>				
<b>E</b>	In panes not exceeding 0.10 square metres	29	<b>SM</b>		
	<b><u>PAINTING AND DECORATING</u></b>				
<b>F</b>	Touch up primer, prepare and apply two undercoats and one finishing coat gloss paint on metal work General surfaces of mild steel windows( both sides)	58	<b>SM</b>		
	<b><u>WINDOW CILL</u></b>				
<b>G</b>	150 x 45mm thick precast concrete window cill throated and bedded in cement and sand (1:3) mortar to racked external wall window cill: building ends to window jamb	8	<b>LM</b>		
	<b><u>BURGLARPROOFING GRILLES (Varies depending on pattern)</u></b>				
<b>H</b>	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	29	<b>SM</b>		
	<b>WINDOWS TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WALL FINISHES</u></b>				
	<b><u>EXTERNAL WALL FINISHES</u></b>				
A	Bush stone cladding to external columns to match rough chiselled masonry a.b.d	161	SM		
B	Supply labor and material for key pointing to external walls in cement/sand (1:3) mortar	469	SM		
C	12mm thick cement and sand (1:3) render with wood float finish to beams	1,513	SM		
	<b><u>Prepare and apply one undercoat and two finishing coats first quality plastic emulsion paint to:</u></b>				
D	Rendered concrete surfaces externally	1,513	SM		
	<b><u>INTERNAL WALL FINISHES</u></b>				
	<b><u>12mm (minimum) two-coat lime plaster, with steel trowelled finishing including anticracking mesh or gauze where necessary to joints on walls, beams described to:</u></b>				
E	Masonry surfaces	1,868	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
	<b><u>Prepare and apply three (3) coats of silk vinyl matt emulsion paint or other and approved in:</u></b>				
F	Plastered masonry surfaces	1,868	SM		
	<b><u>COLUMN FINISHES</u></b>				
	<u>Plaster</u>				
G	12mm (minimum) two-coat lime plaster, with steel trowelled finishing including anticracking mesh or gauze where necessary	605	SM		
H	Well cut and fitted Mazeras stones to Architect's approval.	605	SM		
	<b>WALL FINISHES TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>FLOOR FINISHES</b>				
	Screed				
	<b><u>Insitu cement and sand (1:3) screeded beds with necessary balancing for different floor finishes</u></b>				
A	32mm thick wood float screed	2,001	SM		
	<b>NON SLIP CERAMIC TILING</b>				
	<b><u>Supply and fix 8mm thick approved first quality non - slip ceramic floor tiles including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary</u></b>				
B	300 x 300mm rustic ceramic floor tiles to bathrooms and sacco office	159	SM		
	<b>Terrazzo Paving</b>				
C	38 mm thick (24mm c&s backing & 15mm thick terrazzo layer) on the ramp and staircase	1,842	SM		
	<b>SKIRTING</b>				
D	150 high x 25mm thick ceramic skirting including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary	82	LM		
	<b>STAIRCASE BALUSTRADES</b>				
E	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	17	SM		
	<b>Ramp balustrades</b>				
F	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	75	SM		
	<b>Carried Forward to Next Page</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
<b>A</b>	<b>BALUSTRADES</b> Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	99	<b>SM</b>		
	<b>FLOOR FINISHES TOTAL CARRIED TO SUMMARY</b>				
	<u><b>SUMMARY: GROUND FLOOR</b></u>  <b>A</b> Superstructures <b>B</b> Doors <b>C</b> Windows <b>D</b> Wall Finishes <b>E</b> Floor Finishes				
	<b>TOTAL FOR GROUND FLOOR CARRIED TO BILL NO. 3 SUMMARY</b>				



**BILL NO. 3: SECTION NO. 3**

**PROPOSED CHUKA MARKET**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>BILL NO. 3: SECTION NO. 3</b>				
	<b>FIRST FLOOR</b>				
	<b>SUPERSTRUCTURE WORK</b>				
	<b>EXTERNAL WALLING</b>				
	<i>Natural hard rough chisel dressed natural stone from approved quarry with a crushing strength of 7.5 N/mm<sup>2</sup>; walling bedded and jointed in cement and sand (1:4) mortar, zero jointed both vertical and horizontal joints and reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in:</i>				
A	200mm thick walling	1,035	SM		
B	150mm thick building clay works solid Brick class SW for more severe Exposure	71	SM		
	<b>INTERNAL WALLING</b>				
	<i>Machine cut "Ndarugo" or equal and approved quarry stone walling bedded, bonded and jointed in cement, sand (1:3) mortarreinforced as necessary with hoop iron at every alternate course.</i>				
C	200mm thick walling	511	SM		
D	150mm thick walling	78	SM		
	<b>DAMP PROOF COURSES</b>				
	<i>B.S 743; type A; bitumen hessian base; 150 mm laps; under walls; including levelling bed with cement mortar (1:4) C</i>				
E	200mm wide	216	LM		
	<b>Thicknessing</b>				
F	Extra over 150mm thick bed for thicknessing underside sizes 600mm (average) x 300mm (average) including handpacking hardcore to a slope both sides and all necessary formwork.(concrete 1:3:6)	5	LM		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>concrete class 25 vibrated and reinforced as described in:</u></b>				
A	600X300mm beams	122	CM		
B	600x200mm beams	22	CM		
C	Columns	45	CM		
D	800x150mm beam	9	CM		
E	650x 200mm beam	11	CM		
F	Suspended slab	40	CM		
	<b><u>REINFORCEMENT</u></b>				
	<b><u>High yield square twisted bars or ribbed reinforcement to KS573:2005 Kenya standard specification for cold worked highyield steel bars for reinforcement of concrete bars for reinforcement ( or other equal and approved) The rate shall be deemed to include binding wire and spacer blocks used</u></b>				
	Assorted bars in:				
G	Beams	32,908	KG		
H	Columns	11,612	KG		
J	Suspended Slab	4,800	KG		
	<b><u>FORMWORK</u></b>				
	<b><u>Wrot formwork to:</u></b>				
K	Sides and soffits of 600x300mm beams	1,217	SM		
L	Sides and soffits of 600x200mm beams	296	SM		
M	Columns	454	SM		
N	Sides and soffits of 800x150mm beams	148	SM		
P	Sides and soffits of 650x200mm beams	146	SM		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><i>Wrot formword to:</i></b>				
<b>A</b>	Sides of suspended slab; 150-225mm high	95	<b>LM</b>		
<b>B</b>	Soffits of suspended slabs	396	<b>SM</b>		
	 <p style="text-align: center; color: red; font-size: small;">Rough Chisel Dressed Masonry Wall</p>				
<b>SUPERSTRUCTURE TOTAL CARRIED TO SUMMARY</b>					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>DOORS</u></b>				
	<b><u>STEEL CASEMENT DOORS</u></b>				
	<i><u>Supply and fix the following purpose made mild steel doors:Hinges,mosquito gauze and sheet metal hood etc assembled and fixed to opening including cutting and pinning lugs to concrete or blockwork surround and bedding frame in cement and sandmortar (1:4) (Grille, 3 lever "Union" or approved equivalent steel lock and Glazing included )</u></i>				
A	Door overall size 900x2100mm high (Entrance doors)	7	NO		
B	Door overall size 1800x2100mm high (Entrance doors)	7	NO		
	<b><u>Prepare and apply 3 coats of approved gloss paint to exposed steel surfaces</u></b>				
C	Steel door surfaces	40	SM		
	<b><u>TIMBER DOORS</u></b>				
D	50 mm thick semi-solid cored flush door leaf size 820 x 2060 mm overall (plywood finished for painting)	12	No		
E	50 mm thick Solid cored ordinary flush door leaf size 820 x 2060 mm overall	2	No		
F	100 x 50 mm rebated cypress door frame with rounded edges	61	LM		
	<b><u>Ironmongery</u></b>				
G	Two lever door mortise lock with lever furnisher	12	No		
H	Three lever door mortise lock with lever furnisher	2	No		
J	Pressed steel butt hinges	30	PR		
K	Rubber door stop	7	No		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<p><b>Brought Forward from Previous Page</b></p> <p><b>ROLLER SHUTTER DOORS</b></p> <p><u>Roller shutter door complete with chainblock system. Manually Operated including all fixtures necessary for erection,Including red oxide primer before fixing and 3 coats gloss oil paint after fixing.From steel structures Limited or equal and approved supplier</u></p>				
L	Roller Shutter door overall size 2000x2500mm high	28	NO		
	<b>DOORS TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WINDOWS</u></b>				
	<i><b><u>Supply &amp; fix the following purpose made steel casement window fabricated from standard sections complete with frames, mullions and transoms including all necessary locking and window stays, screws and nuts once shop primed before delivery to site</u></b></i>				
A	Steel casement window size 2400 x 1500mm high	4	NO		
B	Steel casement window size 2000 x 1500mm high	9	NO		
C	Steel casement window size 3000 x 1500mm high	2	NO		
	<b><u>GLAZING</u></b>				
	<i><b><u>4mm clear sheet glass and glazing to metal windows including fixing with approved putty</u></b></i>				
D	In panes not exceeding 0.10 square metres	51	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
E	Touch up primer, prepare and apply two undercoats and one finishing coat gloss paint on metal work General surfaces of mild steel windows( both sides)	102	SM		
	<b><u>WINDOW CILL</u></b>				
F	150 x 45mm thick precast concrete window cill throated and bedded in cement and sand (1:3) mortar to raked external wall window cill: building ends to window jamb	34	LM		
	<b><u>BURGLARPROOFING GRILLES (Varies depending on pattern)</u></b>				
G	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	51	SM		
	<b>WINDOWS TOTAL CARRIED TO SUMMARY</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>WALL FINISHES</u></b>				
	<b><u>EXTERNAL WALL FINISHES</u></b>				
A	Bush stone cladding to external columns	121	SM		
B	Supply labor and material for key pointing to external walls in cement/sand (1:3) mortar	1,106	SM		
C	12mm thick cement and sand (1:3) render with wood float finish to beams	1,513	SM		
	<b><u>Prepare and apply one undercoat and two finishing coats first quality plastic emulsion paint to:</u></b>				
D	Rendered concrete or keyed surfaces, externally	1,513	SM		
	<b><u>INTERNAL WALL FINISHES</u></b>				
	<b><u>12mm (minimum) two-coat lime plaster, with steel trowelled finishing including anticracking mesh or gauze where necessary to joints on walls, beams described to:</u></b>				
E	Masonry surfaces	2,214	SM		
	<b><u>PAINTING AND DECORATING</u></b>				
	<b><u>Prepare and apply three (3) coats of silk vinyl matt emulsion paint or other and approved in:</u></b>				
F	Plastered masonry surfaces	2,214	SM		
	<b><u>COLUMN FINISHES</u></b>				
	<u>Plaster</u>				
G	12mm (minimum) two-coat lime plaster, with steel trowelled finishing including anticracking mesh or gauze where necessary	454	SM		
H	Well cut and fitted Mazeras stones to Architect's approval.	454	SM		
	<b>WALL FINISHES CARRIED TO SUMMARY</b>				



ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>FLOOR FINISHES</u></b>				
	<b><u>SCREED</u></b>				
	<b><u>In situ cement and sand (1:3) screeded beds with necessary balancing for different floor finishes</u></b>				
A	32mm thick wood float screed	2,001	SM		
	<b><u>NON SLIP CERAMIC TILING</u></b>				
	<b><u>Supply and fix 8mm thick approved first quality non - slip ceramic floor tiles including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary</u></b>				
B	300 x 300mm rustic ceramic floor tiles to bathrooms and sacco office	313	SM		
C	<b>Terrazzo Paving</b> 38 mm thick (24mm c&s backing & 15mm thick terrazzo layer) on the ramp and staircase	1,688	SM		
	<b><u>SKIRTING</u></b>				
D	150 high x 25mm thick ceramic skirting including bedding, bonding, jointing with cement grout pointing in stained cement laying to falls where necessary	146	LM		
	<b><u>STAIRCASE BALUSTRADES</u></b>				
E	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	17	SM		
	<b><u>BALUSTRADES</u></b>				
G	Galvanised mild steel grille framed with 40 x 25 x 3 mm thick R.H.S. sections including assembly and fixing to opening cutting and pinning lugs to concrete or blockwork and bedding frame in cement and sand mortar (1:4)	99	SM		
	<b>FLOOR FINISHES CARRIED TO SUMMARY</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>SUMMARY: FIRST FLOOR</u></b>				
<b>A</b>	Superstructures				
<b>B</b>	Doors				
<b>C</b>	Windows				
<b>D</b>	Wall Finishes				
<b>E</b>	Floor Finishes				
	<b>TOTAL FOR FIRST FLOOR CARRIED TO BILL NO. 3 SUMMARY</b>				

**BILL NO. 3: SECTION NO. 4**

**PROPOSED CHUKA MARKET**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>BILL NO. 3 SECTION NO. 4</u></b>				
	<b><u>ROOF CONSTRUCTION</u></b>				
	<i><b><u>All steel work shall be primed with two coats zinc chromate primer before fixing and touched up with one coat after fixing. Prices shall include cost of steel members, assembling, fixing in position and of all associated gusset plates, cleats, caps, splice plates, brackets, stiffeners and any other sundries; weight of the sundries is aggregated with the weight of the member to which they are attached; All to be in accordance to the Project Manager's details and approval</u></b></i>				
<b>A</b>	100X4 mm CHS members	1,723	<b>KG</b>		
<b>B</b>	150X75X4 mm RHS Members	886	<b>KG</b>		
<b>C</b>	150X100X4 RHS Rafters	18,430	<b>KG</b>		
<b>D</b>	100X50X4mm RHS Rafters	479	<b>KG</b>		
<b>E</b>	101.6X50.8X2mm Z-Purlins	126	<b>LM</b>		
<b>F</b>	150x50.8X22X2mm Z-Purlins	2,126	<b>LM</b>		
<b>G</b>	60X60X4 RSA Bracings	496	<b>LM</b>		
<b>H</b>	R12 Sag rods	546	<b>KG</b>		
	<i><b><u>Gauge 26 manufactured by "Mabati Rolling Mills" or other approved equal</u></b></i>				
<b>J</b>	Fascia board board flashing	292	<b>LM</b>		
	<b>Carried Forward to Next Page</b>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b>Brought Forward from Previous Page</b>				
	<b><u>Roof covering</u></b>				
<b>A</b>	IT5 Gauge 22 BP950 profiled sheets 906mm wide (857 effective cover)	2,100	<b>SM</b>		
<b>B</b>	Translucent roofing sheet	155	<b>SM</b>		
	<b><u>2mm thick mild steel gutters and fittings</u></b>				
<b>C</b>	22GX300mm half round galvanized steel gutter including joints in running length fixed to rafters with and including brackets at rafter centres	170	<b>LM</b>		
<b>D</b>	Extra over gutter for 100mm diameter outlet	6	<b>NO</b>		
<b>E</b>	Ditto 90 degrees bend	6	<b>NO</b>		
<b>F</b>	Stopped end to 100x100mm gutter	4	<b>NO</b>		
	<b><u>1.0mm thick mild steel down pipes and fittings</u></b>				
<b>G</b>	22GX100mm diameter round downpipe fixed with and including mild steel holder bats plugged and screwed to walls	74	<b>LM</b>		
<b>H</b>	Extra over down pipe for 100x100mm swan neck bend	6	<b>NO</b>		
<b>J</b>	Ditto for 100x100mm shoe	6	<b>NO</b>		
	<b><u>Prepare and apply three coats pinotex decorative preservative or other equal and approved to timber surfaces</u></b>				
<b>K</b>	Fascia board	292	<b>LM</b>		
	<b>ROOF CONSTRUCTION TOTAL CARRIED TO SUMMARY</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KES)
	<b><u>CEILING FINISHES</u></b>				
	<b><u>Celotex softboard</u></b>				
A	12mm thick celotex softboard ceiling	927	SM		
	<b><u>Cornice</u></b>				
B	25 x 100mm celotex cornice	271	LM		
	<b><u>PAINTING AND DECORATING</u></b>				
	<b><u>Prepare and apply three (3) coats of silk vinyl matt emulsion paintor other and approved in:</u></b>				
C	Ceiling surfaces	927	SM		
	<b>CEILING FINISHES TOTAL CARRIED TO SUMMARY</b>				
	<b><u>SUMMARY: ROOF</u></b>				
A	Roof Construction				
B	Ceiling Finishes				
	<b>TOTAL FOR ROOF CARRIED TO BILL NO. 3 SUMMARY</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION		AMOUNT
<b>PROPOSED CHUKA MODERN MARKET IN THARAKA-NITHI COUNTY</b>			
<b><u>BUILDER'S WORK</u></b>			
<b><u>BILL NO. 3 SUMMARY</u></b>			
1.	LOWER GROUND FLOOR		
2.	GROUND FLOOR		
3.	FIRST FLOOR		
4.	ROOF		
<b>TOTAL FOR</b>			
<b>BILL NO. 3; BUILDER'S WORK CARRIED TO GRAND SUMMARY</b>			

**BILL NO. 4**

**ELECTRICAL WORKS**



BILL NO. 4: SECTION 1

**LOWER GROUND FLOOR  
ELECTRICAL INSTALLATIONS**

<b>SECTION 1 / PG 1: LIGHTING INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>Supply, install, test and commission the following:</i> <b><u>LIGHTING POINTS AND SWITCHES</u></b>				
A	Lighting points wired in 3 x 1.5sq.mm PVC insulated single core copper wires drawn in 20 mm diameter heavy gauge PVC conduits saddled surface on the ceiling slab and roof trusses,one way switched complete with all accessories, but excluding switch and fitting. i) One way switching ii) Two way switching	No. No.	39 50		
B	10A white moulded plate switches flush mounted on wall as MK Logic Plus WHI/Crabtree/Clipsal. i) One gang, one way ii) One gang, two way iii) Two gang, two way iv) Three gang, two way v) Six gang, two way vi) Contactor 3P 240V 20A vii) Timer digital switch as Tronic viii) Photocell switch as Zodion	No. No. No. No. No. No. No. No.	23 3 1 1 1 1 1 1		
C	Presence motion sensor 220-240VAC, 50Hz, 12m dia detection, IP20 as Osram or approved equal	No.	4		
	<b><u>LIGHTING FITTINGS</u></b>				
D	Vapour proof Circular Surface Light fitting with Opal Glass diffuser white finish base as Fumagalli or Approved Equivalent c/w 15W Philips LED bulb (Type A)	No.	8		
F	1200mm, 1x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal	No.	35		
G	1200mm, 2x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal (Type B)	No.	42		
H	50 W Outdoor LED Floodlight black, aluminium die cast housing, glass optical cover, IP65 protection as Philips or approved equivalent (Type H)	No.	5		
A	Lighting Point Outlet for Shop Display Backlit Signage wiring only in 3x1.5mm <sup>2</sup> SC cable drawn in 20mm HG PVC Conduit and linked to the control switch	No.	15		
<b>Total Section1 / Pg1 Carried Forward to Collection Page</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<b>SECTION 1 / PG 2: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	100W LED street lamps encased and all fixing accessories including mounting and 6A MCB as Philips or approved equal	No.	4		
B	Wiring from the lighting fitting to the circuit breaker with 1.5mm <sup>2</sup> TWE cord	LM	35		
C	2.5mm <sup>2</sup> 2-C PVC/SWA/PVC copper cable c/w appropriate cable lugs from CU including glands, shrouds and all accessories	LM	35		
D	Tapering steel galvanised street lighting column made from class "B" steel galvanised pipe complete with a suitable single arm side entry bracket, made to achieve an 10m mounting height from arrangement of the finished road surface	No.	4		
E	Erect the streetlighting poles including excavation, and civil works and construct suitable foundation as directed by the Engineer	No.	4		
F	13 Amp ringmain socket outlet points wired in 3 x 2.5sq mm PVC single core copper cables drawn in 25mm H/G PVC conduits concealed in wall and floor slab complete with all accessories but excluding the socket outlet plate	No.	45		
G	13AMP standard twin switched moulded socket outlet plates with neon indicator, mounted flush on wall as MK Logic Plus WHI or equivalent	No.	45		
H	25mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	535		
J	32mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	200		
K	Data outlet points comprising 25mmØ concealed HG PVC conduits complete with draw wire c/w blanking cover.	No.	21		
L	4-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Schneider, Crabtree or approved equivalent	No.	15		
<b>Total Section1 / Pg2 Total Carried Forward to Collection Page</b>					

<b>SECTION 1 / PG 3: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>*continued power installations</i>				
A	Curve 'B' SP Miniature circuit breakers for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	1		
	ii) 20A	No.	1		
	iii) blanking plates	No.	2		
B	4-Way, TPN Distribution Board c/w integral 80A integral isolator MCCB as Merlin Gerin or approved equivalent	No.	5		
C	Miniature circuit breakers (MCB) type 'B' for the distribution board above as Merlin Gerin or approved equivalent				
	i) 10A	No.	10		
	ii) 20A	No.	2		
	iii) 32A	No.	10		
	iv) 32A MCCB TP	No.	3		
	v) blanking plates	No.	29		
	wall mounted sub-board IP34 11A NSIECO0459				
D	Front access key lockable metal clad meter board and manufactured in 2mm gauge mild steel sheet, powder coated RAL grey complete with the following: i) Space for 16no. Single Phase Meter ii) Space for 16no. Single Phase KPLC cut-outs including studs for mounting KPLC seals iii) Sealable studs for all cover plate screws, din-rail and all necessary accessories iv) R,Y,B phase indicator LED lamps v) Heavy duty rubber lining for the door & perspex viewing window vi) 1No. 50A incoming TP MCCB	Item	1		
E	Labeling of all the final circuits in all CU & DB board items above using traffolyte labels	Lot	1		
F	32A, 3phase Isolator control switch and cord outlet as Tronic or approved equivalent	No.	4		
<b>Total Section1 / Pg 3 Total Carried Forward to Collection Page</b>					

<b>SECTION 1 / PG 4: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Isolator power point comprising wiring in 3 x 4mm <sup>2</sup> PVC/SC/CU cables drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	4		
B	Shower DP power points comprising wiring in 3 x 4.0mm <sup>2</sup> PVC/SC/CU cables drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	4		
C	20A, DP control switch with neon light and cord outlet for Shower above as Crabtree or approved equivalent	No.	4		
D	Sub-mains comprising of 6mm <sup>2</sup> PVC/PVC copper Twin w Earth cable from the L. V. Board to Shop Consumer Units	Lm	535		
E	Sub-mains comprising of 4Core 10mm <sup>2</sup> PVC/SWA/PVC Copper Cable from the Common Distribution Board	Lm	200		
F	250 x 250 x 50mm G.I. Recessed adaptable box	No.	1		
G	Purpose built powder coated steel gauge 14 cabinet to house (but excluding) 1no. 3P contactor + timer + override switch c/w din rail, screws, plugs and all mounting accessories et al	No.	1		
<b><u>CCTV &amp; FIRE ALARM POINTS AND EQUIPMENT</u></b>					
H	400 x 200 x 50mm G.I. Recessed Draw box	No	1		
J	Camera outlet points comprising 25mmØ concealed HG PVC conduit, draw wire, single square PVC box and all necessary PVC accessories	No.	15		
K	Network Cabinet terminal point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the cabinet equipment	No.	1		
L	Smoke detector outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the smoke detector and wiring	No.	25		
<b>Total Section1 / Pg 4 Total Carried Forward to Collection Page</b>					

<b>SECTION 1 / PG 5</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Heat detector outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the smoke detector and wiring	No.	6		
B	Break glass' Manual Call outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the call point and wiring	No.	2		
C	Fire Alarm Sounder outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the alarm sounder and wiring	No.	2		
<b>Total Section1 / Pg 5 Carried Forward to Collection Page</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	AMOUNT SHS.
	<p><b>COLLECTION PAGE</b></p> <p>TOTAL FOR <b>Bill 4/S1/1</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S1/2</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S1/3</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S1/4</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S1/5</b> BROUGHT FORWARD</p>	
	<p><b>TOTAL FOR BILL No. 4 / Section 1 C/ F TO MAIN SUMMARY PAGE</b></p>	

BILL NO. 4: SECTION 2  
**GROUND FLOOR**  
**ELECTRICAL INSTALLATIONS**



<b>SECTION 2 / PG 8: LIGHTING INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>Supply, install, test and commission the following:</i> <b>LIGHTING POINTS AND SWITCHES</b>				
A	Lighting points wired in 3 x 1.5sq.mm PVC insulated single core copper wires drawn in 20 mm diameter heavy gauge PVC conduits saddled surface on the ceiling slab and roof trusses, one way switched complete with all accessories, but excluding switch and fitting. i) One way switching ii) Two way switching	No. No.	51 79		
B	10A white moulded plate switches flush mounted on wall as MK Logic Plus WHI/Crabtree/Clipsal. i) One gang, one way ii) One gang, two way iii) Two gang, two way iv) Three gang, two way v) Six gang, two way vi) Intermediate Switch vii) Contactor 3P 240V 20A viii) Timer digital switch as Tronic ix) Photocell control switch as Zodion or approved equal	No. No. No. No. No. No. No. No. No.	40 5 1 1 1 2 1 1 1		
C	Presence motion sensor 220-240VAC, 50Hz, 12m dia detection, IP20 as Osram or approved equal	No.	4		
	<b>LIGHTING FITTINGS</b>				
D	Vapour proof Circular Surface Light fitting with Opal Glass diffuser white finish base as Fumagalli or Approved Equivalent c/w 15W Philips LED bulb (Type A)	No.	39		
E	600mm, 1x9W Bare batten LED fitting as Osram ledvance or approved equal (Type B)	No.	36		
F	1200mm, 1x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal (Type D)	No.	15		
G	1200mm, 2x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal (Type E)	No.	26		
<b>Total Section2 / Pg 8 Carried Forward to Collection Page</b>					

<b>SECTION 2 / PG 9: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Lighting Point Outlet for Shop Display Backlit Signage wiring only in 3x1.5mm <sup>2</sup> SC cable drawn in 20mm HG PVC Conduit and linked to the control switch	No.	17		
B	50 W Outdoor LED Floodlight black, aluminium die cast housing, glass optical cover, IP65 protection as Philips or approved equivalent (Type H)	No.	14		
C	13 Amp ringmain socket outlet points wired in 3 x 2.5sq mm PVC single core copper cables drawn in 25mm H/G PVC conduits concealed in wall and floor slab complete with all accessories but excluding the socket outlet plate	No.	85		
D	13Amp standard twin switched moulded socket outlet plates with neon indicator, mounted flush on wall as MK Logic Plus WHI or	No.	85		
E	25mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	2,070		
F	32mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	55		
G	32A, 3phase Isolator control switch and cord outlet as Tronic or approved equivalent	No.	1		
H	Data outlet points comprising 25mmØ concealed HG PVC conduits complete with draw wire c/w blanking cover.	No.	41		
J	4-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Schneider, Crabtree or approved equivalent	No.	37		
K	Curve 'B' SP Miniature circuit breakers for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	74		
	ii) 20A	No.	74		
	iii) blanking plates	No.	2		
<b>Total Section 2 / Pg 9 Total Carried Forward to Collection Page</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<b>SECTION 2 / PG 10</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>*continued power installations</i>				
A	8-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Merlin Gerin or approved equivalent	No.	1		
B	Miniature circuit breakers (MCB) type 'B' for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	2		
	ii) 32A	No.	2		
	iii) blanking plates	No.	4		
C	4-Way, TPN Distribution Board c/w integral 80A integral isolator MCCB as Merlin Gerin or approved equivalent	No.	2		
D	Miniature circuit breakers (MCB) type 'B' for the distribution board above as Merlin Gerin or approved equivalent				
	i) 10A	No.	10		
	ii) 32A	No.	10		
	iii) blanking plates	No.	4		
E	Sub-mains comprising of 6mm <sup>2</sup> PVC/PVC copper Twin w Earth cable from the L. V. Board to Shop Consumer Units	Lm	2070		
F	Sub-mains comprising of 4Core 10mm <sup>2</sup> PVC/SWA/PVC Copper Cable from the Common Distribution Board	Lm	55		
G	250 x 250 x 50mm G.I. Recessed adaptable box	No.	1		
H	Purpose built powder coated steel gauge 14 cabinet to house (but excluding) 1no. 3P contactor + timer + override switch c/w din rail, screws, plugs and all mounting accessories et al	No.	1		
J	Shower DP power points comprising wiring in 3 x 4.0mm <sup>2</sup> PVC/SC/CU cables drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	4		
K	20A, DP control switch with neon light and cord outlet for Shower above as Crabtree or approved equivalent	No.	4		
<b>Total Section 2 / Pg 10 Total Carried Forward to Collection</b>					

<b>SECTION 2 / PG 11</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Wall mounted sub-board IP54 TTA KSIEC60439 Front access key lockable metal clad meter board and manufactured in 2mm gauge mild steel sheet, powder coated RAL grey complete with the following: i) Space for 38no. Single Phase Meter ii) Space for 38no. Single Phase KPLC cut-outs including studs for mounting KPLC seals iii) Sealable studs for all cover plate screws, din-rail and all necessary accessories iv) R,Y,B phase indicator LED lamps v) Heavy duty rubber lining for the door & perspex viewing window	Item	1		
B	Labeling of all the final circuits in all CU & DB board items above using traffolyte labels	Lot	1		
C	Fire Alarm Panel power point comprising wiring in 2core 2.5mm <sup>2</sup> PVC/PVC/CU TwE cable drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	1		
D	20A, DP control switch with neon light and cord outlet for panel above as Crabtree or approved equivalent	No.	1		
<b><u>CCTV &amp; FIRE ALARM POINTS AND EQUIPMENT</u></b>					
E	400 x 200 x 50mm G.I. Recessed Draw box	No	1		
F	Camera outlet points comprising 25mmØ concealed HG PVC conduit, draw wire, single square PVC box and all necessary PVC accessories	No.	15		
G	Network Cabinet terminal point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the cabinet equipment	No.	1		
H	Smoke detector outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the smoke detector and wiring	No.	47		
<b>Total Section 2 / Pg 11 Total Carried Forward to Collection</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<b>SECTION 2 / PG 12</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Break glass' Manual Call outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the call point and wiring	No.	2		
B	Fire Alarm Sounder outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the alarm sounder and wiring	No.	2		
<b>Total Section 2 / Pg 12 Carried Forward to Collection Page</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	AMOUNT SHS.
	<p><b>COLLECTION PAGE</b></p> <p>TOTAL FOR <b>Bill 4/S2/8</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S2/9</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S2/10</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S2/11</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S2/12</b> BROUGHT FORWARD</p>	
	<p><b>TOTAL FOR BILL No. 4 / Section 2 C/ F TO MAIN SUMMARY PAGE</b></p>	

BILL NO. 4: SECTION 3  
**FIRST FLOOR**  
**ELECTRICAL INSTALLATIONS**

<b>SECTION 3 / PG 15: LIGHTING INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>Supply, install, test and commission the following:</i> <b><u>LIGHTING POINTS AND SWITCHES</u></b>				
A	Lighting points wired in 3 x 1.5sq.mm PVC insulated single core copper wires drawn in 20 mm diameter heavy gauge PVC conduits saddled surface on the ceiling slab and roof trusses, one way switched complete with all accessories, but excluding switch and fitting. i) One way switching ii) Two way switching	No. No.	55 58		
B	10A white moulded plate switches flush mounted on wall as MK Logic Plus WHI/Crabtree/Clipsal. i) One gang, one way ii) One gang, two way iii) Two gang, two way iv) Six gang, two way	No. No. No. No.	40 15 1 1		
C	Presence motion sensor 220-240VAC, 50Hz, 12m dia detection, IP20 as Osram or approved equal	No.	4		
	<b><u>LIGHTING FITTINGS</u></b>				
D	Vapour proof Circular Surface Light fitting with Opal Glass diffuser white finish base as Fumagalli or Approved Equivalent c/w 15W Philips LED bulb (Type A)	No.	33		
E	600mm, 1x9W Bare batten LED fitting as Osram ledvance or approved equal (Type B)	No.	29		
F	1200mm, 1x18W Bare batten LED fitting as Osram ledvance or approved equal (Type C)	No.	8		
G	1200mm, 1x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal (Type D)	No.	20		
H	1200mm, 2x18W IP65 rated dust and moisture resistant LED fitting with injection moulded GRP Canopy and Polycarbonate diffuser and stainless steel toggles as Osram or approved equal (Type E)	No.	23		
<b>Total Section 3 / Pg 15 Carried Forward to Collection Page</b>					



<b>SECTION 3 / PG 16: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
	<i>Supply, install, test and commission the following:</i>				
A	13 Amp ringmain socket outlet points wired in 3 x 2.5sq mm PVC single core copper cables drawn in 25mm H/G PVC conduits concealed in wall and floor slab complete with all accessories but excluding the socket outlet plate	No.	95		
B	13Amp standard twin switched moulded socket outlet plates with neon indicator, mounted flush on wall as MK Logic Plus WHI or	No.	95		
C	32A, 1phase Isolator control switch and cord outlet as Tronic or approved equivalent	No.	7		
D	Isolator power point comprising wiring in 3 x 4mm <sup>2</sup> PVC/SC/CU cables drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	7		
E	Shower DP power points comprising wiring in 3 x 4.0mm <sup>2</sup> PVC/SC/CU cables drawn in 20mmØ HG/PVC conduits complete with all necessary accessories	No.	4		
F	20A, DP control switch with neon light and cord outlet for Shower above as Crabtree or approved equivalent	No.	4		
G	Data outlet points comprising 25mmØ concealed HG PVC conduits complete with draw wire c/w blanking cover.	No.	56		
H	4-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Schneider,Crabtree or approved equivalent	No.	28		
J	Curve 'B' SP Miniature circuit breakers for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	56		
	ii) 20A	No.	56		
	iii) blanking plates	No.	1		
K	6-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Merlin Gerin or approved equivalent	No.	6		
<b>Total Section 3 / Pg 16 Total Carried Forward to Collection</b>					

SECTION 3 / PG 17: POWER INSTALLATIONS					
ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
				SHS.	SHS.
A	Miniature circuit breakers (MCB) type 'B' for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	6		
	ii) 20A	No.	6		
	iii) 32A	No.	6		
	iv) blanking plates	No.	18		
B	8-Way, SPN Consumer Unit c/w 100A integral DP Isolator as Merlin Gerin or approved equivalent	No.	5		
C	Miniature circuit breakers (MCB) type 'B' for the consumer unit above as Merlin Gerin or approved equivalent				
	i) 10A	No.	5		
	ii) 20A	No.	5		
	iii) 32A	No.	8		
	iv) blanking plates	No.	22		
D	Wall mounted sub-board IP54 TTA KSIEC60439 Front access key lockable metal clad meter board and manufactured in 2mm gauge mild steel sheet, powder coated RAL grey complete with the following: i) Space for 30no. Single Phase Meter ii) Space for 30no. Single Phase KPLC cut-outs including studs for mounting KPLC seals iii) Sealable studs for all cover plate screws, din-rail and all necessary accessories iv) R,Y,B phase indicator LED lamps v) Heavy duty rubber lining for the door & perspex viewing window	Item	1		
E	Labeling of all the final circuits in all CU & DB board items above using traffolyte labels	Lot	1		
F	Sub-mains comprising of 6mm <sup>2</sup> PVC/PVC copper Twin w Earth cable from the L. V. Board to Shop Consumer Units	Lm	1,570		
G	25mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	146		
<b>Total Section 3 / Pg 17 Total Carried Forward to Collection</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<b>SECTION 3 / PG 18: POWER INSTALLATIONS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	32mm diameter heavy gauge PVC conduit links concealed in walls and floor slab, complete with couplers, threads, bends etc.	LM	15		
B	Sub-mains comprising of 2Core 10mm <sup>2</sup> PVC/SWA/PVC Copper Cable from the Common Distribution Board	Lm	200		
C	Sub-mains comprising of 4Core 10mm <sup>2</sup> PVC/SWA/PVC Copper Cable from the Common Distribution Board	Lm	15		
D	400 x 400 x 50mm G.I. Recessed adaptable box	No.	1		
<b><u>DATA / COMMUNICATION POINTS &amp; ACCESSORIES</u></b>					
E	250 x 50mm 2-compartment trunking to details, in 14-gauge steel sheet powder coated finish, complete with cover, screws, and all mounting accessories.	Lm	50		
F	i) 250 x 50mm, factory-made corner-bends for the above trunking, same material and colour finish.	No.	4		
	ii) Single-outlet plates on the trunking, same colour finish	No.	20		
	iii) Twin-outlet plates on the trunking, same colour finish	No.	20		
	iv) Allow for bonding of the entire trunking above to the standards	Lot	1		
G	400 x 200 x 50mm G.I. Recessed Draw box	No	1		
H	Camera outlet points comprising 25mmØ concealed HG PVC conduit, draw wire, single square PVC box and all necessary PVC accessories	No.	10		
J	Network Cabinet terminal point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the cabinet equipment	No.	1		
K	Smoke detector outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the smoke detector and wiring	No.	41		
<b>Total Section 3 / Pg 18 Total Carried Forward to Collection</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<b>SECTION 3 / PG 19</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>
				<b>SHS.</b>	<b>SHS.</b>
A	Heat detector outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the smoke detector and wiring	No.	3		
B	Break glass' Manual Call outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the call point and wiring	No.	2		
C	Fire Alarm Sounder outlet point comprising of 25mm HG PVC conduit, draw wire, single square PVC box and all necessary accessories but excluding the alarm sounder and wiring	No.	2		
<b>Total Section 3 / Pg 19 Carried Forward to Collection Page</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

ITEM	DESCRIPTION	AMOUNT SHS.
	<p><b>COLLECTION PAGE</b></p> <p>TOTAL FOR <b>Bill 4/S3/15</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S3/16</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S3/17</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S3/18</b> BROUGHT FORWARD</p> <p>TOTAL FOR <b>Bill 4/S3/19</b> BROUGHT FORWARD</p>	
	<b>TOTAL FOR BILL No. 4 / Section 3 C/ F TO MAIN SUMMARY PAGE</b>	

BILL NO. 4: SECTION 4

**MAINS INTAKE, DUCTING  
ELECTRICAL INSTALLATIONS**

SECTION 4 / PG 21: MAINS INTAKE, DUCTING AND POWER RETICULATION					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				SHS.	SHS.
	<i>Supply, install, test, and commission the following: A free-standing LV switchboard modular, louvered ends, extensible, metal clad, modular cubicle pattern to IP54 suitable for indoor installation, rear and front access, compliant with standards KSIEC 60439 concerning the construction of Type Tested Assemblies (TTA), Form 2b comprising of the following Schneider Electric (or approved equal) specification</i>				
A	Front access key lockable metal clad meter board and manufactured in 2mm gauge mild steel sheet, powder coated RAL grey complete with the following: i) Space for 2no. Three Phase Meter ii) Space for 2no. Single Phase Meters iii) Space for 3no. KPLC cut-outs including studs for mounting KPLC seals iv) Space for 32A MCCB 3P v) Space for 63A MCCB 3P v) Sealable studs for all cover plate screws, din-rail and all necessary accessories vi) R,Y,B phase indicator LED lamps vii) Schneider Electric Power Meter type PM2220 (or approved equal) c/w CT's and fuse protection, indication of voltage, current, kW, kWh, kVAR, Power factor, Frequency. viii) Heavy duty rubber lining for the door & perspex viewing ix)) 1No. 150A incoming MCCB 3P x)) 1No. 63A MCCB 3P xi)) 1No. 32A MCCB 3P xii) 2No. 63/80Amps DP Switch	Item	1		
B	Earthing comprising of a 6.0mm earth lead and 1800mm long by 15mm Diam. copper earth electrode with driving tip and rod to cable clamp installed within a 450mm by 300mm by 500mm deep manhole with cover marked "Earth"	No.	1		
C	Attendance and follow up with power service provider (KPLC) during all relevant stages including application, follow up, service line and meter connections	Sum	1		
D	Fireman isolator switch	No.	1		
E	2Core 2.5mm <sup>2</sup> flexible PVC/PVC Copper cable for the above item	Lm	20		
F	Armoured thermoplastic insulated 4C multicore 16mm <sup>2</sup>	Lm	181		
G	100mm HG PVC conduit	No.	13		
H	150mm HG PVC conduit	No.	13		
<b>TOTAL FOR BILL No. 4 / Section 3 C/ F TO MAIN SUMMARY PAGE</b>					

BILL NO. 4; SECTION 5

**CCTV SURVEILLANCE  
ELECTRICAL INSTALLATIONS**



Proposed Construction of Chuka Modern Market in Tharaka Nithi

Item	Description	Unit	Qty	Rate Kshs	Total Kshs
<b>SECTION 5 / PG 25</b>					
A	<i>Supply, install, test, commission, and handover the following:</i> 32 channel NVR   16POE/POE+ ports   H.265+ & H.264+ dual Codec   256Mbps bandwidth   1xHDMI & 1x VGA simultaneous output   1x RJ45 & 2x USB ports  as Dahua N4232 or approved equal	No.	2		
B	10TB Surveillance Internal Hard Drive SATA 6Gb/s, 256MB cache as Western Digital or Seagate or approved equal	No.	8		
C	4MP Dome Network Camera H.265+ compression, IP67, IK10, 2.8mm-12mm lens, 50m IR range, night vision as Dahua or approved equal	No.	23		
D	4MP Bullet Network Camera H.265+ compression, IP67, IK10, 2.8mm-12mm lens, 50m IR range, microSDXC slot of upto 256GB, night vision as Dahua or approved equal	No.	9		
E	43" LED Monitor with HDMI, VGA and USB input ports	No.	1		
G	16-port Gigabit POE switch 1Gb SFP ports, 802.1x security, as Dahua or approved equal	No.	3		
H	1kVA 2U Rack-mount line interactive UPS pure sinewave, AVR, LCD display, EN/IEC 62040 as APC Smart or approved equal	No.	1		
J	1U Rack Mount 6 Way Power Distribution Unit (PDU)	No.	1		
K	750VA line interactive UPS pure sinewave, AVR, EN/IEC 62040 as APC or approved equal	No.	3		
L	64GB microSDXC card as SanDisk Extreme or approved equal	No.	9		
<b>SECTION 5 / PG 25 CARRIED FORWARD TO COLLECTION PAGE</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

Item	Description	Unit	Qty	Rate Kshs	Total Kshs
<b>SECTION 5 / PG 26</b>					
A	15U Data Cabinet steel framework black, framed safety glass front lockable door, top and bottom cable access knockouts c/w patch panel racks & cable managers as Toten or approved equal	No.	1		
B	6U Data Cabinet steel framework black, framed safety glass front lockable door, top and bottom cable access knockouts c/w patch panel racks & cable managers as Toten or approved equal	No.	3		
C	48-port patch panel CAT6A 10Gb/s as Siemon or approved equal	No.	1		
D	24-port patch panel CAT6A 10Gb/s as Siemon or approved equal	No.	1		
E	UTP 250MHz Category 6 data cable Cu conductor(305m roll)	No.	5		
F	1M CAT6 patchcords	No.	40		
G	RJ45 CAT6 data outlet plate	No.	110		
H	Accessories i.e. RJ45 terminal clips&boots, screws, cable ties, cable clips, wall plugs et al	Lot	1		
<b>SECTION 5 / PG 26 CARRIED FORWARD TO COLLECTION PAGE</b>					

	<b>COLLECTION PAGE</b>  Brought forward from <b>Bill 4/S5/25</b>  Brought forward from <b>Bill 4/S5/26</b>				
	<b>TOTAL FOR BILL No. 4 / Section 5 C/ F TO MAIN SUMMARY PAGE</b>				

BILL NO. 4; SECTION 6

**ADDRESSABLE FIRE DETECTION  
ELECTRICAL INSTALLATIONS**

Proposed Construction of Chuka Modern Market in Tharaka Nithi

Item	Description	Unit	Qty	Rate Kshs	Total Kshs
<b>SECTION 6 / PG 29</b>					
	<i>Supply, install, test, commission, and handover the following:</i>				
A	Fire Alarm system points comprising wiring in 2-core 1.5mm <sup>2</sup> fire resistant screened cable drawn into concealed 20mm Ø PVC conduit. Cable to be FP200 or FIRETUF or approved	No.	138		
B	Intelligent optical smoke detector incorporating a short circuit isolator and alarm indicator LED visible 360 degrees, complete with base as CAP320 or approved equivalent	No.	115		
C	Intelligent thermal heat/smoke detector incorporating a short circuit isolator and alarm indicator LED visible 360 degrees, complete with base as CAH330 or approved equivalent	No.	11		
D	Addressable resettable call point incorporating integral short circuit isolator and reset key, designed to comply with EN54 pt11, complete with base as Cooper CBG370S or approved equal	No.	6		
E	Addressable wall sounder 2tone pulsed with flashing strobe and built in short circuit isolator as Cooper CASB383 or approved equal	No.	6		
F	2loop intelligent addressable control panel EN54 certified, monitoring of open and short circuit, with integral battery and power supply unit as Cooper CF3000 or approved equal	No.	1		
G	Network interface for synchronising item F above as Cooper DF6000	No.	1		
H	750VA line interactive UPS pure sinewave, AVR, EN/IEC 62040 as APC or approved equal	No.	1		
J	Interface module unit slc	No.	1		
K	Spur Unit Isolator Switch	No.	1		
<b>TOTAL FOR BILL No. 4 / Section 6 C/ F TO MAIN SUMMARY PAGE</b>					

BILL NO. 4; SECTION 7

**LIGHTNING PROTECTION  
ELECTRICAL INSTALLATIONS**

## Proposed Construction of Chuka Modern Market in Tharaka Nithi

Item	Description	Unit	Qty	Rate Kshs	Total Kshs
<b>SECTION 7 / PG 35</b>					
<i>Supply, install, test, commission, and handover the following:</i>					
<b><u>EARTHING &amp; LIGHTNING PROTECTION</u></b>					
<b>Air Termination</b>					
A	Electronic early streamer emission system copper air terminal with a protection radius of 60M, complete with headmast adaptor & 5.8M mast telescope in galvanized steel and all fixing accessories	No	1		
B	Copper Air Rod Base as Furse Part No. SD105-H or approved equivalent	No	1		
C	Copper Junction Clamps for copper tape as Furse Part No. CN105-H or approved equivalent	No	1		
D	25mm x 3mm Tinned Copper Tape as Furse TC230 or approved equivalent	LM	260		
E	Copper tape clip as Furse Cat. No.CP 210 or approved equivalent c/w all mounting accessories	No	270		
<b>Down Conductors</b>					
F	25 x 3mm tinned copper tape as Furse TC 230 or approved equivalent	LM	30		
G	Screwdown copper test clamp as Furse CT305 or approved equivalent	No	2		
H	38mm Ø HG PVC conduits for drawing the down conductor	LM	30		
<b>Earth Termination</b>					
J	15mm Ø, 1500mm long solid copper earth rod c/w driving stud, coupling, and spike as Furse RC011 or approved	No	2		
K	Earth rod to tape clamp type A as Furse CR108 or approved equivalent	No	2		
L	Concrete inspection earth pit as Furse Cat. No.	No	2		
<b>SECTION 7 / PG 35 CARRIED FORWARD TO COLLECTION PAGE</b>					

Proposed Construction of Chuka Modern Market in Tharaka Nithi

Item	Description	Unit	Qty	Rate Kshs	Total Kshs
<b>SECTION 7 / PG 35</b>					
A	600mm x 600mm copper earth mat made from 25mm x 3mm copper tape at 300mm spacing, buried to permanent moisture level and complete with all clamps and 6m long 25mm x 3mm copper tape clamped to the down conductor, soil conditioning agents (marconite or bentonite) as necessary to achieve earthing resistance value below 10-Ohms	Lot	4		
B	Allow for earthing tests for the above and submission of the report to the engineer to BS7671 & BS62305 standards	Item	1		
C	<b>Bonding</b> Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning units, window frames, cladding, metal roof etc. and the main earth for the	Item	1		
<b>SECTION 7 / PG 35 CARRIED FORWARD TO COLLECTION PAGE</b>					

<b>COLLECTION PAGE</b>					
Brought forward from Bill 4 / Section 7 / Pg 34					
Brought forward from Bill 4 / Section 7 / Pg 35					
<b>TOTAL FOR LIGHTNING PROTECTION</b>					
<b>CARRIED FORWARD TO SUMMARY PAGE</b>					



BILL NO. 4; SECTION 8

**STANDBY GENERATOR  
ELECTRICAL INSTALLATIONS**

**BILL NO. 4 SECTION 8: GENERATOR SET**

## GENERATOR SET

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
A	Supply, deliver to site, install, test and commission a prime rated 80kVA, 3 phase, 415V, 50Hz diesel generating set with a continuous power factor of 0.8 lagging and as fully described in the particular specifications. The generator set is to be complete with a sound attenuated canopy and an integral base/belly daily service fuel tank with an operational running capacity of 8 hours as Atlas Copco QAS 80 or approved equal	No	1		
B	Supply, deliver to site and install a steel exhaust pipe of not less than 14 SWG and of adequate diameter running from the generating set to exhaust to the exterior	M	30		
C	Connect the exhaust pipe above in item B using steel pipes of adequate diameter, and flexible piping off engine exhaust manifold complete with heavy duty silencer	Item	1		
D	Complete earthing of generating set to electrical engineer's approval	Item	1		
E	An electrical control panel complete with suitable rated incoming MCCBs and contactors for automatic change over operation and complete with all other control accessories as fully described in clauses of the particular specifications	No	1		
F	Suitably rated manual by-pass switch with clearly labeled <b>NORMAL-OFF-BYPASS</b> positions, <b>and shall such be wired that when the switch is on either OFF or BYPASS position, the generator shall receive no signal to start</b>	No.	1		

	<b>SUB-TOTAL C/F TO PRICE SUMMARY PAGE</b>				
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**SCHEDULE 2- AMF CONTROL PANEL**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>KSHS</b>
	<b>Supply, deliver to site, install, test and commission the following:</b>				
A	240V AC/12V DC mains power supply trickle battery charger as specified in the specifications. The trickle charger shall charge the battery when the set is on <b>IDLE mode</b> , otherwise when the set is <b>RUNNING</b> , the battery shall be charged by the <b>generator charger</b> . Wiring shall be done such that the two chargers shall not operate at the same time.	No.	1		
B	12 Volts battery as specified in the particular specifications	No.	1		
C	Armoured cables complete with glands and pvc sleeves: (a) 50 mm sq. 4 core PVC/SWA/PVC copper cable	M	20		
	(b) 2.5mm <sup>2</sup> , 2 core, PVC/SWA/PVC copper cable for controls	M	20		
D	80kVA 4P Motorised MCCB having logic controller with adjustable over current settings, having a Short-circuit breaking capacity of 25KA Changeover Set	Set	1		
	<b>SUB-TOTAL C/F TO PRICE SUMMARY PAGE</b>				

**SCHEDULE 3- RECOMMENDED SPARE PARTS AND LUBRICATORS**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
	<b>For the supply to the site of the following spare parts and lubricators:</b>				
A	Oil Filters	No.	4		
B	Air Filters	No.	4		
C	Fuel Filter	No.	4		
D	Set of Fan belts to suit the set	No.	1		
E	10 litres container of sump oil of grade.....*	No.	1		
F	2 kilogram grease in a tin of grade .....*	No.	1		
G	10 litre plastic container of distilled water	No.	1		
H	20 litre of engine oil in a tin of grade.....*	No.	1		
J	Any other spare parts recommended by Tenderer **				
	*The tenderer to fill in the Grade quality to be supplied				
	**The tenderer to fill in the details and price of items but the price not to be included in total carried forward to summary page				
	<b>SUB-TOTAL C/F TO PRICE SUMMARY PAGE</b>				

**SCHEDULE 4 -TOOLS TO BE SUPPLIED WITH THE SET**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>UNIT</b>	<b>RATE</b>	<b>KSHS</b>
	<b>For the supply to site of the following tools:</b>				
A	Metal tool box with lock and two keys	1	No.		
B	Set of 8 No. Chrome vanadium ring spanners in sizes to suit the set	2	No.		
C	Set of 3 screwdrivers, 75mm, 200mm and 300mm plus one 200mm Philips type	1	No.		
D	- ditto -but open ended spanners	1	No.		
E	Set of feeler gauges	1	No.		
F	Grease gun to suit greasing points	1	No.		
G	Oil can, trigger type	1	No.		
H	Any other special tools which the tenderer recommends should be purchased as an optional:*				
	<b>NOTE*</b> Tenderer should give detail and prices of item 9 but the price not to be included in total carried				
<b>SUB-TOTAL C/F TO PRICE SUMMARY PAGE</b>					-

**COLLECTION PAGE**

<b>Item</b>	<b>Description</b>	<b>Amount (Kshs)</b>
A	Sub-Total for Schedule 1 - Generator Set	
B	Sub-Total for Schedule 2 - AMF Panel	
C	Sub-Total for Schedule 3 - Recommended Spare Parts and Lubricators	
D	Sub-Total for Schedule 4 - Tools to be Supplied with the Set	
<b>TOTAL - GENERATOR INSTALLATION CARRIED TO GRAND SUMMARY PAGE</b>		

**PROPOSED CONSTRUCTION OF CHUKA MARKET  
ELECTRICAL INSTALLATIONS - BILLS OF QUANTITIES**

**MAIN SUMMARY PAGE**

ITEM	DESCRIPTION	AMOUNT
		SHS.
S.1	Total for Section 1 - Lower Ground Floor	
S.2	Total for Section 2 - Ground Floor	
S.3	Total for Section 3 - First Floor	
S.4	Total For Section 4 - Mains Intake, Ducting & Power Reticulation	
S.5	Total For Section 5 - CCTV Surveillance	
S.6	Total For Section 6 - Addressable Fire Alarm Detection	
S.7	Total For Section 7 - Lightning Protection	
S.8	Total For Section 8 - Standby Generator	
	<b><u>KPLC CHARGES</u></b>	
S.8	Allow a Provisional Sum of Kenya Shillings <b>Five Million Five Only (Kshs. 5,000,000.00)</b> for KPLC Metre and SERVICE LINE Connection charges and related installations (To be expended as per KPLC quotation with the discretion of PM )	<b>5,000,000.00</b>
S.9	Allow a provisional Sum of Kenya Shillings <b>One Million Five Hundred Thousand (Kshs. 1,500,000)</b> for removal of existing services	<b>1,500,000.00</b>
	<b>COST ESTIMATES FOR ELECTRICAL INSTALLATIONS</b>	

**BILL NO. 5**

**MECHANICAL WORKS**



**BILL NO. 5: SECTION NO. 1**

**LOWER GROUND FLOOR SANITARY &  
DRAINAGE**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	<b><u>SANITARY FITTINGS (Provisional)</u></b>				
	Supply,deliver, install, test and commission the following sanitary appliances complete with all the connections to services, waste, jointing to supply overflows and plugging and scewing to the floors:				
	<b><u>Water Closet (WC) Pan</u></b>				
A	Squatting WC Pan size 740x740mm manufactured from Grade 304 (18/10) Stainless Steel of 1.2 mm gauge complete with 20 mm turn up and flange all round, a flush bowl pressed into one piece with the raised treaded pattern foot plates on both sides and in front of the flush bowl, a rear entry 32mm spreader pipe, 100mm Waste outlet for fitting to a standard 100mm PVC Waste Connector. To be as Franke or Approved Equivalent.	6	No		
	<b><u>WC Flush Valves</u></b>				
B	40mm diameter quiet exposed water closet flush valve, chrome plated, back entry, with integral vacuum breaker, non-hold-open features and non-return valve, inlet control stop, transition fittings and wall plate comprising flush valve, bent flush pipe and rubber pipe connector. The flush valve to be handle type. To be as 'Flush Master' or equal and approved.	6	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>Brought Forward from Previous Page</b>					
	<b>Wash Hand Basin (Counter Top)</b>				
A	Countertop wash hand basin size 635 x 500mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, chrome plated non-conculsive time delay press action pillar tap and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal. All to be as Twyford's "CAPRICORN" or equal and approved.	6	No		
B	<b>Urinal Slab</b> Enameled Stainless Steel urinal slab with partitions, 5000mm in length, 14 litre concealed cistern with automatic flushing fittings, 15mm diameter 'pegler' bib tap with star handles, concealed chrome plated flush pipes with concealed horizontal sparge pipes, 50mm dia. chrome plated hinged outlet with grating, cast iron shallow p-trap, 330mm raised fireclay tile floor treads. The unit shall be 5000 x 1050mm high with a channel as Ideal Standard or equal and approved	1	No		
C	<b>SBSD Dhoby sink</b> Single bowl, single drainer Ceramic Dobby sink of size 1000 x 500mm as manufactured by ASL 140 or equal and approved. The bowl size to be 420 x 355 x 150mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, INo. 15mm diameter chrome plated sink bib tap, chrome plated bottle trap with 75mm deep seal and chain waste fitting.	6	No.		
D	<b>Shower Fitting</b> Shower fitting comprising 20mm diameter stop cock and Instant shower fitting as Lorenzetti	4	No.		
<b>Carried Forward to Next Page</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<p><b>Brought Forward from Previous Page</b></p> <p><b>Disabled Persons Water Closet and Wash Hand Basin Facility</b></p> <p>Wheel chair accessible W.C facility Comprising of the following:-</p> <p>A i)Close coupled W.C with 7.5 litre cistern with bottom inlet and overflow.The bowl shall be of size 375x560x420mm high.The bowl and cistern shall be manufactured from vitreous china complying with B.S 3402 .The unit shall be complete with valveless cistern fittings including syphon, 1 /2" side inlet ballvalve, 3 /4" side overflow, plastics flushbend, 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, 610 x 450 x 6mm thick mirror and robe hook.</p> <p>ii)Semi pedestal wall mounted W.H.B of size 600x500x545mm high with flexible connectors to waste and taps.The basin shall be manufactured from vitreous china complying with B.S 3402.It shall have one L/H tap hole with 1/2" chrome plated lever action pillar tap, chrome plated waste with height adjustable trap, pedestal and wall fixing bolts.</p> <p>B iii) Hinged support rail with toilet roll holder 770mm long manufactured in nylon coated aluminium and mounted on a wall fixing plate size 230x100 mm, 4No 600mm grab rails with covered wall plates. The set shall be as Twyfords DOC.M wheelchair accessible W.C. facility or approved equivalent.</p> <p><b><u>Hand Drier.</u></b></p> <p>C Automatic hand drier in white colour, operaing on an infra red automatic sensing system with safty cut - out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 2.1 Kw and perfomance flow rate of 135cfm (3.82 m<sup>3</sup>/min) and to be of size 270x264x143 deep as <b>"WANDSWORTH BUNNIE"</b> Model HDZ or approved equivalent</p>				
	<p><b>Carried Forward to Next Page</b></p>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Soap Dispenser.</u></b>				
A	Soap dispenser of capacity 1.136 litres complete with plastic rawls plug fixing screws, lock and key complete with initial gel. The soap dispenser to be as "ZALPON'S" Mark 7 Model of size 125x100x290mm high or approved equivalent.	4	No		
	<b><u>Mirrors</u></b>				
B	6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back rest.	6	No		
	<b><u>Toilet Brush Holder.</u></b>				
C	Toilet brush holder in vitreous china mounted onto cocealed screw to wall wedges.	6	No		
	<b><u>Toilet Roll holder.</u></b>				
D	Fully recessed toilet roll holder in vitreous China of size 165x165 mm in approved colour as "TWYFORD VC" 9806 WH or equal and approved.	6	No		
	<b><u>Robe Hook</u></b>				
E	Vitreous China in approved colour mounted onto cocealed screw to wall wedges in approved colour. As "TWYFOND OCEAN" OC 6858 WH or approved equivalent.	15	No		
	<b><u>Flexible Tubing.</u></b>				
F	12mm diameter 300mm long Copper tubing bent as required including jointing to GMS pipe and fitting complete with 15mm diameter angle valve.	6	No		
	<b>TOTAL SANITARY FITTINGS CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>INTERNAL PLUMBING (Provisional)</b>					
	<p>Supply, deliver and install for fixing of the following PPR pipework and fittings as described and shown on the drawings including jointings, couplings etc necessary for the proper and satisfactory functioning of the system to the Engineer's approval, pipe jointing shall be by polyfusion or use of electric coupling.</p> <p>Tenderer must allow in their prices for all the couplings, connectors, unions joints, all the Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed, and pipe sleeves through structural members.</p>				
	<b><u>PPR-C pipework</u></b>				
A	63 mm ditto	6	LM		
B	50 mm ditto	10	LM		
C	40 mm ditto	8	LM		
D	32 mm ditto	44	LM		
E	25 mm ditto	45	LM		
	<b><u>Extra over PPR-C pipework for the following</u></b>				
	<b><u>Bend/elbow</u></b>				
F	32 mm ditto	6	No.		
G	25 mm ditto	22	No.		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Tees</u></b>				
A	40mm ditto	10	No.		
B	25mm ditto	25	No.		
	<b><u>Unequal Tees</u></b>				
C	63 x 50 mm diameter unequal tee	2	No.		
D	63 x 40mm ditto	2	No.		
E	63 x 25mm ditto	4	No.		
F	50 x 40mm ditto	6	No.		
G	50 x 25mm ditto	2	No.		
H	40 x 25mm ditto	2	No.		
I	32 x 25mm ditto	10	No.		
	<b><u>Reducers</u></b>				
J	63 x 50mm ditto	5	No.		
K	63 x 40mm ditto	2	No.		
L	50 x 40mm ditto	2	No.		
M	40 x 32mm ditto	4	No.		
N	40 x 25mm ditto	6	No.		
O	32 x 25mm ditto	8	No.		
	<b><u>Peglar Gate Valves</u></b>				
H	63mm diameter full way gate valve with wheel head and jointing to tubing as 'PEGLAR' or approved equivalent.	2	No.		
J	40mm ditto	1	No.		
	<b><u>Unions</u></b>				
T	63mm -ditto-	5	No		
U	40mm -ditto-	6	No		
V	32mm -ditto-	6	No		
W	25mm -ditto-	45	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Sockets</u></b>				
A	63mm diameter pipe socket	8	No.		
B	40mm diameter ditto	18	No.		
C	32mm diameter ditto	6	No.		
D	25mm diameter ditto	45	No.		
	<b><u>Transition fittings</u></b>				
F	40mm x 1 1/2" transition fittings	12	No.		
G	25mm x 3/4" ditto	8	No.		
H	25mm x 1/2" ditto	36	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				



**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b><u>INTERNAL DRAINAGE. (Provisional)</u></b>				
	Supply and fix uPVC soil system to BS 4660 and BS 4515 and mU PVC waste systems to BS 5255 with screwed and socketed joints to BS 21. solvent welded joints shall be as per the system's manufacturer's written instruction. Tenderer must allow in their pipework prices for all the couplings, connectors, joints etc as required in the running lengths of the pipework and also where necessary for fixing clips, holder bats plugged and screwed.				
	<b><u>UPVC and Mupvc pipework</u></b>				
A	100mm diameter grey class 'D' pipes	30	Lm		
B	50mm diameter waste pipes	12	Lm		
C	40mm diameter waste pipes	20	Lm		
	<b><u>Extra over UPVC pipework for the following:-</u></b>				
D	100mm diameter sweep bend	12	No.		
E	100x50mm diameter reducing bush	1	No.		
F	100mm diameter single branches	12	No.		
H	100mm diameter WC connector	1	No.		
I	100mm diameter access bend	3	No.		
L	100x50mm diameter trapped floor gully c/w grating and cover	8	No.		
M	100x50mm diameter boss connector	5	No.		
M	100x40mm diameter boss connector	2	No.		
P	50mm diameter sweep tee	3	No.		
Q	40mm diameter sweep tee	26	No.		
T	40mm dia ditto	12	No.		
U	50mm diameter access plug	1	No.		
V	40mm diameter access plug	12	No.		
W	40x32mm dia socket reducer	23	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<u>COLLECTION</u>					
A	SANITARY FITTINGS				
B	INTERNAL PLUMBING				
C	INTERNAL DRAINAGE				
<b>TOTAL FOR</b>					
<b>FLOOR-LOWER GROUND FLOOR</b>					
<b>CARRIED TO BILL NO. 5 SUMMARY</b>					

**BILL NO. 5: SECTION NO. 2**

**GROUND FLOOR SANITARY & DRAINAGE**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	<b><u>SANITARY FITTINGS (Provisional)</u></b>				
	Supply,deliver, install, test and commission the following sanitary appliances complete with all the connections to services, waste, jointing to supply overflows and plugging and scewing to the floors:				
	<b><u>Water Closet (WC) Pan</u></b>				
A	Squatting WC Pan size 740x740mm manufactured from Grade 304 (18/10) Stainless Steel of 1.2 mm gauge complete with 20 mm turn up and flange all round, a flush bowl pressed into one piece with the raised treaded pattern foot plates on both sides and in front of the flush bowl, a rear entry 32mm spreader pipe, 100mm Waste outlet for fitting to a standard 100mm PVC Waste Connector. To be as Franke or Approved Equivalent.	6	No		
	<b><u>WC Flush Valves</u></b>				
B	40mm diameter quiet exposed water closet flush valve, chrome plated, back entry, with integral vacuum breaker, non-hold-open features and non-return valve, inlet control stop, transition fittings and wall plate comprising flush valve, bent flush pipe and rubber pipe connector. The flush valve to be handle type. To be as 'Flush Master' or equal and approved.	6	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
A	<p><b>Wash Hand Basin (Counter Top)</b>            Countertop wash hand basin size 635 x 500mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, chrome plated non-conculsive time delay press action pillar tap and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal. All to be as Twyfords "CAPRICORN" or equal and approved.</p>	6	No		
B	<p><b>Urinal Slab</b> Enameled Stainless Steel urinal slab with partitions, 5000mm in length, 14 litre concealed cistern with automatic flushing fittings, 15mm diameter 'pegler' bib tap with star handles, concealed chrome plated flush pipes with concealed horizontal sparge pipes, 50mm dia. chrome plated hinged outlet with grating, cast iron shallow p-trap, 330mm raised fireclay tile floor treads. The unit shall be 5000 x 1050mm high with a channel as Ideal Standard or equal and approved</p>	1	No		
C	<p><b>Shower Fitting</b>            Shower fitting comprising 20mm diameter stop cock and Instant shower fitting as Lorenzetti</p>	4	No.		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<p><b>Brought Forward from Previous Page</b></p> <p><b>Disabled Persons Water Closet and Wash Hand Basin Facility</b></p> <p>Wheel chair accessible W.C facility Comprising of the following:-</p> <p>A i)Close coupled W.C with 7.5 litre cistern with bottom inlet and overflow.The bowl shall be of size 375x560x420mm high.The bowl and cistern shall be manufactured from vitreous china complying with B.S 3402 .The unit shall be complete with valveless cistern fittings including syphon, 1 /2" side inlet ballvalve, 3 /4" side overflow, plastics flushbend, 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, 610 x 450 x 6mm thick mirror and robe hook.</p> <p>ii)Semi pedestal wall mounted W.H.B of size 600x500x545mm high with flexible connectors to waste and taps.The basin shall be manufactured from vitreous china complying with B.S 3402.It shall have one L/H tap hole with 1/2" chrome plated lever action pillar tap, chrome plated waste with height adjustable trap, pedestal and wall fixing bolts.</p> <p>iii) Hinged support rail with toilet roll holder 770mm long manufactured in nylon coated aluminium and mounted on a wall fixing plate size 230x100 mm, 4No 600mm grab rails with covered wall plates. The set shall be as Twyford's DOC.M wheelchair accessible W.C. facility or approved equivalent.</p> <p><b><u>Hand Drier.</u></b></p> <p>C Automatic hand drier in white colour, operating on an infra red automatic sensing system with safety cut - out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 2.1 Kw and performance flow rate of 135cfm (3.82 m<sup>3</sup>/min) and to be of size 270x264x143 deep as "<b>WANDSWORTH BUNNIE</b>" Model HDZ or approved equivalent</p>				
	<p><b>Carried Forward to Next Page</b></p>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Soap Dispenser.</u></b>				
A	Soap dispenser of capacity 1.136 litres complete with plastic rawls plug fixing screws, lock and key complete with initial gel. The soap dispenser to be as "ZALPON'S" Mark 7 Model of size 125x100x290mm high or approved equivalent.	4	No		
	<b><u>Mirrors</u></b>				
B	6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back rest.	6	No		
	<b><u>Toilet Brush Holder.</u></b>				
C	Toilet brush holder in vitreous china mounted onto cocealed screw to wall wedges.	6	No		
	<b><u>Toilet Roll holder.</u></b>				
D	Fully recessed toilet roll holder in vitreous China of size 165x165 mm in approved colour as "TWYFORD VC" 9806 WH or equal and approved.	6	No		
	<b><u>Robe Hook</u></b>				
E	Vitreous China in approved colour mounted onto cocealed screw to wall wedges in approved colour. As "TWYFOND OCEAN" OC 6858 WH or approved equivalent.	15	No		
	<b><u>Flexible Tubing.</u></b>				
F	12mm diameter 300mm long Copper tubing bent as required including jointing to GMS pipe and fitting complete with 15mm diameter angle valve.	6	No		
	<b>TOTAL SANITARY FITTINGS CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>INTERNAL PLUMBING (Provisional)</b>					
	<p>Supply, deliver and install for fixing of the following PPR pipework and fittings as described and shown on the drawings including jointings, couplings etc necessary for the proper and satisfactory functioning of the system to the Engineer's approval, pipe jointing shall be by polyfusion or use of electric coupling.</p> <p>Tenderer must allow in their prices for all the couplings, connectors, unions joints, all the Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed, and pipe sleeves through structural members.</p>				
	<b><u>PPR-C pipework</u></b>				
A	63 mm ditto	6	LM		
B	50 mm ditto	10	LM		
C	40 mm ditto	8	LM		
D	32 mm ditto	44	LM		
E	25 mm ditto	45	LM		
	<b><u>Extra over PPR-C pipework for the following</u></b>				
	<b><u>Bend/elbow</u></b>				
F	32 mm ditto	6	No.		
G	25 mm ditto	22	No.		
	<b>Carried Forward to Next Page</b>				



**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Tees</u></b>				
A	40mm ditto	10	No.		
B	25mm ditto	25	No.		
	<b><u>Unequal Tees</u></b>				
C	63 x 50 mm diameter unequal tee	2	No.		
D	63 x 40mm ditto	2	No.		
E	63 x 25mm ditto	4	No.		
F	50 x 40mm ditto	6	No.		
G	50 x 25mm ditto	2	No.		
H	40 x 25mm ditto	2	No.		
I	32 x 25mm ditto	10	No.		
	<b><u>Reducers</u></b>				
J	63 x 50mm ditto	5	No.		
K	63 x 40mm ditto	2	No.		
L	50 x 40mm ditto	2	No.		
M	40 x 32mm ditto	4	No.		
N	40 x 25mm ditto	6	No.		
O	32 x 25mm ditto	8	No.		
	<b><u>Peglar Gate Valves</u></b>				
H	63mm diameter full way gate valve with wheel head and jointing to tubing as 'PEGLAR' or approved equivalent.	2	No.		
J	40mm ditto	1	No.		
	<b><u>Unions</u></b>				
T	63mm -ditto-	5	No		
U	40mm -ditto-	6	No		
V	32mm -ditto-	6	No		
W	25mm -ditto-	45	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Sockets</u></b>				
A	63mm diameter pipe socket	8	No.		
B	40mm diameter ditto	18	No.		
C	32mm diameter ditto	6	No.		
D	25mm diameter ditto	45	No.		
	<b><u>Transition fittings</u></b>				
F	40mm x 1 1/2" transition fittings	12	No.		
G	25mm x 3/4" ditto	8	No.		
H	25mm x 1/2" ditto	36	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b><u>INTERNAL DRAINAGE. (Provisional)</u></b>				
	Supply and fix uPVC soil system to BS 4660 and BS 4515 and mU PVC waste systems to BS 5255 with screwed and socketed joints to BS 21. solvent welded joints shall be as per the system's manufacturer's written instruction. Tenderer must allow in their pipework prices for all the couplings, connectors, joints etc as required in the running lengths of the pipework and also where necessary for fixing clips, holder bats plugged and screwed.				
	<b><u>UPVC and Mupvc pipework</u></b>				
A	100mm diameter grey class 'D' pipes	30	Lm		
B	50mm diameter waste pipes	12	Lm		
C	40mm diameter waste pipes	20	Lm		
	<b><u>Extra over UPVC pipework for the following:-</u></b>				
D	100mm diameter sweep bend	12	No.		
E	100x50mm diameter reducing bush	1	No.		
F	100mm diameter single branches	12	No.		
H	100mm diameter WC connector	1	No.		
I	100mm diameter access bend	3	No.		
L	100x50mm diameter trapped floor gully c/w grating and cover	8	No.		
M	100x50mm diameter boss connector	5	No.		
M	100x40mm diameter boss connector	2	No.		
P	50mm diameter sweep tee	3	No.		
Q	40mm diameter sweep tee	26	No.		
T	40mm dia ditto	12	No.		
U	50mm diameter access plug	1	No.		
V	40mm diameter access plug	12	No.		
W	40x32mm dia socket reducer	23	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<u>COLLECTION</u>					
A	SANITARY FITTINGS				
B	INTERNAL PLUMBING				
C	INTERNAL DRAINAGE				
<b>TOTAL FLOOR-GROUND FLOOR</b>					

**BILL NO. 5: SECTION NO. 3**

**FIRST FLOOR SANITARY & DRAINAGE**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	<b><u>SANITARY FITTINGS (Provisional)</u></b>				
	Supply,deliver, install, test and commission the following sanitary appliances complete with all the connections to services, waste, jointing to supply overflows and plugging and scewing to the floors:				
	<b><u>Water Closet (WC) Pan</u></b>				
A	Squatting WC Pan size 740x740mm manufactured from Grade 304 (18/10) Stainless Steel of 1.2 mm gauge complete with 20 mm turn up and flange all round, a flush bowl pressed into one piece with the raised treaded pattern foot plates on both sides and in front of the flush bowl, a rear entry 32mm spreader pipe, 100mm Waste outlet for fitting to a standard 100mm PVC Waste Connector. To be as Franke or Approved Equivalent.	6	No		
	<b><u>WC Flush Valves</u></b>				
B	40mm diameter quiet exposed water closet flush valve, chrome plated, back entry, with integral vacuum breaker, non-hold-open features and non-return valve, inlet control stop, transition fittings and wall plate comprising flush valve, bent flush pipe and rubber pipe connector. The flush valve to be handle type. To be as 'Flush Master' or equal and approved.	6	No		
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**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
A	<p><b>Wash Hand Basin (Counter Top)</b> Countertop wash hand basin size 635 x 500mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, chrome plated non-conculsive time delay press action pillar tap and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal. All to be as Twyford's "CAPRICORN" or equal and approved.</p>	6	No		
B	<p><b>Urinal Slab</b> Enameled Stainless Steel urinal slab with partitions, 5000mm in length, 14 litre concealed cistern with automatic flushing fittings, 15mm diameter 'pegler' bib tap with star handles, concealed chrome plated flush pipes with concealed horizontal sparge pipes, 50mm dia. chrome plated hinged outlet with grating, cast iron shallow p-trap, 330mm raised fireclay tile floor treads. The unit shall be 5000 x 1050mm high with a channel as Ideal Standard or equal and approved</p>	1	No		
C	<p><b>SBSD Kitchen sink</b> Single bowl, single drainer stainless steel kitchen sink of size 1000 x 500mm as manufactured by ASL 140 or equal and approved. The bowl size to be 420 x 355 x 150mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, INo. 15mm diameter chrome plated sink bib tap, chrome plated bottle trap with 75mm deep seal and chain waste fitting.</p>	6	No		
D	<p><b>Shower Fitting</b> Shower fitting comprising 20mm diameter stop cock and Instant shower fitting as Lorenzetti</p>	4	No.		
	<b>Carried Forward to Next Page</b>				-

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				-
	<b>Disabled Persons Water Closet and Wash Hand Basin Facility</b>				
	Wheel chair accessible W.C facility Comprising of the following:-				
A	i)Close coupled W.C with 7.5 litre cistern with bottom inlet and overflow.The bowl shall be of size 375x560x420mm high.The bowl and cistern shall be manufactured from vitreous china complying with B.S 3402 .The unit shall be complete with valveless cistern fittings including syphon, 1 /2" side inlet ballvalve, 3 /4" side overflow, plastics flushbend, 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, 610 x 450 x 6mm thick mirror and robe hook.				
	ii)Semi pedestal wall mounted W.H.B of size 600x500x545mm high with flexible connectors to waste and taps.The basin shall be manufactured from vitreous china complying with B.S 3402.It shall have one L/H tap hole with 1/2" chrome plated lever action pillar tap, chrome plated waste with height adjustable trap, pedestal and wall fixing bolts.				
B	iii) Hinged support rail with toilet roll holder 770mm long manufactured in nylon coated aluminium and mounted on a wall fixing plate size 230x100 mm, 4No 600mm grab rails with covered wall plates. The set shall be as Twyford's DOC.M wheelchair accessible W.C. facility or approved equivalent.	2	set		
	<b><u>Hand Drier.</u></b>				
C	Automatic hand drier in white colour, operating on an infra red automatic sensing system with safety cut - out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 2.1 Kw and performance flow rate of 135cfm (3.82 m <sup>3</sup> /min) and to be of size 270x264x143 deep as " <b>WANDSWORTH BUNNIE</b> " Model HDZ or approved equivalent	2	No		
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**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Soap Dispenser.</u></b>				
A	Soap dispenser of capacity 1.136 litres complete with plastic rawls plug fixing screws, lock and key complete with initial gel. The soap dispenser to be as "ZALPON'S" Mark 7 Model of size 125x100x290mm high or approved equivalent.	4	No		
	<b><u>Mirrors</u></b>				
B	6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back rest.	6	No		
	<b><u>Toilet Brush Holder.</u></b>				
C	Toilet brush holder in vitreous china mounted onto cocealed screw to wall wedges.	6	No		
	<b><u>Toilet Roll holder.</u></b>				
D	Fully recessed toilet roll holder in vitreous China of size 165x165 mm in approved colour as " <b>TWYFORD VC</b> " 9806 WH or equal and approved.	6	No		
	<b><u>Robe Hook</u></b>				
E	Vitreous China in approved colour mounted onto cocealed screw to wall wedges in approved colour. As " <b>TWYFOND OCEAN</b> " OC 6858 WH or approved equivalent.	15	No		
	<b><u>Flexible Tubing.</u></b>				
F	12mm diameter 300mm long Copper tubing bent as required including jointing to GMS pipe and fitting complete with 15mm diameter angle valve.	6	No		
	<b>TOTAL SANITARY FITTINGS CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>INTERNAL PLUMBING (Provisional)</b>					
	<p>Supply, deliver and install for fixing of the following PPR pipework and fittings as described and shown on the drawings including jointings, couplings etc necessary for the proper and satisfactory functioning of the system to the Engineer's approval, pipe jointing shall be by polyfusion or use of electric coupling.</p> <p>Tenderer must allow in their prices for all the couplings, connectors, unions joints, all the Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed, and pipe sleeves through structural members.</p>				
	<b><u>PPR-C pipework</u></b>				
A	63 mm ditto	6	LM		
B	50 mm ditto	10	LM		
C	40 mm ditto	8	LM		
D	32 mm ditto	44	LM		
E	25 mm ditto	45	LM		
	<b><u>Extra over PPR-C pipework for the following</u></b>				
	<b><u>Bend/elbow</u></b>				
F	32 mm ditto	6	No.		
G	25 mm ditto	22	No.		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Tees</u></b>				
A	40mm ditto	10	No.		
B	25mm ditto	25	No.		
	<b><u>Unequal Tees</u></b>				
C	63 x 50 mm diameter unequal tee	2	No.		
D	63 x 40mm ditto	2	No.		
E	63 x 25mm ditto	4	No.		
F	50 x 40mm ditto	6	No.		
G	50 x 25mm ditto	2	No.		
H	40 x 25mm ditto	2	No.		
I	32 x 25mm ditto	10	No.		
	<b><u>Reducers</u></b>				
J	63 x 50mm ditto	5	No.		
K	63 x 40mm ditto	2	No.		
L	50 x 40mm ditto	2	No.		
M	40 x 32mm ditto	4	No.		
N	40 x 25mm ditto	6	No.		
O	32 x 25mm ditto	8	No.		
	<b><u>Peglar Gate Valves</u></b>				
H	63mm diameter full way gate valve with wheel head and jointing to tubing as 'PEGLAR' or approved equivalent.	2	No.		
J	40mm ditto	1	No.		
	<b><u>Unions</u></b>				
T	63mm -ditto-	5	No		
U	40mm -ditto-	6	No		
V	32mm -ditto-	6	No		
W	25mm -ditto-	45	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b>Brought Forward from Previous Page</b>				
	<b><u>Sockets</u></b>				
A	63mm diameter pipe socket	8	No.		
B	40mm diameter ditto	18	No.		
C	32mm diameter ditto	6	No.		
D	25mm diameter ditto	45	No.		
	<b><u>Transition fittings</u></b>				
F	40mm x1 1/2" transition fittings	12	No.		
G	25mm x 3/4" ditto	8	No.		
H	25mm x 1/2" ditto	36	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

	<b><u>INTERNAL DRAINAGE. (Provisional)</u></b>				
	Supply and fix uPVC soil system to BS 4660 and BS 4515 and mU PVC waste systems to BS 5255 with screwed and socketed joints to BS 21. solvent welded joints shall be as per the system's manufacturer's written instruction. Tenderer must allow in their pipework prices for all the couplings, connectors, joints etc as required in the running lengths of the pipework and also where necessary for fixing clips, holder bats plugged and screwed.				
	<b><u>UPVC and Mupvc pipework</u></b>				
A	100mm diameter grey class 'D' pipes	30	Lm		
B	50mm diameter waste pipes	12	Lm		
C	40mm diameter waste pipes	20	Lm		
	<b><u>Extra over UPVC pipework for the following:-</u></b>				
D	100mm diameter sweep bend	12	No.		
E	100x50mm diameter reducing bush	1	No.		
F	100mm diameter single branches	12	No.		
H	100mm diameter WC connector	1	No.		
I	100mm diameter access bend	3	No.		
L	100x50mm diameter trapped floor gulley c/w grating and cover	8	No.		
M	100x50mm diameter boss connector	5	No.		
M	100x40mm diameter boss connector	2	No.		
P	50mm diameter sweep tee	3	No.		
Q	40mm diameter sweep tee	26	No.		
T	40mm dia ditto	12	No.		
U	50mm diameter access plug	1	No.		
V	40mm diameter access plug	12	No.		
W	40x32mm dia socket reducer	23	No.		
	<b>TOTAL INTERNAL PLUMBING CARRIED TO COLLECTION</b>				

Proposed Construction of Chuka Modern Market in Tharaka Nithi

<u>COLLECTION</u>					
A	SANITARY FITTINGS				
B	INTERNAL PLUMBING				
C	INTERNAL DRAINAGE				
<b>TOTAL FLOOR-FIRST FLOOR</b>					

**BILL NO. 5: SECTION NO. 4**

**INTERNAL AND EXTERNAL DRAINAGE**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b><u>INTERNAL DRAINAGE WORKS (Provisional)</u></b>				
	Supply and fix uPVC soil system to BS 4660 and BS 4515 and mU PVC waste systems to BS 5255 with screwed and socketed joints to BS 21. solvent welded joints shall be as per the system's manufacturer's written instruction. Tenderer must allow in their pipework prices for all the couplings, connectors, joints etc as required in the running lengths of the pipework and also where necessary for fixing clips, holder bats plugged and screwed:				
	<b><u>UPVC and Mupvc pipework</u></b>				
A	150mm diameter golden brown UPVC class 'D' pipes	90	Lm		
B	100mm diameter golden brown UPVC class 'D' pipes	220	Lm		
C	100mm diameter grey class 'D' pipes	30	Lm		
D	100mm diameter weathering slate and vent cowl	12	No.		
	<b><u>Extra over UPVC pipework for the following:-</u></b>				
E	100mm diameter long radius bend	12	No.		
F	100mm diameter 45 degrees sweep bend	24	No.		
G	300x300x200mm deep concrete gulley trap complete with 100mm diameter UPVC 'P' Trap gulley and 14 SWG cover with handle.	10	No.		
	<b>TOTAL INTERNAL DRAINAGE CARRIED TO COLLECTION</b>				



**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	<p><b><u>EXTERNAL DRAINAGE WORKS</u></b></p> <p>Supply, deliver and fix the following in UPVC soil and waste systems to BS 4514 and 5225 with fittings fixed in accordance to the manufacturer's printed instructions and BS 5572 and manufactured by "KEY TERRAIN" as described. All UPVC branches, Tees, reducing Tees, reducers etc. are to be formed in accordance to the manufacturer's printed instruction. The installations to have the various sizes of connectors, adaptors, sockets, reducers holdbats, clips etc. as required for satisfactory functions. (ALL PRICE TO BE INCLUSIVE VAT)</p> <p><b>Inspection Chambers:</b> Construct man hole size 600x450mm and approx. 750mm deep with 200mm thick wall and 200mm thick base of concrete class N15. Man hole to be complete with 250mm thick benching with drain channels and 15mm internal plaster, top slab/screed, backfilling, carting away of surplus material and making good. The Manhole to be Complete with Man hole cover size 600x450mm and frame all in light duty cast iron with greased air tight seal and recessed cover for concrete infill.</p>	15	No		
	<b>TOTAL EXTERNAL DRAINAGE CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u><b>COLLECTION</b></u>				
A	INTERNAL DRAINAGE WORKS				
B	EXTERNAL DRAINAGE WORKS				
	<b>TOTAL COST-EXTERNAL WORKS</b>				

**BILL NO. 5: SECTION NO. 5**

**WATER RETICULATION**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<p><b><u>EXTERNAL RETICULATION (Provisional)</u></b></p> <p>Supply, deliver and install for fixing of the following PPR pipework and fittings as described and shown on the drawings including jointings, couplings etc necessary for the proper and satisfactory functioning of the system to the Engineer's approval, pipe jointing shall be by polyfusion or use of electric coupling.</p> <p>Tenderer must allow in their prices for all the couplings, connectors, unions joints, all the Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed, and pipe sleeves through structural members.</p> <p><b><u>PPR-C pipework</u></b></p> <p>A 16 Bar (PN 16) 110mm HDPE Pipework 150 LM</p> <p>B 75 mm diameter ditto 120 LM</p> <p>C 63 mm ditto 70 LM</p> <p>D 50 mm ditto 50 LM</p> <p>E 40 mm ditto 30 LM</p> <p>F 32 mm ditto 25 LM</p> <p><b><u>Extra over PPR-C pipework for the following</u></b></p> <p><b><u>Bend/elbow</u></b></p> <p>G 75mm diameter bend/elbow 7 No.</p> <p>H 63 mm ditto 5 No.</p> <p>I 50 mm ditto 15 No.</p> <p>J 40 mm ditto 5 No.</p> <p>K 32 mm ditto 5 No.</p>				
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b>Brought Forward from Previous Page</b>				-
	<b><u>Tees</u></b>				
A	75mm Tee	1	No.		
B	50mm ditto	1	No.		
	<b><u>Unequal Tees</u></b>				
C	75 x 63 mm Tee	2	No.		
D	63x50mm ditto	5	No.		
E	50 x 40mm ditto	8	No.		
F	40 x 32mm ditto	5	No.		
	<b><u>Reducers</u></b>				
I	90 x 75mm ditto	3	No.		
J	90 x 63mm ditto	12	No.		
K	90 x 50mm ditto	2	No.		
L	50 x 40mm ditto	1	No.		
	<b><u>Peglar Gate Valves</u></b>				
M	100mm diameter full way gate valve with wheel head and jointing to tubing as 'PEGLAR' or approved equivalent.	1	No.		
N	75mm ditto	1	No.		
O	75mm ditto	1	No.		
P	75mm Foot Valve	1	No		
P	50mm Non Return Valve	2	No		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b>Brought Forward from Previous Page</b>				
	<b><u>Unions</u></b>				
A	110mm Union	4	No		
B	75mm -ditto-	2	No		
C	75mm diameter Non-return valve	2	No		
	<b><u>Sockets</u></b>				
E	75mm Socket	5	No		
F	63mm -ditto-	6	No		
G	50mm -ditto-	15	No		
H	40mm -ditto-	10	No		
	<b>Transition Fittings</b>				
I	75mm x2 1/2" transition fittings	4	No.		
J	50mm x1 1/2" transition fittings	6	No.		
	<b>TOTAL PLUMBING CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b><u>ROOF TANKS</u></b>				
A	Pressed Steel Sectional Tank plates 6mm thick plates (size 1000mm x 1000mm) capacity of tank to be 32,000 litres and of preferred dimensions 4000mm x 4000mm x 2000mm. The tank to come complete with tank cover, internal and external ladders, mosquito proof inspection vent, internal stays, jointing material, bolts and nuts including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminum paint on the outside.	1	No		
	<b>Surface Mounted Tank</b>				
B	Pressed Steel Sectional Tank plates 6mm thick plates (size 1000mm x 1000mm) capacity of tank to be 50,000 litres and of preferred dimensions 5000mm x 5000mm x 2000mm. The tank to come complete with tank cover, internal and external ladders, mosquito proof inspection vent, internal stays, jointing material, bolts and nuts including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminum paint on the outside. The cost to include cost of installation	1	No		
C	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 700mm deep averaging 500mm deep part return fill, ram and part cart away	150	Lm		
D	<b>Valve/Water Meter Chamber</b> Meter chamber size 450x450x600mm deep with 100mm concrete (1: 3: 6) base 50mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	1	No.		
E	<b>Pipe Sleeves</b> 100mm diameter heavy duty PVC Class 41 pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm concrete surround.	50	Lm		
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**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b>Brought Forward from Previous Page</b>				
A	<b>Bulk and check Water Meters</b> 50mm bulk water meter as 'Kent' or equal and approved equivalent for the connection to the water main supply to site and include county charges.	1	No.		
	<b><u>Water Booster Pumps</u></b>				
B	A set of automatic electrically driven booster pumps one duty and the other standby, capable of delivering 20m <sup>3</sup> /hr against a head of 3.0 bar with a 3-phase power source. The pump shall be complete with 100litre pressure vessel, controls and control panel, electrical works including wiring and fitting from the isolator to pumps, control panel and float switches. and all necessary accessories required for proper and satisfactory operation complete with anti-vibration mounted platform.	1	Set		
	<b><u>Controls and Control Panel</u></b>				
C	Control panel for above pumps with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, 80 meters long float switch control cable to the roof tanks, start/stop push buttons and indicator lights. All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 14 mild steel sheet that is oven powder coated. There shall also be an adjustable time delay switch to ensure pumping cycles are controlled to not more than 6 per hour. It should include a change-over switch to enable the pumps to work alternately.	Sum	No		
	<b><u>Testing and commissioning</u></b>				
D	Allow for sterilization of the cold water system, pressure testing and commissioning of the Plumbing installation.	SUM			
	<b>TOTAL ROOF TANKS CARRIED TO COLLECTION</b>				





**BILL NO. 5: SECTION NO. 6**

**FIRE SUPPRESSION**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b><u>PORTABLE FIRE FIGHTING EQUIPMENT</u></b>				
	Supply, Deliver and install the following portable fire fighting equipment complete with initial charge and Pressure gauge including fixing wall brackets:				
	<b><u>CO<sub>2</sub> Gas Fire Extinguisher</u></b>				
A	4.5kg dry CO <sub>2</sub> gas portable fire extinguisher complete, with squeeze grip operating head, and discharge nozzle, fully charged.	12	No.		
	<b><u>Dry Chemical Powder Extinguisher</u></b>				
B	9kg dry Chemical powder fire portable extinguisher complete, with squeeze grip operating head, and discharge nozzle, fully charged.	12	No.		
	<b><u>Water/ CO<sub>2</sub>Extinguisher</u></b>				
C	9 litres water/ CO <sub>2</sub> gas portable fire extinguishers complete with cap, washer, and siphon-tube CO <sub>2</sub> cartridge and flexible rubber hose nozzle fully charged.	12	No.		
	<b><u>Manual Alarm bell</u></b>				
D	22cm (9") wall mounted manual rotary alarm bell	12	No.		
E	Fire exit signs	12	No.		
F	Fire instruction notices	12	No.		
	<b><u>Builder's works</u></b>				
G	Allow for all builders' works in connection with portable fire fighting equipment and installation	1	Item		
	<b>TOTAL PORTABLE FIRE FIGHTING EQUIPMENT CARRIED TO COLLECTION</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b><u>HOSE REEL INSTALLATION SYSTEM</u></b>				
	Supply and fix the following fire fighting installations and equipment as described and shown on the drawing.				
	Pipework shall be to BS 1387 class 'B' medium grade galvanized mild steel and fittings to BS 143 medium grade galvanized steel.				
	Tenderers must allow in pipework prices for all couplings, unions, nipples, sockets connectors, joints, etc in running lengths of pipes and also where necessary for fixing clips, holderbats plugged and screwed.				
	<b><u>GMS Pipework</u></b>				
A	25mm diameter pipe GMS class 'B'	30	LM		
B	50mm ditto	80	LM		
	<b><u>Elbows</u></b>				
C	25mm diameter malleable iron elbow	24	No.		
D	50mm ditto	24	No.		
	<b><u>Tees</u></b>				
E	50x25mm diameter malleable iron unequal tee	6	No.		
F	50mm dia equal tee	6	No.		
	<b><u>Reducers</u></b>				
G	50x25mm diameter reducer	12	No.		
	<b><u>Gate Valves</u></b>				
H	25mm diameter bronze gate valve to BS 5154	6	No.		
I	50mm ditto	6	No.		
J	50mm diameter non return valve	1	No.		
	<b><u>Unions</u></b>				
K	25mm dia. Unions	12	No.		
L	50mm ditto	12	No.		
	<b><u>Sockets</u></b>				
M	50mm dia sockets	24	No.		
	<b><u>Hose reel</u></b>				
N	20mm dia. x 30m long swinging type fire hosereel complete with delivery valve, mild steel feed pipe, isolation valve guide, 5mm dia. bronze nozzle and all other necessary accessories as 'ANGUS FIRE ARMOUR' or equal and approved equivalent.	12	No.		
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	<p><b>Brought Forward from Previous Page</b></p> <p><b><u>Pumps for Hose-reel System</u></b></p> <p>Fully automatic package unit water pressure booster pumpset capable of delivering 2.3 litres/sec against a static pressure head of 25m. The pumpset shall comprise 2No. pumps (one duty, one standby), mountings, control gear, pressure switch and pneumatic vessel, all on a common frame.</p> <p>Control shall be effected via a pressure switch through a pre-wired control panel, which shall give automatic changeover from duty to standby after every cycle of operation. The controls shall also include motor under-voltage/over-voltage protection devices and incorporate a float switch for protection against dry running.</p> <p>The pumpset shall be pre-assembled complete with pipework, and fittings (unions, water strainers, isolation valves, non-return valves, etc) ready for connection to water tank outlet and to the hose-reel supply pipework.</p> <p>The pumpset shall be as 'PULLEN FIREPAK' AS MANUFACTURED BY Pullen Pumps Ltd or equal and approved.</p>	1	set		
B	<p><b><u>Electrical works</u></b></p> <p>Electrical works including wiring and fitting from the isolator to the pumps and float switch. The power connection to the isolator shall be provided by others.</p>	Item	sum		
	<p><b>TOTAL HOSEREEL INSTALLATION SYSTEM CARRIED TO COLLECTION</b></p>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
<u>COLLECTION PAGE</u>					
A	PORTABLE FIRE FIGTHING EQUIPMENT				
B	HOSEREEL INSTALLATION SYSTEM				
	<b>TOTAL FIRE SUPPRESSION CARRIED TO SUMMARY</b>				

**BILL NO. 5: SECTION NO. 7**

**COLD ROOM INSTALLATION**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

Item	Description	Qty	Unit	Rate	Amount
	<b>COLD ROOM INSTALLATIONS</b>				
A	14 kW evaporator unit	3	No		
B	14kW Semi-hermetic type Condensing Unit to match the load of the indoor unit as Bitzer or equivalent	3	No		
C	Copper piping/Amafex insulation (20m length)	3	Item		
D	filter drier	3	No		
E	Control panel for the Cold Room	3	No		
F	Thermostat for the cold room	3	No		
G	Dial Thermometer for the cold room	3	No		
H	Solenoid valve for cold room Condensing unit	3	No		
I	LP/HP Cut out switch for cold room condensing unit	3	No		
J	High pressure gauge	3	No		
K	Low pressure gauge	3	No		
L	Thermal Expansion valve TEV	3	No		
M	14A compressor unit	3	No		
N	Sight glass	3	No		
O	Insulated door for the Cold Room as specified	3	No		
P	Vapour seal (Square meters)	200	Sm		
Q	Thermal insulation 150mm thick polyurethane	200	Sm		
R	3 mm Chequered Aluminium plate	120	Sm		
S	23 Gauge Aluminium sheet	120	Sm		
T	65W Vapour Proof Lighting Fittings	10	No		
U	Electrical Conduits and Wiring	1	Item		
V	Allow for Purging, charging, testing, commissioning and cleaning of the cold room	5	Item		
	<b>TOTAL FOR COLDROOM CARRIED TO SUMMARY</b>				



**BILL NO. 5: SECTION NO. 7**

**ROOF DRAINAGE**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

Item	Description	Qty (BQ)	Unit	Rate (Kshs)	Amount (Kshs)
	<b>INTERNAL FLAT ROOF AND TERRACE</b>				
	Supply,deliver and install die following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.				
	<b>Pipework</b>				
A	100mm diameter heavy gauge grey mUPVC down pipes	60	Lm		
	<b>Bends</b>				
B	100mm diameter sweep bend	12	No.		
	<b>Others</b>				
C	100 x 50mm diameter stainless steel floor drain with grating for passage areas	12	No.		
	<b>Fulbora</b>				
D	100mm diameter cast iron fulbora	6	Lm		
<b>Total carried forward to Summary Page</b>					

ITEM	DESCRIPTION	AMOUNT
<b><u>BILL NO. 5: SUMMARY</u></b>		
<b><u>MECHANICAL INSTALLATIONS</u></b>		
A	FLOOR 1 SANITARY & PLUMBING	
B	GROUND FLOOR SANITARY & PLUMBING	
C	LOWER GF SANITARY & PLUMBING	
D	EXTERNAL DRAINAGE WORKS	
E	WATER RETICULATION	
F	FIRE SUPPRESSION	
G	COLD ROOM	
H	ROOF DRAINAGE	
<b>TOTAL CARRIED TO GRAND SUMMARY</b>		

**BILL NO. 6: ASSOCIATED CIVIL WORKS**

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<p align="center"><b><u>PROPOSED CHUKA MODERN MARKET IN THARAKA-NITHI COUNTY</u></b></p>					
<p align="center"><b><u>ASSOCIATED CIVIL WORKS</u></b></p>					
<p align="center"><b><u>SECTION 01: PARKING &amp; PAVED WALKWAY.</u></b></p>					
<p><b><u>A. Site Clearance and Top soil Stripping</u></b></p>					
1	<p>Clear site including removal of trees, hedges, bushes and other vegetation and other deleterious materials, grub up roots and backfilling of holes left by removal of stumps and roots in accordance with the Specifications, as shown on the drawings and as instructed by Engineer.</p>	sm	200		
<p><b><u>B. Earthworks</u></b></p> <p><i>No separate payments shall be made for the overhaul of the material and the cost of such haulage shall be included in the rates and or prices.</i></p>					
2	<p>Excavation in soft material to formation level n.e 1.5m deep ,transport over any distance and stockpile for re-use or spoil and compaction of the formation level to 95% modified AASHTO and to the approval of the Engineer.</p>	m <sup>3</sup>	2092		
3	<p>Ditto item 2 in Hard material</p>	m <sup>3</sup>	301		
	<p>Fill in soft material to formation level and compaction of the formation level to 95% modified AASHTO and to the approval of the Engineer.</p>	m <sup>3</sup>	259		
	<p>Ditto item 2 in Hard material</p>	m <sup>3</sup>	100		
<p><b><u>C. Natural Material for Subgrade, Sub-base and Base</u></b></p>					
4	<p>Provide, spread, water, process and compact 300 mm improved subgrade to 100% MDD (AASHTO T99) in two layers of 150 mm thickness.</p>	m <sup>3</sup>	638.54		
5	<p>Provide, place, water and compact Natural Gravel Material to 95% MDD (AASHTO T180) of sub base quality for base for the walkways of thickness 150mm as shown in the drawings and as instructed by the Engineer</p>	m <sup>3</sup>	95.235		
<p><b>Carried Forward to Next Page</b></p>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6	<p><b>Brought Forward from Previous Page</b></p> <p>Prepare surface provide, place, handpack 300mm in One layer (Parking) and 225mm in One layer (Walkway) compact 50mm quarry chips (natural blue stone) to refusal densities on the parking and walkway as directed by the Engineer.</p>	m <sup>3</sup>	398.44		
7	<p><b><u>D. Concrete Works</u></b></p> <p>Provide and fix on the parking and walkway interlocking concrete paved unishaped blocks (monolithic single layer precast concrete blocks) of any specified colour/size &amp; shape, with approved pattern of 60 mm thick having average crushing strength of 50 N/mm<sup>2</sup> on average thickness of 50 mm complete with uniformly graded river sand cushioning properly compacted with a mechanical compactor to required level, grade and camber as instructed by Engineer. Rate to include bedding sand and that to fill the joints, ties and edge restraints</p>	m <sup>2</sup>	1587		
8	<p>Provide, lay in place and joint 600x600x50mm well cured paving slabs on 50mm well compacted sand/quarry dust bed to walkway ramp and around the blocks as stipulated in the special Specifications.</p>	m <sup>2</sup>	207		
8	<p>Provide, lay in place and joint 200mm thick JRCP Concrete Pavement for the Reinforced Concrete Ramp well cured and well compacted as stipulated in the special Specifications.</p>	m <sup>2</sup>	207		
<b>Carried Forward to Next Page</b>					
9	<p><b>Brought Forward from Previous Page</b></p> <p><b><u>E. Drainage works</u></b></p> <p><i>No separate payment shall be made for the haulage of surplus or unsuitable excavated material and the cost of such haulage shall be included in the rates and/or prices</i></p> <p>Clear site and excavate for minor drainage structures including access Culverts in soft material, compaction of the invert of the excavation and backfilling of the excavated material or removing the excavated</p>	m <sup>3</sup>	50		
<b>Carried Forward to Next Page</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
	<b>Brought Forward from Previous Page</b>				
10	<p><u>Provide, Lay and Joint Pipes with Concrete class 15/20 to Beds, Sorrounds and Haunches as per the specification and as directed by the Engineer</u></p> <p>(a) 900mm diameter (b) 600mm diameter (b) 450mm diameter</p>	m m m			
11	<p><u>Concrete class 25/20 to Headwalls, Wingwalls, Aprons, Toe Beams and other Drainage Structures</u></p> <p>Provide and place concrete class 20/20, including reinforcement and shuttering; all in accordance with the specifications and in conformity with the Engineer's instructions</p>	m <sup>3</sup>			
12	<p><u>Invert Block Drains</u></p> <p>Provide and place invert block drains with two course side slabs including bedding and backfilling with selected material; all in accordance with the specifications and in conformity with the Engineer's instructions</p>	m	75		
13	<p><u>Shallow IBD</u></p> <p>Provide all materials lay and joint shallow IBD as directed by the Engineer to form mitre drains. Rate to include provision of 100mm well compacted bed and jointed by 1:3 cement mortar</p>	m	113		
14	<p>Untrapped gully pot and polyresin frames</p> <p>Provide all materials and construct standard untrapped gully pot in concrete class 20/20 reinforced with BRC A142 and with 350x500mm polyresin frames and covers conforming with standard specifications</p> <p>Drain Lining with Grating cover</p> <p>Provide all materials and construct standard drain with grating concrete class 20/20 reinforced with BRC A142 and with R25 bars welded onto inverted 50mmx6mm Thick Angle bar at 75mm C/C and covers conforming with standard specifications</p>	no.  m2	3	237	
	<b>Carried Forward to Next Page</b>				

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
	<b>Brought Forward from Previous Page</b>				
	<b><u>F. Road Furniture</u></b>				
15	<u>Concrete road Kerbs</u> Provide material, transport, handle, mix and place (a) Raised straight precast kerbs 130mmx220mm	m	332		
16	<u>Channel blocks</u> Provide, lay and joint 125 x 100mm channel blocks to roads, footpaths and shoulders	m	332		
17	<u>Quadrants</u> Provide and lay quadrants of radius less than 1.0m	m	12		
18	<u>P.c.c bollards - Provisional</u> Provide and erect p.c.c bollards in class 20/20 concrete of size 1.2x2x0.2xembedded to a depth of 0.3m at place and as directed by Engineer	No.	13		
18	<u>Road marking in thermoplastic paint</u> Prepare road and parking area surface, supply approved tack coat and road thermoplastic paint, spray approved tack coat, mark out and paint as instructed by the Engineer (a) White paint (b) Yellow paint	m <sup>2</sup> m <sup>2</sup>	23		
19	<u>Road signs</u> Provide, excavate for and erect road signs, including backfill as instructed by the Engineer	No.	2		
	<b>CIVIL WORKS TOTAL CARRIED TO BILL NO. 6 SUMMARY</b>				



**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>BILL NO. 6.2 - PRELIMINARIES AND GENERAL ITEMS</b>					
<b>Item No</b>	<b>Description</b>	<b>Unit</b>	<b>Quantit</b>	<b>Rate (KSh.)</b>	<b>Amount (KSh.)</b>
<b>CLASS A - GENERAL ITEMS</b>					
<b>Contractual Requirements</b>					
A140.2	Provide for preparation and submission to the employer 1No set of virograph and 2No sets of blue print copies (A1 SIZE) of as built drawings for all the sewer pipelines in the contract. Note that manhole positions in the layout should be actual ( geo-referenced to the national grid).	Item	Lump sum		
<b>Specified Requirements</b>					
<b>Testing of Materials and Works</b>					
A250	Provide for concrete strength test. Rate to include for casting of the necessary number of cubes, curing,transport from site to testing institution and fees payable for the service.	nr	30		
A250.1	Provide for testing of the sewer pipes.Rate to include for transportation to the testing institutions and fees payable for this service.	nr	10		
<b>Temporary Works</b>					
A272	Traffic regulation (including signages,warning tapes and warning signs); establishment, operation and removal.	Item	Lump sum		
A277	Allow for keeping trenches and other excavation free of water which may have entered through ground seepage, rain or by other means as directed by the Engineer	Item	Lump sum		
A279	Allow for laying of temporary sewers between existing manholes for the purpose of diverting sewage flows during construction of new manholes on existing sewers or connecting to existing manholes. Include for provision of plugs and any other material required to facilitate construction of the works	Item	Lumb sum		
<b>Provisional Sums</b>					
A.420.1	Allow for provisional sum of Kshs 150,000 for removal/alteration/connection of water and sewerage services as provided by NIWASCO	Item	Prov. Sum	<b>150,000</b>	<b>150,000</b>
A.420.2	Allow the provisional sum of Kshs 300,000 to cover supervision costs of Engineers assigned on the project from the Employer's head office and the NIWASCO to cover expenses for communications, transport and aloowances, etc to be expended as directed by the project manager (Provisional)	Item	Prov. Sum	<b>300,000</b>	<b>300,000</b>
A.420.3	Add .....% for profit, administration, attendance upon, overheads, etc. for Item A420.1 & A420.2 above.	%			
<b>Bill No. 6.2- PAGE 1 TOTAL CARRIED TO SECTION NO. 2 SUMMARRY</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>BILL No. 6.2 MEASURED WORKS</b>					
<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate</b>	<b>Amount (Kshs.)</b>
	<p><b>The rates quoted by the Contractor shall be deemed to include provision by the Contractor to provide temporary vehicular access to all construction sites including negotiating with private land owners and paying the necessary charges as required.</b></p> <p><b>CLASS A - GENERAL ITEMS</b></p> <p><b>GENERAL CLEARANCE</b></p>				
A140.3	Allow for setting out of the works	m	295.00		
	<p><b>Testing of the works</b></p>				
A260	Carrying out test on sewer, a pipeline as specified or directed by the engineer, include provision of all equipment and materials	m	295.00		
	<p><b>CLASS B - SITE INVESTIGATION</b></p>				
B111	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth n.e 1m ( provisional)	nr	2.00		
B112	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth 1- 2m ( provisional)	nr	2.00		
B113	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth 2-3m ( provisional)	nr	2.00		
B114	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth 3-5m ( provisional)	nr	0.00		
	<p><b>CLASS D - DEMOLITION AND SITE CLEARANCE</b></p> <p><b>The rate quoted is for site clearance and demolition along construction wayleave shall be deemed to include removal of the material and carting away to tips, identified by the Contractor in liaison with the Local Authority.</b></p>				
D100	General site clearance through undeveloped land over the wayleave, include for additional clearance required	ha	0.09		
D210	Removal of trees girth 0.5- 1m ( Provisional)	nr	1.00		
D220	Removal of trees girth 1-2m ( Provisional)	nr	1.00		
<b>Bill No. 6.2- PAGE 1 TOTAL CARRIED FORWARD TO COLLECTION SHEET</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate</b>	<b>Amount (Kshs.)</b>
	<b>CLASS I - PIPEWORK - PIPES</b>				
	<b>Supply of pipes</b>				
I230.1	Nominal bore 150mm uPVC Class 34 Pipeline	m	75.00		
I230.2	Nominal bore 225mm uPVC Class 34 Pipeline	m	70.00		
I230.3	Nominal bore 300 mm DWC HDPE SN8 Pipe	m	150.00		
I230.4	Nominal bore 400 mm DWC HDPE SN8 Pipe	m	0.00		
	<b>uPVC &amp; DWC HDPE SN8 PIPES TO BS 5911 WITH SPIGOT AND SOCKET</b>				
	<b>The rates entered against the items in this section shall include for stripping top soil, laying aside and subsequently replacing over refilled trench, excavation in trench in material other than rock, shuttering where necessary, refilling and compacting spreading surplus soil evenly over and alongside pipe trench, compacting, lay and joint pipes to correct line and level. Depths are stated from ground level to invert level</b>				
	<b>Nominal bore 150 mm in trenches</b>				
I233.1	depth not exceeding 1.5 m.	m	75.00		
	<b>Nominal bore 225 mm in trenches</b>				
I232.1	depth not exceeding 1.5 m.	m	35.00		
I233.1	ditto but depth; 1.5 - 2.0 m.	m	35.00		
I234.1	ditto but depth; 2.0 - 2.5 m.	m	0.00		
I235.1	ditto but depth; 2.5 - 3.0 m.	m	0.00		
I236.1	ditto but depth; 3.0 - 3.5 m.	m			
I237.1	ditto but depth; 3.5 - 4.0 m.	m			
I238.1	ditto but depth: 4.0 - 4.5 m.	m			
I239.1	ditto but depth: 4.5 - 5.0 m.	m			
	<b>Nominal bore 300 mm in trenches</b>				
I232.1	depth not exceeding 1.5 m.	m	15.00		
I233.1	ditto but depth; 1.5 - 2.0 m.	m	30.00		
I234.1	ditto but depth; 2.0 - 2.5 m.	m	75.00		
I235.1	ditto but depth; 2.5 - 3.0 m.	m	30.00		
I236.1	ditto but depth; 3.0 - 3.5 m.	m			
I237.1	ditto but depth; 3.5 - 4.0 m.	m			
I238.1	ditto but depth: 4.0 - 4.5 m.	m			
I239.1	ditto but depth: 4.5 - 5.0 m.	m			
	<b>Nominal bore 450 mm in trenches</b>				
I232.1	depth not exceeding 1.5 m.	m	0.00		
I233.1	ditto but depth; 1.5 - 2.0 m.	m	0.00		
I234.1	ditto but depth; 2.0 - 2.5 m.	m	0.00		
I235.1	ditto but depth; 2.5 - 3.0 m.	m	0.00		
<b>Bill No. 6.2- PAGE 2 TOTAL CARRIED FORWARD TO COLLECTION SHEET</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate</b>	<b>Amount (Kshs.)</b>
	<b>CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES</b>				
	<b>Excavation quantities are given net. The rate entered are to include for manhole concrete slabs and covers (polyresin covers) or step irons or ladder, excavation, shuttering where necessary, refilling and compacting around the finished manholes, and disposing of surplus spoil is to be evenly spread.</b>				
	<b>Excavation in anv material other than rock</b>				
	<b>Masonry manhole 1050 mm , reinforced concrete manhole slab and cover (Polyresin Covers)</b>				
K151.1	depth not exceeding 0.6 m.	nr	3.00		
K151.2	depth not exceeding 0.9 m.	nr	5.00		
K151.3	depth not exceeding 1.2 m.	nr	5.00		
K151.4	depth not exceeding 1.5 m.	nr	0.00		
	<b>MANHOLES</b>				
	<b>Manhole size 1050 mm , reinforced concrete manhole slab and cover (Polyresin Covers)</b>				
K151.1	depth not exceeding 1.5 m.	nr	5.00		
K152.1	ditto but depth; 1.5 - 2.0 m.	nr	2.00		
K153.1	ditto but depth; 2.0 - 2.5 m.	nr	2.00		
K154.1	ditto but depth; 2.5 - 3.0 m.	nr	0.00		
K155.1	ditto but depth; 3.0 - 3.5 m.	nr			
K156.1	ditto but depth; 3.5 - 4.0 m.	nr			
K157.1	ditto but depth; 4.0 - 4.5 m.	nr			
K158.1	ditto but depth; 4.5 - 5.0 m.	nr			
K159.1	ditto but depth; 5.0 - 5.5 m.	nr			
	<b>Manhole size 1050 reinforced concrete manhole slab and cover (With Backdrop)</b>				
K166	ditto but depth; 3.5 - 4.0 m.	nr	0.00		
K167	ditto but depth; 4.0 - 4.5 m.	nr	0.00		
K168	ditto but depth; 5.0 - 5.5 m.	nr	0.00		
	<b>MANHOLES</b>				
	<b>Manhole size 1200 mm , reinforced concrete manhole slab and cover (Polyresin Covers)</b>				
K151.1	depth not exceeding 1.5 m.	nr	0.00		
K152.1	ditto but depth; 1.5 - 2.0 m.	nr	5.00		
K153.1	ditto but depth; 2.0 - 2.5 m.	nr	6.00		
K154.1	ditto but depth; 2.5 - 3.0 m.	nr	6.00		
K155.1	ditto but depth; 3.0 - 3.5 m.	nr			
<b>Bill No. 1.2- PAGE 3 TOTAL CARRIED FORWARD TO COLLECTION SHEET</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate</b>	<b>Amount (Kshs.)</b>
K159.1	ditto but depth; 5.0 - 5.5 m. Manhole size 1200 reinforced concrete manhole slab and cover (With Backdrop)	nr	0		
K166	ditto but depth; 3.5 - 4.0 m.	nr	2.00		
K167	ditto but depth; 4.0 - 4.5 m.	nr	0.00		
K168	ditto but depth; 5.0 - 5.5 m.	nr			
<b>CLASS L; SUPPORTS AND PROTECTION ANCILLIARIES TO LAYING AND EXCAVATION</b>					
<b>Extras to Excavation and backfilling Trenches</b>					
<b>( Note : blasting not allowed for any rock excavation)</b>					
<b><i>In pipe trenches 225mm bore</i></b>					
L111	Excavation of rock	m3	28.00		
L118	Allow for excavation of soft material below final surface of pipe trench and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	14.00		
<b><i>In pipe trenches 300mm bore</i></b>					
L111	Excavation of rock	m3	150.00		
L118	Allow for excavation of soft material below final surface of pipe trench and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	60.00		
<b><i>In pipe trenches 450 mm bore</i></b>					
L111	Excavation of rock	m3	0.00		
L118	Allow for excavation of soft material below final surface of pipe trench and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	0.00		
<b><i>In Manholes and other chambers</i></b>					
<b><i>( Note: Blasting not allowed for any rock excavation )</i></b>					
L 121	Excavation of rock	m3	28		
L 128	Allow for excavation of soft material below final surface of manhole and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	19		
<b>Reinstatement</b>					
L 129.1	Microtunneling across 24m length road using DN 450 externally Epoxy coated and internally cement lined socket and spigot steel pipes. roads pipe nominal bore 375 mm. Rate to include application and acquisiton of road cutting permits from road authorities.Rate to include application and acquisiton of road cutting permits from road authorities.	Item	Lump sum		
<b>Total Carried Forward to Summary</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>Brought Forward from Previous page</b>			
L 129.2	Breaking up temporary and permanent reinstatement of tarmac roads to original state to the satisfaction of the Engineer. pipe nominal bore 225 - 450 mm. Rate to include application and acquisition of road cutting permits from road authorities	m	24.00
L 129.3	Breaking up temporary and permanent reinstatement of market slab/ foot paths/walkway/road verge and abutting drain with lateritic gravel as base and 100mm thick reinforced concrete slab (BRC A142). pipe nominal bore 225 - 450mm. Rate to include application and acquisition of road cutting permits from road authorities	m	170.00
L 129.4	Reinstatement of land ( Provisional )	m	10.00
<b>Bill No. 1.2- PAGE 4 TOTAL CARRIED FORWARD TO COLLECTION SHEET</b>			

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate</b>	<b>Amount (Kshs.)</b>
	<b>Bed, Haunches and Surrounds</b>				
	<i>Mass concrete grade 15/20 in 150mm Thick Beds, Haunches and surrounds</i>				
L 444.1	225 mm nominal bore pipeline Bed haunch and surround type A (0.0904 m <sup>3</sup> )	m	0.00		
L 444.2	225 mm nominal bore pipeline Bed haunch and surround type D (0.2821 m <sup>3</sup> )	m	70.00		
L 444.3	300 mm nominal bore pipeline Bed haunch and surround type A (0.1471 m <sup>3</sup> )	m	37.50		
L 444.4	300 mm nominal bore pipeline Bed haunch and surround type C (0.3485m <sup>3</sup> )	m	0.00		
L 444.5	300 mm nominal bore pipeline Bed haunch and surround type D (0.3702 m <sup>3</sup> )	m	112.50		
L 444.6	450 mm nominal bore pipeline Bed haunch and surround type A (0.1689 m <sup>3</sup> )	m	0.00		
L 444.7	450 mm nominal bore pipeline Bed haunch and surround type C (0.4059 m <sup>3</sup> )	m	0.00		
L 444.8	450 mm nominal bore pipeline Bed haunch and surround type D (0.4818 m <sup>3</sup> )	m	0.00		
<b>Bill No. 1.2- PAGE 5 TOTAL CARRIED FORWARD TO COLLECTION SHEET</b>					

**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

COLLECTION PAGE					
ITEM No	DESCRIPTION	Unit	Qty		Amount (Kshs.)
	COLLECTION PAGE				
1	From Page 2				
2	From Page 3				
3	From Page 4				
4	From Page 5				
5	From Page 6				
	Sub-Total (i)				
<b>Bill No. 1.2-TOTAL MEASURED WORKS CARRIED FORWARD TO SUMMARY</b>					



**Proposed Construction of Chuka Modern Market in Tharaka Nithi**

**Sewer Works Summary**

<b>Bill No.</b>	<b>Description</b>	<b>Amount (KSh.)</b>
<b>Bill No. 1.1</b>	Preliminaries and General Items	
<b>Bill No. 1.2</b>	Measured Works	
<b>Total Sewer Works Carried to Bill No. 6 Summary</b>		

ITEM	DESCRIPTION	AMOUNT
<b><u>BILL NO. 6: SUMMARY</u></b>		
<b><u>ASSOCIATED CIVIL WORKS</u></b>		
A	CIVIL WORKS	
B	SEWER WORKS	
<b>TOTAL CARRIED TO GRAND SUMMARY</b>		

**PROPOSED DEVELOPMENT OF EMBU MARKET IN EMBU COUNTY**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
	<b><u>BILL NO. 7</u></b>				
	<b><u>PROVISIONAL SUMS</u></b>				
	<u>The following items shall be executed by Nominated Sub-Contractors, appointed by the Project Manager, and as such, the bidder/contractor shall quote for profits, attendance, and overheads as a percentage of the Sum Quoted as the "Prime Cost Sum": No claims whatsoever shall be entertained for failure by the bidder/contractor to quote adequately. The contractor shall be expected to pay the amount when they are due.</u>				
	<b><u>Smart Stalls/Trader Modules</u></b>				
A	Allow a Prime cost sum of Kenya Shillings Twelve Million, Seven Hundred and Sixty Thousand Only(Ksh. 12,760,000) for fabrication of mild steel smart stalls,the work to be executed by a nominated subcontractor to be appointed by the employer.	<b>PC SUM</b>			<b>12,760,000.00</b>
B	<u>Profit and Overheads</u> Allow for Profit and Overheads in relation to item C Above	%			
C	Allow for attendance for item C Above	<b>Item</b>			
	<b><u>Geotechnical Survey</u></b>				
A	Allow a Prime Sum of Kenya Shillings One Million, Two Hundred Thousand only (Kshs. 1,200,000.00) to be expended at the descretion of the project manager for carrying out geotechnical survey	<b>PC SUM</b>			1,200,000.00
C	Allow for attendance, profits, and overhead for item "A" and "B" above	%			
	<b>TOTAL PROVISIONAL SUM CARRIED TO GRAND SUMMARY</b>				

**PROPOSED CHUKA MODERN MARKET IN THARAKA-NITHI COUNTY**

**GRAND SUMMARY**

		KSHS. CTS.
1	BILL 1: PRELIMINARIES :	
2	BILL 2: PROJECT PROVISIONS :	
3	BILL 3: BUILDER'S WORKS :	
4	BILL 4: ELECTRICAL INSTALLATION WORKS :	
5	BILL 5: MECHANICAL INSTALLATIONS WORKS :	
6	BILL 6: CIVIL WORKS :	
7	BILL 7: PROVISIONAL SUMS :	
8	CONTINGENCIES :	<b>16,000,000.00</b>
<b>TOTAL :</b>		
<b>9</b>	<b>TOTAL CARRIED TO FORM OF TENDER (VAT INCLUSIVE) KSHS.</b>	

**Amount in Words:**

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**Tenderer's Official Stamp**

**Signed:** \_\_\_\_\_  
 (Contractor)

**Address:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_  
 (Witness)

**Address:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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## **PART III - THE CONDITIONS OF CONTRACT AND CONTRACT**

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## SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

### STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

### PROPOSED CONSTRUCTION OF MARIMANTI MARKET IN THARAKA NITHI COUNTY

#### General Conditions of Contract

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## 1 GENERAL PROVISIONS

### 1.1 Definitions

In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated below. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

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

“**Base Date**” means a date 30 day prior to the submission of tenders.

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

“**Completion Date**” means the date of completion of the Works as certified by the Engineer.

“**Contract Price**” means the price defined in the contract and thereafter as adjusted in accordance with the provisions of the Contract.

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

“**Contractor's Documents**” means the calculations, computer programs and other software, progress reports, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

“**Contractor's Equipment**” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Procuring Entity's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

“**Contractor's Personnel**” means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labor and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

“**Contractor's Representative**” means the person named by the Contractor in the Contractor appointed from time to time by the Contractor who acts on behalf of the Contractor.

“**Contractor**” means the person(s) named as contractor in the Form of Tender accepted by the Procuring Entity.

“**Cost**” means expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

“**Day**” means a calendar day and “**year**” means 365 days.

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

**“Defect”** means any part of the Works not completed in accordance with the Contract.

**“Defects Liability Certificate”** means the certificate issued by Architect upon correction of defects by the Contractor.

**“Defects Liability Period”** means the period named in the Special Conditions of Contract and calculated from the Completion Date, within which the contractor is liable for any defects that may develop in the handed over works.

**“Defects Notification Period”** means the period for notifying defects in the Works or a Section (as the case maybe) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over the days stated in the Special Conditions of Contract.

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

**“Final Payment Certificate”** means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

**“Final Statement”** means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

**“Force Majeure”** is defined in Clause 19 [Force Majeure].

**“Foreign Currency”** means a currency of another country (not Kenya) in which part (or all) of the Contract Price is payable, but not the Local Currency.

**“Goods”** means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

**“Interim Payment Certificate”** means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

**“Laws”** means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.

**“Letter of Acceptance”** means the letter of formal acceptance of a tender, signed by Procuring Entity, including any annexed memoranda comprising agreements between and signed by both Parties.

**“Local Currency”** means the currency of Kenya.

**“Materials”** means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

**“Notice of Dissatisfaction”** means the notice given by either Party to the other under Sub-Clause 20.3 indicating its dissatisfaction and intention to commence arbitration.

**“Special Conditions of Contract”** means the pages completed by the Procuring Entity entitled Special Conditions of Contract which constitute Part A of the Special Conditions.

**“Party”** means the Procuring Entity or the Contractor, as the context requires.

**“Payment Certificate”** means a payment certificate issued under Clause 14 [Contract Price and Payment].

**“Performance Certificate”** means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

**“Performance Security”** means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].

**“Permanent Works”** means the permanent works to be executed by the Contractor under the Contract.

**“Plant”** means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Procuring Entity and relating to the construction or operation of the Works.

**“Procuring Entity's Equipment”** means the apparatus, machinery and vehicles (if any) made available by the

Procuring Entity for the use of the Contract or in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Procuring Entity.

**“Procuring Entity's Personnel”** means the Engineer, the Engineer, the assistants and all other staff, labor and other employees of the Architect and of the Procuring Entity; and any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as Procuring Entity's Personnel.

**“Procuring Entity”** means the Entity named in the Special Conditions of Contract.

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

**“Engineer”** means the person appointed by the Procuring Entity to act as the Architect for the purposes of the Contract and named in the Special Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor

**“Provisional Sum”** means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

**“Retention Money”** means the accumulated retention moneys which the Procuring Entity retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

**“Schedules”** means the document(s) entitled schedules, completed by the Contractor and submitted with the Form of Tender, as included in the Contract.

**“Section”** means a part of the Works specified in the Special Conditions of Contract as a Section (if any)

**“Site Investigation Reports”** are those reports that may be included in the tendering documents which a ref actual and interpretative about the surface and sub-surface condition sat the Site.

**“Site”** means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

**“Specification”** means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

**“Start Date” or “Commencement Date”** is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with the Site possession date(s).

**“Statement”** means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

**“Subcontractor”** means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works.

**“Taking-Over Certificate”** means a certificate issued under Clause 10 [Procuring Entity's Taking Over].

**“Temporary Works”** means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

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

**“Tender”** means the Form of Tender and all other documents which the Contractor submitted with the Form of Tender, as included in the Contract.

**“Tests after Completion”** means the tests (if any) which are specified in the Contract and which are carried out in



accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Procuring Entity.

**“Tests on Completion”** means the tests which are specified in the Contract agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Procuring Entity.

**“Time for Completion”** means the time for completing the Works or a Section (as the case may be) as stated in the Special Conditions of Contract (with any extension calculated from the Commencement Date.

**“Unforeseeable”** means not reasonably foreseeable by an experienced contractor by the Base Date.

**“Variation”** means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

**“Works”** means the items the Procuring Entity requires the Contractor to undertake as defined in the Appendix to Conditions of Contract. **“Works” may** also mean the Permanent Works and the Temporary Works, or either of them as appropriate.

## 1.2 Interpretation

In the Contract, except where the context requires otherwise:

- a) Words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

## 1.3 Communications

1.3.1 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

- a) In writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Special Conditions of Contract; and
- b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Special Conditions of Contract. However:
  - i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
  - ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

1.3.2 Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Architect or the other Party, as the case may be.

## 1.4 Law and Language

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

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

## 1.5 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) The Contract Agreement,
- b) The Letter of Acceptance,
- c) The Special Conditions – Part A,
- d) the Special Conditions – Part B
- e) the General Conditions of Contract
- f) the Form of Tender,
- g) the Specifications and Bills of Quantities
- h) the Drawings, and
- i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Architect shall issue any necessary clarification or instruction.

## **1.6 Contract Agreement**

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Contract Agreement, unless the Special Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Special Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Procuring Entity.

## **1.7 Assignment**

The Contractor shall not assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, the contractor:

- a) May as sign the whole or any part with the prior consent of the Procuring Entity, and
- b) may, as security in favor of a bank or financial institution, assign its right to moneys due, or to become due, under the Contract.

## **1.8 Care and Supply of Documents**

- 1.81 The Specifications and Drawings shall be in the custody and care of the Procuring Entity. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawings and Bills of Quantities shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 1.82 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.
- 1.83 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Procuring Entity's Personnel shall have the right of access to all these documents at all reasonable times.
- 1.84 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

## **1.9 Timely provision of Drawings or Instructions**

- 1.91 The Contractor shall give notice to the Architect whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.
- 1.92 If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Architect to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
  - a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

b) payment of any other associated costs accrued, which shall be included in the Contract Price.

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

1.94 However, if and to the extent that the Architect failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, or costs accrued.

#### **1.10 Procuring Entity's Use of Contractor's Documents**

1.10.1 As agreed between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

1.10.3 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Procuring Entity for purposes other than those permitted under Sub-Clause 1.10.2.

#### **1.11 Contractor's Use of Procuring Entity's Documents**

As agreed between the Parties, the Procuring Entity shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Procuring Entity. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Procuring Entity's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

#### **1.12 Confidential Details**

1.12.1 The Contractor's and the Procuring Entity's Personnel shall ensure confidentiality at all times. The confidentiality shall survive termination or completion of the contract. They shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

1.12.2 The Contractor's and the Procuring Entity's Personnel shall also treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

#### **1.13 Compliance with Laws**

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Special Conditions of Contract:

- a) The Procuring Entity shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specifications as having been (or to be) obtained by the Procuring Entity; and the Procuring Entity shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Procuring Entity harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

#### **1.14 Joint and Several Liability**

If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- a) These persons shall be deemed to be jointly and severally liable to the Procuring Entity for the performance of the Contract;
- b) these persons shall notify the Procuring Entity of their leader who shall have authority to bind the Contractor and each of these persons; and
- c) the Contractor shall not alter its composition or legal status without the prior consent of the Procuring Entity.

#### **1.15 Inspections and Audit by the Procuring Entity**

Pursuant to paragraph 2.2(e). of Appendix B to the General Conditions, the Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Public Procurement Regulatory Authority, Procuring Entity and/or persons appointed or designated by the Government of Kenya to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Procuring Entity if requested by the Procuring Entity. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 15.6 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Procuring Entity's prevailing sanctions procedures).

## **2 THE PROCURING ENTITY**

### **21 Right of Access to the Site**

- 21.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Special Conditions of Contract**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Procuring Entity is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Procuring Entity shall do so in the time and manner stated in the Specification. However, the Procuring Entity may withhold any such right or possession until the Performance Security has been received.
- 21.2 If no such time is stated in the Special Conditions of Contract, the Procuring Entity shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].
- 21.3 If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Procuring Entity to give any such right or possession within such time, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
  - a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 21.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 21.5 However, if and to the extent that the Procuring Entity's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

## 22 Permits, Licenses or Approvals

22.1 The Procuring Entity shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

- a) Copies of the Laws of Kenya which are relevant to the Contract but are not readily available, and
- b) any permits, licenses or approvals required by the Laws of Kenya:
  - i) which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
  - ii) for the delivery of Goods, including clearance through customs, and
  - iii) for the export of Contractor's Equipment when it is removed from the Site.

## 23 Procuring Entity's Personnel

The Procuring Entity shall be responsible for ensuring that the Procuring Entity's Personnel and the Procuring Entity's other contractor son the Site:

- a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

## 24 Procuring Entity's Financial Arrangements

The Procuring Entity shall make and maintain all necessary financial arrangements which will enable the Procuring Entity to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment].

## 3 THE ENGINEER

### 3.1 Architect Duties and Authority

3.1.1 The Procuring Entity shall appoint the Architect who shall carry out the duties as signed to him in the Contract. The Architect staff shall include suitably qualified Assistants and other professionals who are competent to carry out these duties. The Architect Name and Address shall be provided in the **Special Conditions of Contract**.

3.1.2 The Architect shall have no authority to amend the Contract.

3.1.3 The Architect May exercise the authority attributable to the Architect as specified in or necessarily to be implied from the Contract. If the Architect is required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the **Special Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

3.1.4 However, whenever the Architect exercises a specified authority for which the Procuring Entity's approval is required, then (for the purposes of the Contract) the contractor shall require the Architect to provide evidence of such approval before complying with the instruction.

3.1.5 Except as otherwise stated in these Conditions:

- a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Architect shall be deemed to act for the Procuring Entity;
- b) the Architect has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
- c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Architect (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
- d) any act by the Architect in response to a Contractor's request shall be notified in writing to the Contractor within 14 days of receipt.

3.1.6 The following provisions shall apply:

The Architect shall obtain the specific approval of the Procuring Entity before taking action under the following Sub-Clauses of these Conditions:

- a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
  - b) Sub-Clause 13.1: instructing a Variation, except;
    - i) In an emergency situation as determined by the Engineer, or
    - ii) If such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the **Special Conditions of Contract**.
  - c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.
  - d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable three currencies.
- 3.1.7 Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forth with comply, despite the absence of approval of the Procuring Entity, with any such instruction of the Engineer. The Architect shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Procuring Entity.

### 32 Delegation by the Engineer

- 3.2.1 The Architect may from time to time assign duties and delegate authority to assistants and may also revoke such assignment or delegation. These assistants may include a resident Engineer, and/or independent inspectors appointed to inspect and/ or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Architect shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].
- 3.2.2 Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:
- a) Any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Architect to reject the work, Plant or Materials;
  - b) If the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

### 33 Instructions of the Engineer

- 3.3.1 The Architect may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under Clause 3.2.1.
- 3.3.2 The Contractor shall comply with the instructions given by the Architect or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Architect or a delegated assistant:
- a) Gives an oral instruction,
  - b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and

- c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

Then the confirmation shall constitute the written instruction of the Architect or delegated assistant (as the case may be).

### **34 Replacement of the Engineer**

If the Procuring Entity intends to replace the Engineer, the Procuring Entity shall, in not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended person to replace the Engineer.

### **35 Determinations**

3.5.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Architect shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Architect shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

3.5.1 The Architect shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

## **4 THE CONTRACTOR**

### **4.1 Contractor's General Obligations**

4.1.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Architect instructions, and shall remedy any defects in the Works.

4.1.2 The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

4.1.3 All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country.

4.1.4 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

4.1.5 The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

4.1.6 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Special Conditions:

- a) The Contractor shall submit to the Architect the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Architect to add to the Drawings for co-ordination of each Party's designs;
- c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Architect the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Procuring Entity to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

## 42 Performance Security

- 4.21 The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **Special Conditions of Contract** and denominated in the currency (ies) of the Contract or in a freely convertible currency acceptable to the Procuring Entity. If an amount is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.
- 4.22 The Contractor shall deliver the Performance Security to the Procuring Entity within 30 days after receiving the Notification of Award and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the Special Conditions, as stipulated by the Procuring Entity in the Special Conditions of Contract, or in another form approved by the Procuring Entity.
- 4.23 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.
- 4.24 The Procuring Entity shall not make a claim under the Performance Security, except for amounts to which the Procuring Entity is entitled under the Contract.
- 4.25 The Procuring Entity shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Procuring Entity was not entitled to make the claim.
- 4.26 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 4.27 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Architect determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Architect request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

## 43 Contractor's Representative

- 4.31 The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor's Representative's Name and Address shall be provided in the **Special Conditions of Contract**.
- 4.32 Unless the Contractor's Representative **is named in the Contract**, the Contractor shall, prior to the Commencement Date, submit to the Architect for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.
- 4.33 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 4.34 The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Architect prior consent, and the Architect shall be notified accordingly.
- 4.35 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].
- 4.36 The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Architect has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.
- 4.37 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4



[Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

#### **44 Sub-contractors**

- 44.1 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.
- 44.2 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Special Conditions:
- a) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
  - b) The prior consent of the Procuring Entity shall be obtained to other proposed Subcontractors;
  - c) the Contractor shall give the Procuring Entity not less than 14 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
  - d) each subcontract shall include provisions which would entitle the Procuring Entity to require the subcontract to be assigned to the Procuring Entity under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity].
- 44.3 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.
- 44.4 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

#### **45 Assignment of Benefit of Subcontract**

If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Procuring Entity, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Procuring Entity for the work carried out by the Subcontractor after the assignment takes effect.

#### **46 Co-operation**

- 46.1 The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:
- a) The Procuring Entity's Personnel,
  - b) Any other contractors employed by the Procuring Entity, and
  - c) The personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.
- 46.2 Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.
- 46.3 If, under the Contract, the Procuring Entity is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Architect in the time and manner stated in the Specification.

#### **47 Setting Out of the Works**

- 47.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.
- 47.2 The Procuring Entity shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.

- 4.73 If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such costs accrued, which shall be included in the Contract Price.
- 4.7.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this.

## **48 Safety Procedures**

The Contractor shall:

- a) Comply with all applicable safety regulations,
- b) Take care for the safety of all persons entitled to be on the Site,
- c) Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Procuring Entity's Taking Over], and
- e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

## **49 Quality Assurance**

- 49.1 The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Architect shall be entitled to audit any aspect of the system.
- 49.2 Details of all procedures and compliance documents shall be submitted to the Architect for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor itself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

### **4.10 Site Data**

- 4.10.1 The Procuring Entity shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Procuring Entity's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Procuring Entity shall similarly make available to the Contractor all such data which come into the Procuring Entity's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
- 4.10.2 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):
- a) The form and nature of the Site, including sub-surface conditions,
  - b) the hydrological and climatic conditions,
  - c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
  - d) the Laws, procedures and labour practices of Kenya, and
  - e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

#### **4.11 Sufficiency of the Accepted Contract Amount**

- 4.11.1 The Contractor shall be deemed to:
- a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
  - b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].
- 4.11.2 Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

#### **4.12 Unforeseeable Physical Conditions**

- 4.12.1 In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.
- 4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Architect as soon as practicable.
- 4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Architect and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Architect may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.
- 4.12.4 If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost, which shall be included in the Contract Price.
- 4.12.5 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
- 4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.
- 4.12.7 The Architect shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

#### **4.13 Rights of Way and Facilities**

Unless otherwise specified in the Contract the Procuring Entity shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities out side the Site

which he may require for the purposes of the Works.

#### **4.14 Avoidance of Interference**

4.14.1 The Contractor shall not interfere unnecessarily or improperly with:

- a) The convenience of the public, or
- b) The access to and use and occupation of all roads and foot paths, irrespective of whether they are public or in the possession of the Procuring Entity or of others.

4.14.2 The Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

#### **4.15 Access Route**

4.15.1 The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

4.15.2 Except as otherwise stated in these Conditions:

- a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- c) the Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- d) the Procuring Entity does not guarantee the suitability or availability of particular access routes; and
- e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

#### **4.16 Transport of Goods**

Unless otherwise stated in the Special Conditions:

- a) the Contractor shall give the Architect not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- c) the Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods and shall negotiate and pay all claims arising from their transport.

#### **4.17 Contractor's Equipment**

The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

#### **4.18 Protection of the Environment**

4.18.1 The contractor shall comply with the applicable environmental laws, regulations and policies.

4.18.2 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

4.18.3 The Contractors shall ensure that emissions, surfaced is charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

## **4.19 Electricity, Water and Gas**

- 4.19.1 The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.
- 4.19.2 The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specifications. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
- 4.19.3 The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

## **4.20 Procuring Entity's Equipment and Free-Issue Materials**

- 4.20.1 The Procuring Entity shall make the Procuring Entity's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:
- a) The Procuring Entity shall be responsible for the Procuring Entity's Equipment, except that
  - b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- 4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.
- 4.20.2 The Procuring Entity shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Procuring Entity shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Architect of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defect or default.
- 4.20.3 After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Procuring Entity of liability for any shortage, defect or default not apparent from a visual inspection.

## **4.21 Progress Reports**

- 4.21.1 Unless otherwise stated in the Special Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Architect in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.
- 4.21.2 Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works. Each report shall include:
- a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
  - b) photographs showing the status of manufacture and of progress on the Site;
  - c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
    - i) commencement of manufacture,
    - ii) Contractor's inspections,
    - iii) tests, and

- iv) shipment and arrival at the Site;
- d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- e) copies of quality assurance documents, test results and certificates of Materials;
- f) list of notices given under Sub-Clause 2.5 [Procuring Entity's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
- g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- h) comparison so factual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

#### **4.22 Security of the Site**

Unless otherwise stated in the Special Conditions:

- a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b) authorized persons shall be limited to the Contractor's Personnel and the Procuring Entity's Personnel; and to any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as authorized personnel of the Procuring Entity's other contractors on the Site.

#### **4.23 Contractor's Operations on Site**

4.23.1 The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Architect as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

4.23.2 During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

4.23.3 Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

#### **4.24 Fossils**

4.24.1 All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Procuring Entity. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

4.24.2 The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost, which shall be included in the Contract Price.  
After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

### **5 NOMINATED SUBCONTRACTORS**

#### **5.1 Definition of "nominated Subcontractor"**

In this Contract, "nominated Subcontractor" means a Subcontractor:

- a) Who is nominated by the Procuring Entity, or
- b) Contractor has nominated as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].

## 52 Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Procuring Entity as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Procuring Entity agrees in writing to indemnify the Contractor against and from the consequences of the matter:

- a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
  - i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
  - ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities, and
  - iii) be paid only if and when the Contractor has received from the Procuring Entity payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

## 53 Payments to nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor's invoices approved by the Contractor which the Architect certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

## 54 Evidence of Payments

54.1 Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Architect may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) Submits this reasonable evidence to the Engineer, or
- (b)
  - i) Satisfies the Architect in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
  - ii) Submits to the Architect reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement, then the Procuring Entity may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Procuring Entity, the amount which the nominated Subcontractor was directly paid by the Procuring Entity.

## 6 STAFF AND LABOR

### 6.1 Engagement of Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within Kenya.

### 6.2 Rates of Wages and Conditions of Labor

6.2.1 The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by Procuring Entity's whose trade or industry is similar

to that of the Contractor.

- 62.2 The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in Kenya in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of Kenya for the time being in force, and the Contractor shall perform such duties in regard to such deductions there of as may be imposed on him by such Laws.

### **63 Persons in the Service of Procuring Entity**

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

### **64 Lab or Laws**

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, employment of children, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

### **65 Working Hours**

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **Special Conditions of Contract**, unless:

- a) Otherwise stated in the Contract,
- b) The Architect gives consent, or
- c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer, provided that work done outside the normal working hours shall be considered and paid for as overtime.

### **66 Facilities for Staff and Labor**

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities on site for the Contractor's Personnel. The Contractor shall also provide facilities for the Procuring Entity's Personnel as stated in the Specifications. The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

### **67 Health and Safety**

- 67.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 67.2 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- 67.3 The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Architect may reasonably require.
- 67.4 The Contractor shall conduct an awareness programme on HIV and other sexually transmitted diseases via an approved service provider and shall undertake such other measures taken to reduce the risk of the transfer of these diseases between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

### **68 Contractor's Superintendence**

- 68.1 Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.



6.8.2 Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

## **6.9 Contractor's Personnel**

6.9.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractor's Key personnel shall be named in the Special Conditions of Contract. The Architect may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- a) Persists in any misconduct or lack of care,
- b) Carries out duties in competently or negligently,
- c) fails to conform with any provisions of the Contract,
- d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
- e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.

6.9.2 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

## **6.10 Records of Contractor's Personnel and Equipment**

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

## **6.11 Disorderly Conduct**

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

## **6.12 Foreign Personnel**

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

6.12.2 The Contractor shall be responsible for the return of any foreign personnel to the place where they were recruited or to their domicile. In the event of the death in Kenya of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

## **6.13 Supply of Water**

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

## **6.14 Measures against Insect and Pest Nuisance**

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

## **6.15 Alcoholic Liquor or Drugs**

The Contractor shall not, otherwise than in accordance with the Laws of Kenya, onsite, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.

## **6.16 Prohibition of Forced or Compulsory Labour**

The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of

involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

#### **6.17 Prohibition of Harmful Child Labor**

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of Kenya have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

#### **6.18 Employment Records of Workers**

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

#### **6.19 Workers' Organizations**

The Contractor shall comply with the relevant labor laws that recognize workers' rights to form and to join workers' organizations of their choosing without interference.

#### **6.20 Non-Discrimination and Equal Opportunity**

The Contractor shall base the labour employment on the principle of equal opportunity and fair treatment and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment, retirement, and discipline.

### **7. PLANT, MATERIALS AND WORKMANSHIP**

#### **7.1 Manner of Execution**

The Contractor shall carry out the manufacture/assemble of plant, the production and manufacture of Materials, and all other execution of the Works:

- a) In the manner (if any) specified in the Contract,
- b) in a proper workman like and careful manner, in accordance with recognized good practice, and
- c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

#### **7.2 Samples**

The Contractor shall submit the following samples of Materials, and relevant information, to the Architect for consent prior to using the Material in or for the Works:

- a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- b) additional samples instructed by the Architect as a Variation.

Each sample shall be labeled as to origin and intended use in the Works.

#### **7.3 Inspection**

7.3.1 The Procuring Entity's Personnel shall at all reasonable times:

- a) Have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

7.3.2 The Contractor shall give the Procuring Entity's Personnel full opportunity to carry out these activities,

including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

7.3.3 The Contractor shall give notice to the Architect whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Architect shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Architect does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and there after reinstate and make good, all at the Contractor's cost.

## **7.4 Testing**

7.4.1 This Sub-Clause shall apply to all tests specified in the Contract.

7.4.2 Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labor, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

7.4.3 The Architect may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

7.4.4 The Architect shall give the Contractor not less than 24 hours' notice of the Architect intention to attend the tests. If the Architect does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Architect presence.

7.4.5 If the Contractor suffers delay and/ or incurs Cost from complying with these instructions or as a result of a delay for which the Procuring Entity is responsible, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

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

7.4.7 The Contractor shall promptly forward to the Architect duly certified reports of the tests. When the specified tests have been passed, the Architect shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Architect has not attended the tests, he shall be deemed to have accepted the readings as accurate.

## **7.5 Rejection**

7.5.1 If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Architect may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

7.5.2 If the Architect requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Procuring Entity to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity.

## **7.6 Remedial Work**

7.6.1 Notwithstanding any previous test or certification, the Architect may instruct the Contractor to:

- a) Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- b) remove and re-execute any other work which is not in accordance with the Contract, and
- c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseen able event or otherwise.

- 7.62 The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).
- 7.63 If the Contractor fails to comply with the instruction, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity all costs arising from this failure.
- 7.64 If the contractor repeatedly delivers defective work, the Procuring Entity may consider termination in accordance with Clause 15.

## **7.7 Ownership of Plant and Materials**

Except as otherwise provided in the Contract, each item of Plant and Materials shall become the property of the Procuring Entity at whichever is the earlier of the following times, free from liens and other encumbrances:

- a) When it is incorporated in the Works;
- b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

## **7.8 Royalties**

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- a) Natural materials obtained from outside the Site, and
- b) The disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal are as within the Site are specified in the Contract.

## **8 COMMENCEMENT, DELAYS AND SUSPENSION**

### **8.1 Commencement of Works**

- 8.1.1 Except as otherwise specified in the Special Conditions of Contract, the Commencement Date shall be the date at which the following precedent condition shall have all been fulfilled and the Architect notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:
- a) Signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of Kenya;
  - b) except if otherwise specified in the Special Conditions of Contract, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works.
  - c) Receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.
- 8.1.2 If the said Architect instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].
- 8.1.3 The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shall then proceed with the Works with due expedition and without delay.

### **8.2 Time for Completion**

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- a) Achieving the passing of the Tests on Completion, and
- b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

### **8.3 Programme**

- 8.3.1 The Contractor shall submit a detailed time programme to the Architect within 14 days after receiving the

notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- c) the sequence and timing of inspections and tests specified in the Contract, and
- d) a supporting report which includes:
  - i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
  - ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

832 Unless the Engineer, within 14 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Procuring Entity's Personnel shall be entitled to rely upon the programme when planning their activities.

833 The Contractor shall promptly give notice to the Architect of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works.

834 If, at any time, the Architect gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contractor to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Architect in accordance with this Sub-Clause.

#### **8.4 Extension of Time for Completion**

841 The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- c) exceptionally adverse climatic conditions,
- d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- e) any delay, impediment or prevention caused by or attributable to the Procuring Entity, the Procuring Entity's Personnel, or the Procuring Entity's other contractors.

842 If the Contractor considers itself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Architect in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Architect shall review previous determinations and may increase, but shall not decrease, the total extension of time.

#### **8.5 Delays Caused by Authorities**

If the following conditions apply, namely:

- a) The Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in Kenya,
- b) These authorities delay or disrupt the Contractor's work, and
- c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

## **8.6 Rate of Progress**

861 If, at anytime:

- a) Actual progress is too slow to complete within the Time for Completion, and/or
- b) Progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme], other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Architect may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

862 Unless the Architect notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Procuring Entity to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity, in addition to delay damages (if any) under Sub-Clause 8.7 below.

863 Additional costs of revised methods including acceleration measures, instructed by the Architect to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Procuring Entity, without generating, however, any other additional payment benefit to the Contractor.

## **8.7 Delay Damages**

871 If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to the Procuring Entity for this default. These delay damages shall be the sum stated in the **Special Conditions of Contract**, which shall be paid for everyday which shall elapse between the relevant Time for Completion and the date stated in the taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Special Conditions of Contract.

872 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

## **8.8 Suspension of Work**

881 The Architect may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

882 The Architect may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

## **8.9 Consequences of Suspension**

891 If the Contractor suffers delay and/or incurs Cost from complying with the Architect instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) Payment of any such Cost, which shall be included in the Contract Price.

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

893 The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

## **8.10 Payment for Plant and Materials in Event of Suspension**

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/ or

Materials which have not been delivered to Site, if:

- a) The work on Plant or delivery of Plant and/ or Materials has been suspended for more than 30 days, and
- b) the Contractor has marked the Plant and/or Materials as the Procuring Entity's property in accordance with the Architect instructions.

### **8.11 Prolonged Suspension**

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Architect permission to proceed. If the Architect does not give permission within 30 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

### **8.12 Resumption of Work**

After the permission or instruction to proceed is given, the Contractor and the Architect shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Architect an instruction to this effect under Clause 13 [Variations and Adjustments].

## **9 TESTS ON COMPLETION**

### **9.1 Contractor's Obligations**

- 9.1.1 The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].
- 9.1.2 The Contractor shall give to the Architect not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Architect shall instruct.
- 9.1.3 In considering the results of the Tests on Completion, the Architect shall make allowances for the effect of any use of the Works by the Procuring Entity on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

### **9.2 Delayed Tests**

- 9.2.1 If the Tests on Completion are being unduly delayed by the Procuring Entity, Sub-Clause 7.4 [Testing] (fifth paragraph) and/ or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.
- 9.2.2 If the Tests on Completion are being unduly delayed by the Contractor, the Architect may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.
- 9.2.3 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Test at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

### **9.3 Retesting of related works**

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Architect or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

### **9.4 Failure to Pass Tests on Completion**

- 9.4.1 If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Architect shall be entitled to:

- a) Order further repetition of Tests on Completion under Sub-Clause 9.3; or
- b) if the failure deprives the Procuring Entity of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Procuring Entity shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 1.4 [Failure to Remedy Defects].

## **10. PROCURING ENTITY'S TAKING OVER**

### **10.1 Taking Over of the Works and Sections**

- 10.1.1 Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Procuring Entity when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.
- 10.1.2 The Contractor may apply by notice to the Architect for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.
- 10.1.3 The Architect shall, within 30 days after receiving the Contractor's application:
- a) Issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
  - b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.
- 10.1.4 If the Architect fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

### **10.2 Taking Over of Parts of the Works**

- 10.2.1 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.
- 10.2.2 The Procuring Entity shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Architect has issued a Taking-Over Certificate for this part. However, if the Procuring Entity does use any part of the Works before the Taking-Over Certificate is issued:
- a) The part which is used shall be deemed to have been taken over as from the date on which it is used,
  - b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Procuring Entity, and
  - c) if requested by the Contractor, the Architect shall issue a Taking-Over Certificate for this part.
- 10.2.3 After the Architect has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.
- 10.2.4 If the Contractor incurs Cost as a result of the Procuring Entity taking over and/or using a part of the Works, other than such use as is specified in the Contract, the Contractor shall (i) give notice to the Architect and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such accrued costs, which shall be included in the Contract Price. After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this accrued cost.
- 10.2.5 If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply



to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages] and shall not affect the maximum amount of these damages.

### **103 Interference with Tests on Completion**

- 103.1 If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Procuring Entity is responsible, the Procuring Entity shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.
- 103.2 The Architect shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Architect shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.
- 103.3 If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such accrued costs, which shall be included in the Contract Price.
- 103.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

### **104 Surfaces Requiring Reinstatement**

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

## **11. DEFECTS LIABILITY**

### **11.1 Completion of Outstanding Work and Remedying Defects**

- 11.1.1 In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:
- a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and
  - b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Procuring Entity on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).
- 11.1.2 If a defect appears or damage occurs, the Contractor shall be notified accordingly by the Engineer.

### **11.2 Cost of Remedying Defects**

- 11.2.1 All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:
- a) Any design for which the Contractor is responsible,
  - b) Plant, Materials or workmanship not being in accordance with the Contract, or
  - c) Failure by the Contractor to comply with any other obligation.

- 11.2.2 If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Procuring Entity, and Sub-Clause 13.3 [Variation Procedure] shall apply.

### **11.3 Extension of Defects Notification Period**

- 11.3.1 The Procuring Entity shall be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they

are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

- 11.3.2 If delivery and/ or erection of Plant and/ or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/ or Materials would otherwise have expired.

#### **11.4 Failure to Remedy Defects**

- 11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.
- 11.4.2 If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Procuring Entity may (at his option):
- (a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity the costs reasonably incurred by the Procuring Entity in remedying the defect or damage;
  - (b) Require the Architect to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
  - (c) if the defect or damage deprives the Procuring Entity of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract otherwise, the Procuring Entity shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

#### **11.5 Removal of Defective Work**

If the defector damage cannot be remedied expeditiously on the Site and the Procuring Entity gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

#### **11.6 Further Tests**

- 11.6.1 If the work of remedying of any defector damage may affect the performance of the Works, the Architect may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 14 days after the defect or damage is remedied.
- 11.6.2 These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

#### **11.7 Right of Access**

Until the Completion Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Procuring Entity's reasonable security restrictions.

#### **11.8 Contractor to Search**

The Contractor shall, if required by the Engineer, search for the cause of any defect on parts of the works that have already accepted, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Architect in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

#### **11.9 Completion Certificate**

- 11.9.1 Performance of the Contractor's obligations shall not be considered to have been completed until the Architect has issued the Completion Certificate to the Contractor, stating the date on which the Contractor completed

his obligations under the Contract.

- 11.92 The Architect shall issue the Completion Certificate within 30 days after the latest of the expiry dates of the Defects Liability Period, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Completion Certificate shall be issued to the Procuring Entity.
- 11.93 Only the Completion Certificate shall be deemed to constitute acceptance of the Works.

#### **11.10 Unfulfilled Obligations**

After the Completion Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

#### **11.11 Clearance of Site**

- 11.11.1 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- 11.11.2 If all these items have not been removed within 30 days after receipt by the Contractor of the Completion Certificate, the Procuring Entity may sell or otherwise dispose of any remaining items. The Procuring Entity shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 11.11.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Procuring Entity's costs, the Contractor shall pay the outstanding balance to the Procuring Entity.

### **12 MEASUREMENT AND DEVALUATION**

#### **12.1 Works to be Measured**

- 12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.
- 12.1.2 Whenever the Architect requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:
- a) promptly either attend or send another qualified representative to assist the Architect in making the measurement, and
  - b) supply any particulars requested by the Engineer.
- 12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.
- 12.1.4 Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.
- 12.1.5 If the Contractor examines and disagrees the records, and/ or does not sign them as agreed, then the Contractor shall give notice to the Architect of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Architect shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Architect within 14 days after being requested to examine the records, they shall be accepted as accurate.

#### **12.2 Method of Measurement**

Except as otherwise stated in the Contract:

- a) Measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

## **123 Evaluation**

- 123.1 Except as otherwise stated in the Contract, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of work done by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.
- 123.2 For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contractor, if there is no such item, specified for similar work.
- 123.3 Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.
- 123.4 However, for a new item of work, a new rate or price shall be appropriate for such item of work if:
- a) The work is instructed under Clause 13 [Variations and Adjustments],
  - b) no rate or price is specified in the Contract for this item, and
  - c) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.
- 123.5 Each new rate or price shall be derived from any relevant rates or prices in the Contract. If no rates or prices are relevant for the new item of work, it shall be derived from the reasonable Cost of executing such work, prevailing market rates, together with profit, taking account of any other relevant matters.
- 123.6 Until such time as an appropriate rate or price is agreed or determined, the Architect shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.
- 123.7 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:  $(\text{corrected tender price} - \text{tender price}) / \text{tender price} \times 100$ .

## **124 Omissions**

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- a) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- b) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Architect accordingly, with supporting particulars. Upon receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

## **13 VARIATIONS AND ADJUSTMENTS**

### **13.1 Right to Vary**

- 13.1.1 Variations may be initiated by the Architect at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. No Variation instructed by the Architect under this Clause shall in any way vitiate or invalidate the Contract.
- 13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Architect stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Architect shall cancel, confirm or vary the instruction.
- 13.1.3 Each Variation may include:
- a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
  - b) changes to the quality and other characteristics of any item of work,
  - c) changes to the levels, positions and/ or dimensions of any part of the Works,

- d) omission of any work unless it is to be carried out by others,
- e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- f) changes to the sequence or timing of the execution of the Works.

13.14 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Architect instructs after obtaining approval of the Procuring Entity.

### **132 Variation Order Procedure**

1321 Prior to any Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

- a) A description of work, if any, to be performed and a programme for its execution, and
- b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and
- c) the Contractor's proposals for adjustment to the Contract Price.

Following the receipt of the Contractor's submission the Architect shall, after due consultation with the Employer and the Contractor, decide as soon as possible whether or not the variation shall be carried out. If the Architect decides that the variation shall be carried out, he shall issue a Variation Order clearly identified as such in accordance with the Contractor's submission or as modified by agreement.

If the Architect and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause 13.2.2 shall apply.

### **1322 Disagreement on Adjustment of the Contract Price**

If the Contractor and the Architecture unable to agree on the adjustment of the Contract Price, the adjustment shall be determined in accordance with the rates specified in the Bills of Quantities or Schedule of Daywork Prices. If the rates contained in the Bills of Quantities or Dayworks Prices are not directly applicable to the specific work in question, suitable rates shall be established by the Architect reflecting the level of pricing in the Dayworks Prices. Where rates are not contained in the said Prices, the amount shall be such as is in all the circumstances reasonable, reflecting a market price. Due account shall be taken of any over-or under-recovery of overheads by the Contractor in consequence of the variation. The Contractor shall also be entitled to be paid:

- a) The cost of any partial execution of the Works rendered useless by any such variation,
- b) The cost of making necessary alterations to Plant already manufactured or in the course of manufacture or of any work done that has to be altered in consequence of such a variation,
- c) any additional costs incurred by the Contractor by the disruption of the progress of the Works as detailed in the Programme, and
- d) the net effect of the Contractor's finance costs, including interest, caused by the variation.

The Architect shall on this basis determine the rates or prices to enable on-account payment to be included in certificates of payment.

### **1323 Contractor to Proceed**

On receipt of a Variation Order, the Contractor shall forth with proceed to carry out the variation and be bound to these Conditions in so doing as if such variation was stated in the Contract. The work shall not be delayed pending the granting of an extension of the Time for Completion or an adjustment to the Contract Price under Sub-Clause 31.3.

### **133 Value Engineering**

133.1 The Contractor may, at any time, submit to the Architect written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Procuring Entity of the completed Works, or  
(iv) otherwise be of benefit to the Procuring Entity.

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

- 1323 If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:
- a) The Contractor shall design this part,
  - b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
  - c) if this change results in a reduction in the contract value of this part, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
    - i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.8 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
    - ii) the reduction (if any) in the value to the Procuring Entity of the varied works, taking account of any improvement in quality, anticipated life or operational efficiencies.

13.3.4 However, if the amount established in item 13.2.3 (c) (i) is less than amount established in item 13.2.3 (c) (ii), there shall not be a fee. However, if the if the amount established in item 13.2.3 (c) (i) is more than amount established in item 13.2.3 (c) (ii), it shall result in a price variation to the Procuring Entity.

#### **134 Variation Procedure for Value Engineering proposal**

- 134.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:
- a) A description of the proposed work to be performed and a programme for its execution,
  - b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
  - c) the Contractor's proposal for evaluation of the Variation.
- 134.2 The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.
- 134.3 Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Architect to the Contractor, who shall acknowledge receipt.
- 134.4 Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Architect instructs or approves otherwise in accordance with this Clause.

#### **135 Payment in Applicable Currencies**

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

#### **136 Provisional Sums**

- 136.1 Each Provisional Sum shall only be used, in whole or in part, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Architect shall have instructed. For each Provisional Sum, the Architect May instruct:
- a) Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
  - b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
    - i) The actual amounts paid (or due to be paid) by the Contractor, and
    - ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in **the Special Conditions of Contract** shall be applied.
- 136.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

### **137 Dayworks**

- 13.7.1 For work of a minor or incidental nature, the Architect may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.
- 13.7.2 Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.
- 13.7.3 Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Architect accurate statements induplicate which shall include the following details of the resources used in executing the previous day's work:
- a) The names, occupations and time of Contractor's Personnel,
  - b) the identification, type and time of Contractor's Equipment and Temporary Works, and
  - c) the quantities and types of Plant and Materials used.
- 13.7.4 One copy of each statement will, if correct, or when agreed, be signed by the Architect and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

### **138 Adjustments for Changes in Legislation**

- 13.8.1 The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of Kenya (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.
- 13.8.2 If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost, which shall be included in the Contract Price.
- 13.8.3 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 13.8.4 Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].

### **139 Adjustments for Changes in Cost**

- 13.9.1 In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.
- 13.9.2 If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.
- 13.9.3 The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

## Price Adjustment Formula

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

$$P = A + B \frac{I_m}{I_o}$$

where:

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

**A** and **B** are coefficients **specified in the SCC**, representing then on adjustable and adjustable portions, respectively, of the Contract Price payable and

**I<sub>m</sub>** is the index prevailing at the end of the month being invoiced and **I<sub>o</sub>** is the index prevailing 30 days before Bid opening for inputs payable.

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

- 1394 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. Forth is purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.
- 1395 In cases where the “currency of index” is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the Central Bank of Kenya, of this relevant currency on the above date for which the index is required to be applicable.
- 1396 Until such time as each current cost index is available, the Architect shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.
- 1397 If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices there after shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to the Procuring Entity.
- 1398 The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or in applicable, as a result of Variations.

## 14 CONTRACT PRICE AND PAYMENT

### 14.1 The Contract Price

14.1.1 Unless otherwise stated in the Special Conditions:

- a) The value of the payment certificate shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
- c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:



- i) of the Works which the Contractor is required to execute, or
  - ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Architect may take account of the break down when preparing Payment Certificates but shall not be bound by it.

14.12 Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall not be exempt from the payment of import duties and taxes upon importation.

## **142 Advance Payment**

**142.1** The Procuring Entity shall make an advance payment, as an interest-free loan for mobilization and cashflow support, when the Contractor submits a guarantee in accordance with this Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the **Special Conditions of Contract**.

14.22 Unless and until the Procuring Entity receives this guarantee, or if the total advance payment is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.

14.23 The Architect shall deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Procuring Entity receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institutions elected by the Contractor and shall be in the form annexed to the Special Conditions or in another form approved by the Procuring Entity.

14.24 The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

14.25 Unless stated otherwise in **the Special Conditions of Contract**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Architect in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

- a) Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount less Provisional Sums; and
- b) deductions shall be made at the amortization rate stated in the **Special Conditions of Contract** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

14.26 If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 14.2.7 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

## **143 Application for Interim Payment Certificates**

14.3.1 The Contractor shall submit a Statement (in number of copies indicated in the **Special Conditions of Contract**) to the Architect after the end of each month, in a form approved by the Engineer, showing in detail

the amounts to which the Contractor considers itself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].

- 1432 The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:
- a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
  - b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
  - c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in **the Special Conditions of Contract** to the total of the above amounts, until the amount so retained by the Procuring Entity reaches the limit of Retention Money (if any) stated **in the Special Conditions of Contract**;
  - d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
  - e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];
  - f) any other additions or deductions which may have become due under the Contractor otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
  - g) the deduction of amounts certified in all previous Payment Certificates.

#### **144 Schedule of Payments**

- 144.1 If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:
- a) The instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
  - b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
  - c) If these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.
- 144.2 If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

#### **145 Plant and Materials intended for the Works**

- 145.1 If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].
- 145.2 If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.
- 145.3 The Architect shall determine and certify each addition if the following conditions are satisfied:
- a) The Contractor has:
    - i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
    - (ii) submitted statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;
- and either:

- b) the relevant Plant and Materials:
  - i) are those listed in the Schedules for payment when shipped,
  - ii) have been shipped to Kenya, enroute to the Site, in accordance with the Contract; and
  - iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Architect together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Procuring Entity in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or
- c) the relevant Plant and Materials:
  - i) are those listed in the Schedules for payment when delivered to the Site, and
  - ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration and appear to be in accordance with the Contract.

1454 The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Architect determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

1455 The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

#### **146 Issue of Interim Payment Certificates**

1461 No amount will be certified or paid until the Procuring Entity has received and approved the Performance Security. Thereafter, the Architect shall, within 30 days after receiving a Statement and supporting documents, deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate which shall state the amount which the Architect fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Architect on the Statement if any.

1462 However, prior to issuing the Taking-Over Certificate for the Works, the Architect shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated **in the Special Conditions of Contract**. In this event, the Architect shall give notice to the Contractor accordingly.

1463 An Interim Payment Certificate shall not be withheld for any other reason, although:

- a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

4.6.4 The Architect may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Architect acceptance, approval, consent or satisfaction.

#### **14.7 Payment**

14.7.1 The Procuring Entity shall pay to the Contractor:

- a) The advance payment shall be paid within 60 days after signing of the contract by both parties or within 60 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
- b) The amount certified in each Interim Payment Certificate within 60 days after the Architect Issues Interim Payment Certificate; and
- c) the amount certified in the Final Payment Certificate within 60 days after the Procuring Entity Issues

Interim Payment Certificate; or after determination of any disputed amount shown in the Final Statement in accordance with Sub-Clause 16.2 [Termination by Contractor].

14.7.2 Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (forth is currency) specified in the Contract.

#### **14.8 Delayed Payment**

14.8.1 If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges (simple interest) monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b) of the date on which any Interim Payment Certificate is issued.

14.8.2 These financing charges shall be calculated at the annual rate of three percentage points above the mean rate of the Central Bank in Kenya of the currency of payment, or if not available, the inter-bank offered rate, and shall be paid in such currency.

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

#### **14.9 Payment of Retention Money**

14.9.1 When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

14.9.2 Promptly after the latest of the expiry dates of the Defects Liability Periods, the outstanding balance of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

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

14.9.4 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].

14.9.5 Unless otherwise stated in the Special Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a Retention Money Security guarantee, in the form annexed to the Special Conditions or in another form approved by the Procuring Entity and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money.

14.9.6 The Procuring Entity shall return the Retention Money Security guarantee to the Contractor within 14 days after receiving a copy of the Completion Certificate.

#### **14.10 Statement at Completion**

14.10.1 Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Architect three copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- b) any further sums which the Contractor considers to be due, and
- c) an estimate of any other amounts which the Contractor considers will become due to him under the

Contract. Estimated amounts shall be shown separately in this Statement at completion.

14.102 The Architect shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

#### **14.11 Application for Final Payment Certificate**

14.11.1 Within 60 days after receiving the Completion Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:

- a) The value of all work done in accordance with the Contract, and
- b) Any further sums which the Contractor considers to be due to him under the Contract otherwise.

14.11.2 If the Architect disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Architect may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Architect the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

14.11.3 However, if, following discussions between the Architect and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Architect shall deliver to the Procuring Entity (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Procuring Entity (with a copy to the Engineer) a Final Statement.

#### **14.12 Discharge**

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

#### **14.13 Issue of Final Payment Certificate**

14.13.1 Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall deliver, to the Procuring Entity and to the Contractor, the Final Payment Certificate which shall state:

- a) The amount which he fairly determines is finally due, and
- b) After giving credit to the Procuring Entity for all amounts previously paid by the Procuring Entity and for all sums to which the Procuring Entity is entitled, the balance (if any) due from the Procuring Entity to the Contractor or from the Contractor to the Procuring Entity, as the case may be.

14.13.2 If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Architect shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

#### **14.14 Cessation of Procuring Entity's Liability**

14.14.1 The Procuring Entity shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- a) in the Final Statement and also,
- b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

14.14.2 However, this Sub-Clause shall not limit the Procuring Entity's liability under his indemnification obligations, or the Procuring Entity's liability in any case of fraud, deliberate default or reckless misconduct by the

## **14.15 Currencies of Payment**

The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:

- a) If the Accepted Contract Amount was expressed in Local Currency only:
  - i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties;
  - ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
  - iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a) (i) above;
- b) payment of the damages specified in the Special Conditions of Contract, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
- c) other payments to the Procuring Entity by the Contractor shall be made in the currency in which the sum was expended by the Procuring Entity, or in such currency as may be agreed by both Parties;
- d) if any amount payable by the Contractor to the Procuring Entity in a particular currency exceeds the sum payable by the Procuring Entity to the Contractor in that currency, the Procuring Entity may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
- e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the Central Bank of Kenya.

## **15 TERMINATION BY PROCURING ENTITY**

### **15.1 Notice to correct any defects or failures**

If the Contractor fails to carry out any obligation under the Contract, the Architect may by notice require the Contractor to make good the failure and to remedy it within 30 days.

### **15.2 Termination by Procuring Entity**

- 15.2.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor breaches the contract based on following circumstances which shall include but not limited to:
- a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
  - b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
  - c) without reasonable excuse fails:
    - i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
    - ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 30 days after receiving it,
  - d) subcontracts the major part or whole of the Works or assigns the Contract without the consent of the Procuring Entity,
  - e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
  - f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an induce mentor reward:
    - i) for doing or for bearing to do any action in relation to the Contract, or
    - ii) for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
    - iii) if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such induce mentor reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or

- g) If the contract or repeatedly fails to remedy delivers defective work,
- h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, in competing for or in executing the Contract.

1522 In any of these events or circumstances, the Procuring Entity may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of subparagraph (e) or (f) or (g) or (h), the Procuring Entity may by notice terminate the Contract immediately.

1523 The Procuring Entity's election to terminate the Contract shall not prejudice any other rights of the Procuring Entity, under the Contractor otherwise.

1524 The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

1525 After termination, the Procuring Entity may complete the Works and/ or arrange for any other entities to do so. The Procuring Entity and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

1526 The Procuring Entity shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Procuring Entity, these items may be sold by the Procuring Entity in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

### **153 Valuation at Date of Termination**

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

### **154 Payment after Termination**

After a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Procuring Entity may:

- a) Proceed in accordance with Sub-Clause 2.5 [Procuring Entity's Claims],
- b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Procuring Entity, have been established, and/ or
- c) recover from the Contractor any losses and damages incurred by the Procuring Entity and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Procuring Entity shall pay any balance to the Contractor.

### **155 Procuring Entity's Entitlement to Termination for Convenience**

The Procuring Entity shall be entitled to terminate the Contract, at any time at the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

### **156 Fraud and Corruption**

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

## **15.7 Corrupt gifts and payments of commission**

- 15.7.1 The Contractor shall not;
- a) Offer or give or agree to give to any person in the service of the Procuring Entity any gift or consideration of any kind as an inducement or reward for doing or for bearing to door for having done or for borne to do any act in relation to the obtaining or execution of this or any other Contract for the Procuring Entity or for showing or for bearing to show favor or disfavor to any person in relation to this or any other contract for the Procuring Entity.
  - b) Enter into this or any other contract with the Procuring Entity in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment there of have been disclosed in writing to the Procuring Entity.
- 15.7.2 Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement and Asset Disposal Act (2015) and the Anti-Corruption and Economic Crimes Act (2003) of the Laws of Kenya.

## **16 SUSPENSION AND TERMINATION BY CONTRACTOR**

### **16.1 Contractor's Entitlement to Suspend Work**

- 16.1.1 If the Architect fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], or not receiving instructions that would enable the contractor to proceed with the works in accordance with the program, the Contractor may, after giving not less than 30 days' notice to the Procuring Entity, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.
- 16.1.2 The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].
- 16.1.3 If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.
- 16.1.4 If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

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

### **16.3 Termination by Contractor**

- 16.3.1 The Contractor shall be entitled to terminate the Contract if:
- a) the Architect fails, within 60 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
  - b) the Contractor does not receive the amount due under an Interim Payment Certificate within 90 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),
  - c) the Procuring Entity substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
  - d) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
  - e) the Procuring Entity becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a



receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.

- f) the Contractor does not receive the Architect instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

1632 In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Procuring Entity, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

1633 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract otherwise.

#### **164 Cessation of Work and Removal of Contractor's Equipment**

After a notice of termination under Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- a) cease all further work, except for such work as may have been instructed by the Architect for the protection of life or property or for the safety of the Works,
- b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

#### **165 Payment on Termination**

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Procuring Entity shall promptly:

- a) Return the Performance Security to the Contractor,
- b) pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
- c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

### **17. RISK AND RESPONSIBILITY**

#### **17.1 Indemnities**

17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- a) Bodily injury, sickness, disease or death, of any person what so ever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful actor breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and
- b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

17.1.2 The Procuring Entity shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property], unless and to the extent that any such damage or loss is attributable to any negligence, willful actor breach of the Contract by the contractor, the contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

## **172 Contractor's Care of the Works**

- 172.1 The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Procuring Entity. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Procuring Entity.
- 172.2 After responsibility has accordingly passed to the Procuring Entity, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.
- 172.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.
- 172.4 The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

## **173 Procuring Entity's Risks**

The risks referred to in Sub-Clause 17.4 [Consequences of Procuring Entity's Risks] below, in so far as they directly affect the execution of the Works in Kenya, are:

- a) War hostilities (whether war be declared or not),
- b) rebellion, riot, commotion or disorder, terrorism, sabotage by persons other than the Contractor's Personnel,
- c) explosive materials, ionizing gradation or contamination by radio-activity, except as may be attributable to the Contractor's use of such explosives, radiation or radio-activity,
- d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- e) use or occupation by the Procuring Entity of any part of the Permanent Works, except as may be specified in the Contract,
- f) design of any part of the Works by the Procuring Entity's Personnel or by others for whom the Procuring Entity is responsible, and
- g) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

## **174 Consequences of Procuring Entity's Risks**

- 174.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Architect and shall rectify this loss or damage to the extent required by the Engineer.
- 174.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - (b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (e) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.
- 174.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

## **175 Intellectual and Industrial Property Rights**

- 175.1 In this Sub-Clause, "infringement" shall refer to an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" shall refer to a claim (or proceedings pursuing a claim) alleging an infringement.

- 1752 Whenever a Party does not give notice to the other Party of any claim within 30 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.
- 1753 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:
- a) An un avoidable result of the Contractor's compliance with the Contract, or
  - b) A result of any Works being used by the Procuring Entity:
    - i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
    - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.
- 1754 The Contractor shall indemnify and hold the Procuring Entity harmless again stand from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.
- 1755 If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.
- 1756 For operation and maintenance of any plant or equipment installed, the contractor shall grant a non-exclusive and non-transferable license to the Procuring Entity under the patent, utility models ,or other intellectual rights owned by the contractor or a third party from whom the contract or has received the rights to grant sub-licenses and shall also grant to the Procuring Entity a non-exclusive and non-transferable rights (without the rights to sub-license) to use the know-how and other technical information disclosed to the contract or under the contract. Nothing contained here-in shall be construed as transferring ownership of any patent, utility model, trademark, design, copy right, know-how or other intellectual rights from the contractor or any other third party to the Procuring Entity.

## **176 Limitation of Liability**

- 176.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any in director consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Procuring Entity's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].
- 176.2 The total liability of the Contractor to the Procuring Entity, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Procuring Entity's Equipment and Free- Issue Materials], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in **the Special Conditions of Contract**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.
- 176.3 This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

## **177 Use of Procuring Entity's Accommodation/Facilities**

- 177.1 The Contractor shall take full responsibility for the care of the Procuring Entity provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).
- 177.2 If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Procuring Entity is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

## **18 INSURANCE**

### **18.1 General Requirements for Insurances**

- 18.1.1 In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.
- 18.1.2 Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Procuring Entity. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.3 Wherever the Procuring Entity is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.4 If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Procuring Entity shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.
- 18.1.5 Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.
- 18.1.6 The relevant insuring Party shall, within the respective periods stated in **the Special Conditions of Contract** (calculated from the Commencement Date), submit to the other Party:
- a) Evidence that the insurances described in this Clause have been affected, and
  - b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.1.7 When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.
- 18.1.8 Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.
- 18.1.9 Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.
- 18.1.10 If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
- 18.1.11 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contract otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.
- 18.1.12 Procuring Entity in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.
- 18.1.13 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.
- 18.1.14 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to

the insurance referred to Clause 18) with insurers from any eligible source country.

## **182 Insurance for Works and Contractor's Equipment**

- 182.1 The insuring Party shall insure the Works, Plant, Material and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.
- 182.2 The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).
- 182.3 The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.
- 182.4 Unless otherwise stated in the Special Conditions, insurances under this Sub-Clause:
- a) Shall be effected and maintained by the Contractor as insuring Party,
  - b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
  - c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],
  - d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Special Conditions** of Contract (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
  - e) may however exclude loss of, damage to, and reinstatement of:
    - i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
    - ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
    - iii) a part of the Works which has been taken over by the Procuring Entity, except to the extent that the Contractor is liable for the loss or damage, and
    - iv) Goods while they are not in Kenya, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].
- 182.5 If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Procuring Entity, with supporting particulars. The Procuring Entity shall then (i) be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

## **183 Insurance against Injury to Persons and Damage to Property**

- 183.1 The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.
- 183.2 This insurance shall be for a limit per occurrence of not less than the amount stated in **the Special Conditions of Contract**, with no limit on the number of occurrences. If an amount is not stated in the **Special Conditions**

**of Contract**, this Sub-Clause shall not apply.

- 1833 Unless otherwise stated in the Special Conditions, the insurances specified in this Sub-Clause:
- a) Shall be effected and maintained by the Contractor as insuring Party,
  - b) shall be in the joint names of the Parties,
  - c) shall be extended to cover liability for all loss and damage to the Procuring Entity's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
  - d) may however exclude liability to the extent that it arises from:
    - i) the Procuring Entity's right to have the Permanent Works executed on, over, under, in or
    - ii) through any land, and to occupy this land for the Permanent Works,
    - iii) damage which is an unavoidable result of the Contractor's obligations to execute the
    - iv) Works and remedy any defects, and
    - v) a cause listed in Sub-Clause 17.3 [Procuring Entity's Risks], except to the extent that cover is available at commercially reasonable terms.

#### **184 Insurance for Contractor's Personnel**

- 184.1 The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.
- 184.2 The insurance shall cover the Procuring Entity and the Architect against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Procuring Entity or of the Procuring Entity's Personnel.
- 184.3 The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

### **19. FORCE MAJEURE**

#### **19.1 Definition of Force Majeure**

- 19.1.1 In this Clause, "Force Majeure" means an exceptional event or circumstance:
- a) Which is beyond a Party's control,
  - b) Which such Party could not reasonably have provided against before entering into the Contract,
  - c) which, having arisen, such Party could not reasonably have avoided or overcome, and
  - d) which is not substantially attributable to the other Party.
- 19.1.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:
- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
  - b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
  - c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
  - d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
  - e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

#### **19.2 Notice of Force Majeure**

- 19.2.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
- 19.2.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

1923 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

### **193 Duty to Minimize Delay**

Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

### **194 Consequences of Force Majeure**

194.1 If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/ or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in Kenya, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

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

### **195 Force Majeure Affecting Subcontractor**

If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

### **196 Optional Termination, Payment and Release**

196.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

196.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:

- a) the amounts payable for any work carried out for which a price is stated in the Contract;
- b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity's disposal;
- c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- e) the Cost of repatriation of the Contractor's staff and lab or employed wholly in connection with the Works at the date of termination.

### **197 Release from Performance**

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- a) The Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- b) The sum payable by the Procuring Entity to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.



## **20 SETTLEMENT OF CLAIMS AND DISPUTES**

### **20.1 Contractor's Claims**

- 20.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 20.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
- 20.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Procuring Entity's liability, the Architect may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Architect to inspect all these records and shall (if instructed) submit copies to the Engineer.
- 20.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Architect fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/ or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:
- a) This fully detailed claim shall be considered as interim;
  - b) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/ or amount claimed, and such further particulars as the Architect may reasonably require; and
  - c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.
- 20.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Architect and approved by the Contractor, the Architect shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars but shall nevertheless give his response on the principles of the claim within the above defined time period.
- 20.1.7 Within the above defined period of 42 days, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.
- 20.1.8 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.
- 20.1.9 If the Architect does not respond within the time frame defined in this Clause, either Party may consider that the claim is rejected by the Architect and any of the Parties may refer the dispute for amicable settlement in accordance with Clause 20.3.
- 20.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/ or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 20.3.

## **202 Procuring Entity's Claims**

- 202.1 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.
- 202.2 The notice shall be given as soon as practicable and no longer than 30 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.
- 202.3 The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Procuring Entity considers itself to be entitled in connection with the Contract. The Architect shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/ or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].
- 202.4 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

## **203 Amicable Settlement**

Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 20.1 above should move to commence arbitration after 60 days from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

## **204 Matters that may be referred to arbitration**

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

- a) Whether or not the issue of an instruction by the Architect is empowered by these Conditions.
- b) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- c) Any dispute arising in respect risks arising from matters referred to in Clause 17.3 and Clause 19.
- e) 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.

## **205 Arbitration**

- 205.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration.
- 205.2 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.
- 205.3 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.
- 205.4 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.

- 2055 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision require mentor notice had been given.
- 2056 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Architect from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.
- 2057 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.
- 2057 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Architect shall not be altered by reason of any arbitration being conducted during the progress of the Works.
- 2058 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

## **20.6 Arbitration with National Contractors**

- 2061 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;
- i) Architectural Association of Kenya
  - ii) Institute of Quantity Surveyors of Kenya
  - iii) Association of Consulting Engineers of Kenya
  - iv) Chartered Institute of Arbitrators (Kenya Branch)
  - v) Institution of Engineers of Kenya
- 2062 The institution written to first by the aggrieved party shall take precedence over all other institutions.

## **20.7 Arbitration with Foreign Contractors**

- 2071 Arbitration with foreign contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.
- 2072 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

## **20.8 Alternative Arbitration Proceedings**

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

## **20.9 Failure to Comply with Arbitrator's Decision**

- 2091 The award of such Arbitrator shall be final and binding up on the parties.
- 2092 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

## **20.10 Contract operations to continue**

Notwithstanding any reference to arbitration herein,

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

**Section IX - Special Conditions of Contract**

The following Special Conditions shall supplement the GCC. Whenever there is a conflict, the provisions in shall prevail over those in the GCC.

here

Conditions	Sub-Clause	Data
<b>Part A - Contract Data</b>		
Procuring Entity's name and address	Heading	The Procuring Entity is <b>State Department of Housing and Urban Development</b>
Name and Reference No. of the Contract	Heading and 1.1	<i>Proposed Construction of Chuka Modern Market in Tharaka Nithi County</i>  <i>Tender No.</i> <i>MLPWHUD/SDHUD/UDD/350/2023-2024</i>
Engineers Name and address	Heading and 3.1.1	<i>Director, Urban Development Department.</i> State Department for Housing and Urban Development, P.O Box 30119-00100, Nairobi, Kenya
Contractor's Representative's name	4.3.1	<i>[insert the name of the Contractor's Representative agreed by the Procuring Entity prior to Contract signature]</i>
Key Personnel names	16.9.1	<i>[insert the name of each Key Personnel agreed by the Procuring Entity prior to Contract signature]</i>
Time for Completion	1.1.	<u>18 Months</u>
Defects Liability Period	1.1	<u>6 months</u>
Sections	1.1	<i>If Sections are to be used, refer to Table: Summary of Sections below</i>
Electronic transmission systems	1.3	N/A
Time for the Parties entering into a Contract Agreement	1.6	Within 30 days
Commencement Date	8.1.1	The start date shall be 14 days after site handing over
Time for access to the Site	2.1.1	No later than the Commencement Date, and not later than 14 no. days after Commencement Date
Architect Duties and Authority	3.1.6 (b) (ii)	Variations resulting in an increase of the Accepted Contract Amount shall be <b>as guided by the Public Procurement and Asset Disposal Act, 2015 and all amendments thereafter and attendant Regulations.</b>
Performance Security	4.2.1	The performance security will be in the form of a performance bond in the amount(s) of 10% percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.

Conditions	Sub-Clause	Data
Repayment amortization rate of advance payment	14.2.5 (b)	<p>The amounts to be recovered in each payment certificate shall be computed using the following formula:</p> $R = \frac{A(x^1 - x^{11})}{80 - 20}$ <p><b>Where;</b>  <b>A</b> - Amount of the advance which has been granted.  <b>x<sup>1</sup></b> - The amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 30% but not exceed 90%.  <b>x<sup>11</sup></b> - The amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 90% but not less than 30%.  <b>R</b> - Amount to be reimbursed in current valuation.</p>
Percentage of Retention	14.3.2 (c)	<b>10%</b> of the certified amounts.
Limit of Retention Money	14.3.2 (c)	<b>10%</b> of the Accepted Contract Amount
Plant and Materials	14.5.3(b)(i)	Not applicable
	14.5.3(c)(i)	Not applicable
Minimum Amount of Interim Payment Certificates	14.6.2	<b>4%</b> of the Accepted Contract Amount
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	<b>Shall be in accordance with the prevailing mean commercial lending rate as determined by the Central Bank of Kenya.</b>
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	The product of <b>1.1</b> times the Accepted Contract Amount.
Periods for submission of insurance: a. Evidence of insurance. b. Relevant policies	18.1.6	<b>14 days</b> <b>14 days</b>
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	<i>[Insert maximum amount of deductibles] -N/A</i>
Minimum amount of third-party insurance	18.3.2	<i>[Insert amount of third-party insurance]- N/A</i>
The place of arbitration	20.7.2	<i>Nairobi, Kenya</i>

## ***SECTION X - CONTRACT FORMS***

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM No. 2 - REQUEST FOR REVIEW

FORM No. 3 - LETTER OF AWARD

FORM No. 4 - CONTRACT AGREEMENT

FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]

FORM No. 6 - PERFORMANCE SECURITY [Option 2- Performance Bond]

FORM No. 7 - ADVANCE PAYMENT SECURITY

FORM No. 8 - RETENTION MONEY SECURITY

## **FORM No 1: NOTIFICATION OF INTENTION TO AWARD OF CONTRACT**

This Notification of Award shall be sent to each Tenderer that submitted a Tender and was not successful. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

### **FORMAT**

1. For the attention of Tenderer's Authorized Representative

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

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

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

This Notification is sent by *(Name and designation)* \_\_\_\_\_

3. Notification of Award

- i) Procuring Entity: *[insert the name of the Procuring Entity]*
- ii) Project: *[insert name of project]*
- iii) Contract title: *[insert the name of the contract]*
- iv) ITT No: *[insert ITT reference number from Procurement Plan]*

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

4. Request a debriefing in relation to the evaluation of your tender by submitting a Procurement-related Complaint in relation to the decision to award the contracts.

a) The successful tenderers

i) Name of successful Tender \_\_\_\_\_

ii) Address of the successful Tender \_\_\_\_\_

iii) Contract price of the successful Tender Kenya Shillings \_\_\_\_\_  
(in words \_\_\_\_\_)

b) The reasons for your tender being unsuccessful are as follows:

c) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.



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

(Note a) State NE if not evaluated

#### 5. How to request a debriefing

- a) DEADLINE: The dead line to request a debriefing expires at midnight on [insert date] (local time).
- b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
  - i) Attention: [insert full name of person, if applicable]
  - ii) Title/position: [insert title/position]
  - iii) Agency: [insert name of Procuring Entity]
  - iv) Email address: [insert email address]
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

#### 6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
  - i) Attention: [insert full name of person, if applicable]
  - ii) Title/position: [insert title/ position]
  - iii) Agency: [insert name of Procuring Entity]
  - iv) Email address: [insert email address]
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website [www.ppra.go.ke](http://www.ppra.go.ke).

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

- e) There are four essential requirements:
  - i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process and is the recipient of a Notification of Intention to Award.
  - ii) The complaint can only challenge the decision to award the contract.
  - iii) You must submit the complaint within the period stated above.
  - iv) You must include, in your complaint, all of the information required to support your complaint.

**7. Standstill Period**

- i) **DEADLINE:** The Standstill Period is due to end at midnight on [*insert date*] (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

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

**Signature:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Title/position:** \_\_\_\_\_

\_\_\_\_\_

**Telephone:** \_\_\_\_\_

\_\_\_\_\_

**FORM NO. 2- REQUEST FOR REVIEW**

**FORM FOR REVIEW (r.203(1))**

**PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD**

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

**BETWEEN**

**..... APPLICANT**

**AND**

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

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

**REQUEST FOR REVIEW**

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

- 1.
- 2.

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

- 1.
- 2.

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

---

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

**SIGNED**

**Board Secretary**

**FORM NO 3: LETTER OF AWARD**

*letterhead paper of the Procuring Entity]*

*[date]*

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

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

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

Authorized Signature: .....

Name and Title of Signatory: .....

Name of Procuring Entity: .....

Attachment: *Contract Agreement*: .....

**FORM NO 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 there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in  
the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This  
Agreement shall prevail over all other Contract documents.
  - a) The Notification of Award
  - b) the Form of Tender
  - c) the addenda Nos \_\_\_\_\_ (if any)
  - d) the Special Conditions of Contract
  - e) the General Conditions of Contract;
  - f) the Specifications
  - g) the Drawings; and
  - h) the completed Schedules and any other documents forming part of the contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this  
Agreement, the Contractor here by covenants with the Procuring Entity to execute the Works and to remedy  
defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity here by covenants to pay the Contractor in consideration of the execution and completion  
of the Works and the remedying of defects there in, the Contract Price or such other sum as may become payable  
under the provisions of the Contract at the times and in the manner prescribed by the Contract.

INWITNESS where of the parties here to have caused this Agreement to be executed in accordance with the  
Laws of Kenya on the day, month and year specified above.

Signed and sealed by \_\_\_\_\_ (for the Procuring Entity)

Signed and sealed by \_\_\_\_\_ (for the Contractor).

**FORM NO. 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, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (in words),<sup>1</sup> 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.....<sup>2</sup>, 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.*

<sup>1</sup>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.

<sup>2</sup>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 BOND No.:** \_\_\_\_\_

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

1. By this Bond \_\_\_\_\_ as Principal (hereinafter called “the Contractor”) and \_\_\_\_\_] as Surety (hereinafter called “the Surety”), are held and firmly bound unto \_\_\_\_\_] as Obligee (hereinafter called “the Procuring Entity”) in the amount of \_\_\_\_\_ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, for \_\_\_\_\_ in accordance with the documents, plans, specifications, and amendments there to, which to the extent here in provided for, are by reference made part here of and are here in after referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
  - a) Complete the Contract in accordance with its terms and conditions; or
  - b) Obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
  - c) Pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.
4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.
5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named here in or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.
6. In testimony whereof, the Contractor has here unto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly at tested by the signature of his legal representative, this day \_\_\_\_\_ of \_\_\_\_\_ 20\_\_\_\_\_.

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_



**FORM NO. 7 - ADVANCE PAYMENT SECURITY**

**[Demand Bank Guarantee]**

*[Guarantor letterhead]*

**Beneficiary:** \_\_\_\_\_ *[Insert name and Address of Procuring Entity]* **Date:** \_\_\_\_\_ *[Insert date of issue]*

**ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]*

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

1. We have been informed that \_\_\_\_\_ (hereinafter called "the Contractor") has entered into Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum \_\_\_\_\_ (in words \_\_\_\_\_) is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (in words \_\_\_\_\_)<sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
  - a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
  - b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_.
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the \_\_\_\_\_ day of \_\_\_\_\_, 2 \_\_\_\_\_, <sup>2</sup> \_\_\_\_\_, <sup>2</sup> 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.*

<sup>1</sup>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.

<sup>2</sup>Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

**FORM NO. 8 – RETENTION MONEY SECURITY**

**[Demand Bank Guarantee]**

*[Guarantor letterhead]*

**Beneficiary:** \_\_\_\_\_ *[Insert name and Address of Procuring Entity]*

**Date:** \_\_\_\_\_ *[Insert date of issue]*

**Advance payment guarantee no.** *[Insert guarantee reference number]*

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

1. We have been informed that \_\_\_\_\_ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. \_\_\_\_\_ *[insert reference number of the contract]* dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[insert the second half of the Retention Money]* is to be made against a Retention Money guarantee.
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 \_\_\_\_\_])*<sup>1</sup> 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 showgrounds for your demand or the sum specified there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_ *[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the.....Day of.....2.....<sup>2</sup>, 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.*

<sup>1</sup>The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.

<sup>2</sup>Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

**FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM**

**(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)**

**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 pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. 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 legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.*

Tender Reference No.: \_\_\_\_\_ [insert identification  
no] Name of the Tender Title/Description: \_\_\_\_\_ [insert name of the  
assignment] to: \_\_\_\_\_ [insert complete name of Procuring Entity]

In response to the requirement in 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**

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
<b>1.</b>	Full Name		Directly----- ----- % of shares	Directly..... .....% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes ----No---- 2. Is this right held directly or indirectly?:  Direct..... ...  Indirect..... ...	1. Exercises significant influence or control over the Company body of the Company (tenderer)  Yes ----No---- 2. Is this influence or control exercised directly or indirectly?  Direct.....  Indirect.....
	National identity card number or Passport number					
	Personal Identification Number (where applicable)		Indirectly---- ----- % of shares	Indirectly----- % of voting rights		
	Nationality					
	Date of birth [dd/mm/yyyy]					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					

Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
2.	Full Name	Directly----- ----- % of shares	Directly..... .....% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes ----No---- 2. Is this right held directly or indirectly?:  Direct..... ...  Indirect..... ...	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes ----No---- 2. Is this influence or control exercised directly or indirectly?  Direct.....  Indirect.....
	National identity card number or Passport number				
	Personal Identification Number (where applicable)	Indirectly---- ----- % of shares	Indirectly----- % of voting rights		
	Nationality(ies)				
	Date of birth [dd/mm/yyyy]				
	Postal address				
	Residential address				
	Telephone number				
	Email address				
	Occupation or profession				
3.  e.t .c					

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020. (Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

- (a) holds at least ten percent of the issued shares in the company either directly or indirectly;
- (b) exercises at least ten percent of the voting rights in the company either directly or indirectly;
- (c) holds a right, directly or indirectly, to appoint or remove a director of the company; or
- (d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

*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]*

*Designation 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 this ..... [insert date of signing] day of..... [Insert month], [insert year]*

Bidder Official Stamp

# CHUKA

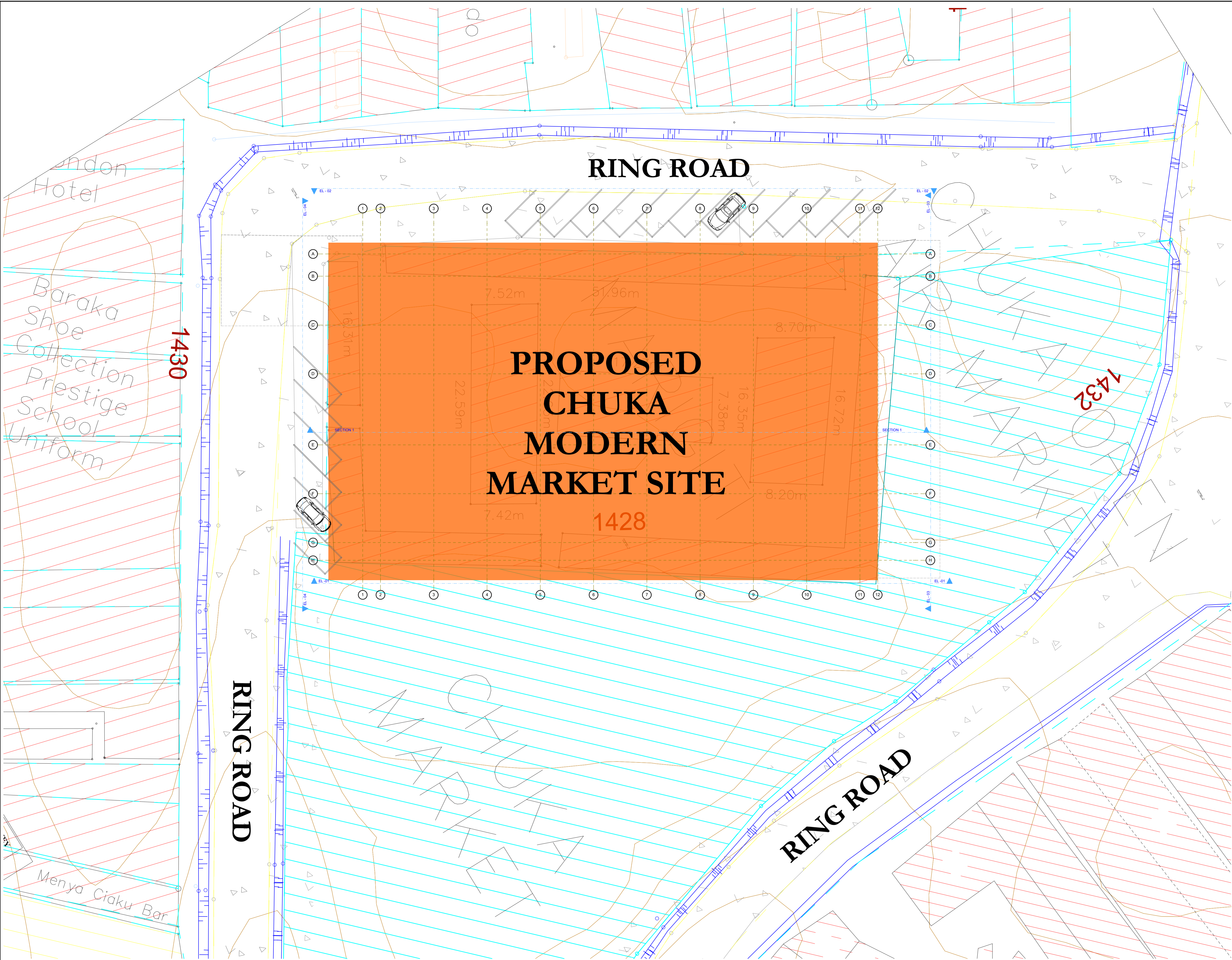


### MARKET PROVISIONS

PROVISION	QTY
OPEN STALLS	254
LOCKABLE STALLS/ SHOPS	106
FOOD COURTS	6
<b>TOTAL TRADERS</b>	<b>366</b>
GENTS	9
LADIES	9
PWDS	4
SHOWER (LADIES & GENTS)	4
POWER HOUSE	1
CRECHE	1
FIRST AID/ HEALTH ROOM	1
MEETING ROOM	1
WASHING AREA	4
CLEANERS STORE	1
GARBAGE POINT	1
COLD ROOM	2
SERVER ROOM	1
ICT HUB	1
REVENUE OFFICE	1
SACCO OFFICE	1
STAIRCASE	2
RAMP	1
OFF LOADING BAYS	4
PARKING	17

TOTAL AREA 6000 Sqm

# CHUKA MARKET



- NOTES**
1. All dimensions are in millimetres
  2. Dimensions to be read and not scaled off the drawing
  3. Any discrepancy to be reported to the architect immediately
  4. All R.C. works to be as per the S.E.'s drawings and details
  5. All walls under 200mm thickness to have hoop iron at alternate courses
  6. All drainage pipes under slab to be encased in 150mm thick concrete surround
  7. S.E. denotes Structural Engineer
  8. All sanitary work to entire satisfaction of MoH and Local Authority
  9. DPC to be three ply bituminous felt and approved by the architect
  10. All doors and windows to schedule
  11. All timber to be treated with approved quality anti-termite
  12. Provide 300mm PC open concrete channel under RW downpipes to Civil Engineer's approval
  13. All electrical work to be carried out by a licensed electrician to the local authority engineer
  14. This drawing to be read out in conjunction with structural, mechanical and electrical engineer's drawings

- FIRE SAFETY NOTES**
1. Automatic booster pump for FHRs to be provided to the satisfaction of the Chief Fire Officer
  2. Electrical fire alarm system to the approval of Chief Fire Officer
  4. Fire alarm and booster to be provided with secondary power supply
  5. 2x9kg Dry Powder Fire Extinguishers at parking areas
  6. 2x9 litre water and 1x4.5kg CO<sub>2</sub> fire extinguishers to be provided per floor

**REVISIONS**

No	Date	Description	Initial

**Project Title:**  
THE PROPOSED CHUKA MODERN MARKET  
THARAKA - NITHI COUNTY

**Plot No:**

**Client:**  
MINISTRY OF LANDS , PUBLIC WORKS ,  
HOUSING AND URBAN DEVELOPMENT  
STATE DEPARTMENT FOR HOUSING AND URBAN  
DEVELOPMENT

**Drawing Title:**

**Architect:**  
URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

**Designed/Drawn By:**  
MARWA LEONARD

**Approved By:**  
SECRETARY, URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

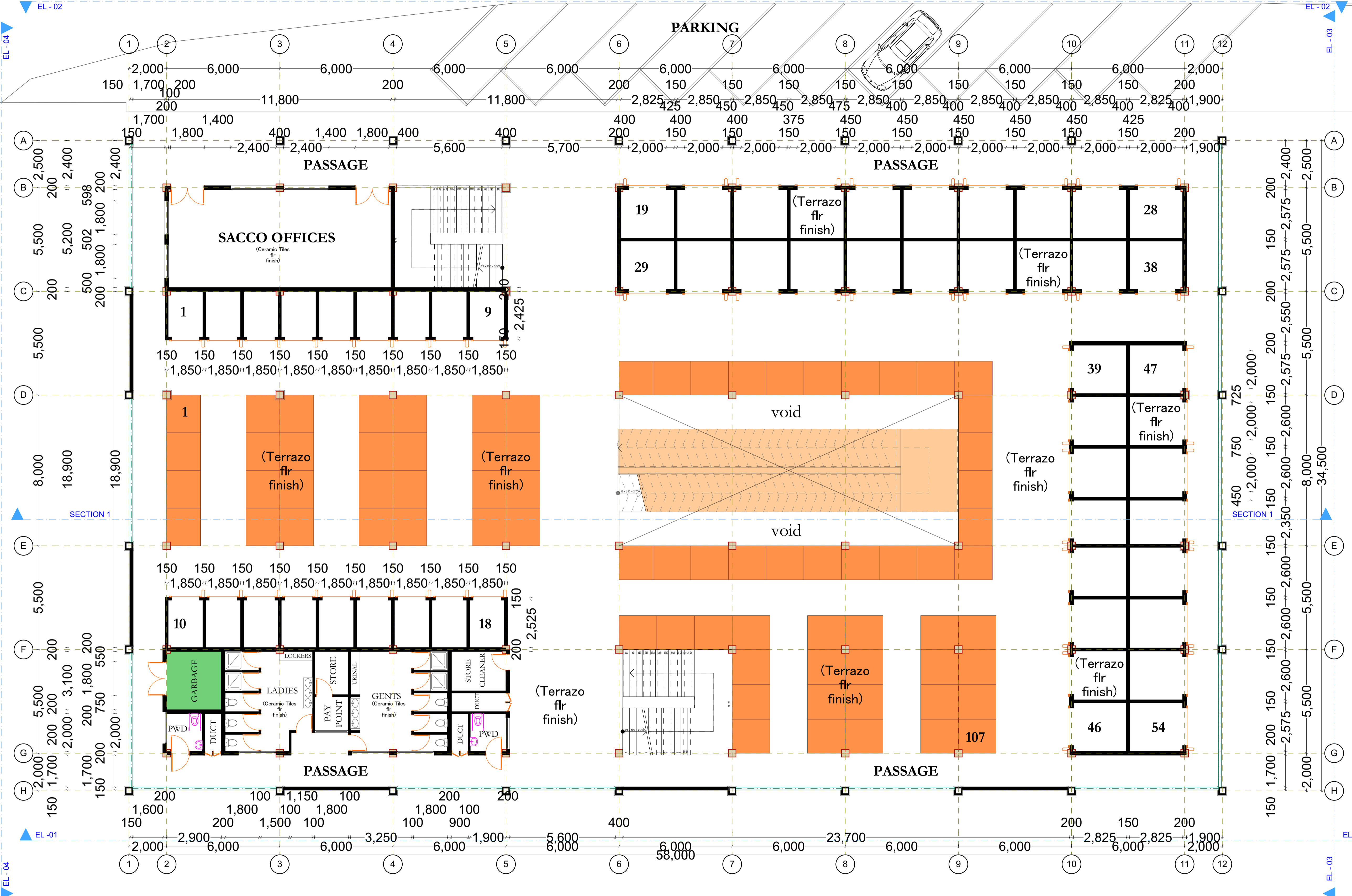
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**Job No.:** \_\_\_\_\_ **Date:** 23.08.23

# CHUKA MARKET







- NOTES**
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  - 2x9 litre water and 1x4.5kg CO<sub>2</sub> fire extinguishers to be provided per floor

**REVISIONS**

No	Date	Description	Initial

**Project Title:**  
THE PROPOSED CHUKA MODERN MARKET  
THARAKA - NITHI COUNTY

**Plot No:**

**Client:**  
MINISTRY OF LANDS, PUBLIC WORKS,  
HOUSING AND URBAN DEVELOPMENT  
STATE DEPARTMENT FOR HOUSING AND URBAN  
DEVELOPMENT

**Drawing Title:**

**Architect:**  
URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

**Designed/Drawn By:**  
MARWA LEONARD

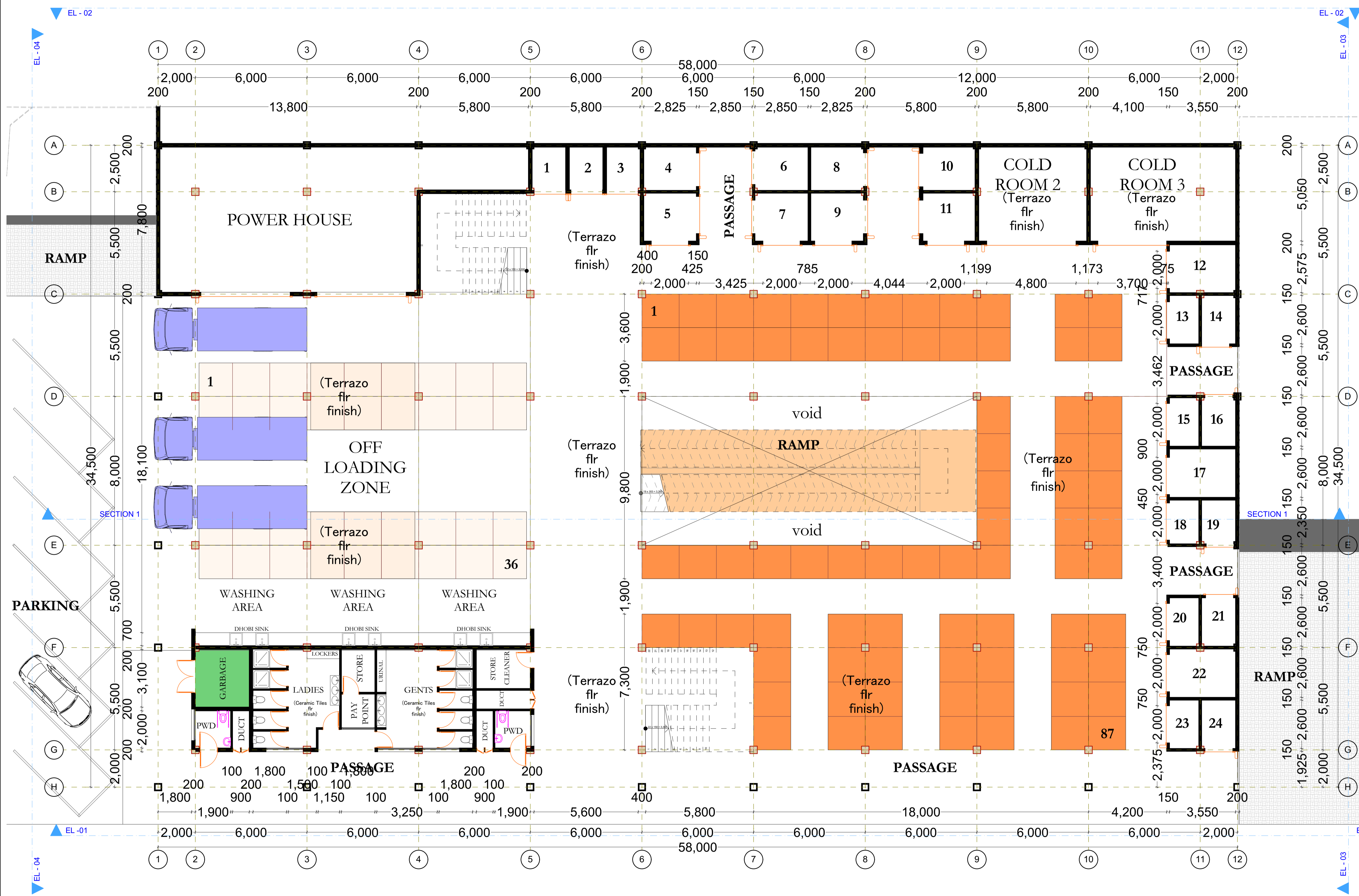
**Approved By:**  
SECRETARY, URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

Drawing No.: \_\_\_\_\_ Scale: 1:100  
Job No.: \_\_\_\_\_ Date: 23,08,23

**02**

**GROUND FLOOR PLAN 2000 Sqm**  
**1:100**



**NOTES**

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**REVISIONS**

No	Date	Description	Initial

Project Title:

THE PROPOSED CHUKA MODERN MARKET  
THARAKA - NITHI COUNTY

Plot No:

Client:  
MINISTRY OF LANDS, PUBLIC WORKS,  
HOUSING AND URBAN DEVELOPMENT

STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Drawing Title:

Architect:  
URBAN AND METROPOLITAN DEVELOPMENT DEPARTMENT

Designed/Drawn By:  
MARWA LEONARD

Approved By:  
SECRETARY, URBAN AND METROPOLITAN DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

Drawing No.: \_\_\_\_\_ Scale: 1:100

Job No.: \_\_\_\_\_ Date: 23.08.23

**03** LOWER GROUND FLOOR PLAN 2000 Sqm  
1:100

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**REVISIONS**

No	Date	Description	Initial

**Project Title:**

THE PROPOSED CHUKA MODERN MARKET  
THARAKA - NITHI COUNTY

**Plot No:**

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HOUSING AND URBAN DEVELOPMENT

STATE DEPARTMENT FOR HOUSING AND URBAN  
DEVELOPMENT

**Drawing Title:**

**Architect:**  
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DEVELOPMENT DEPARTMENT

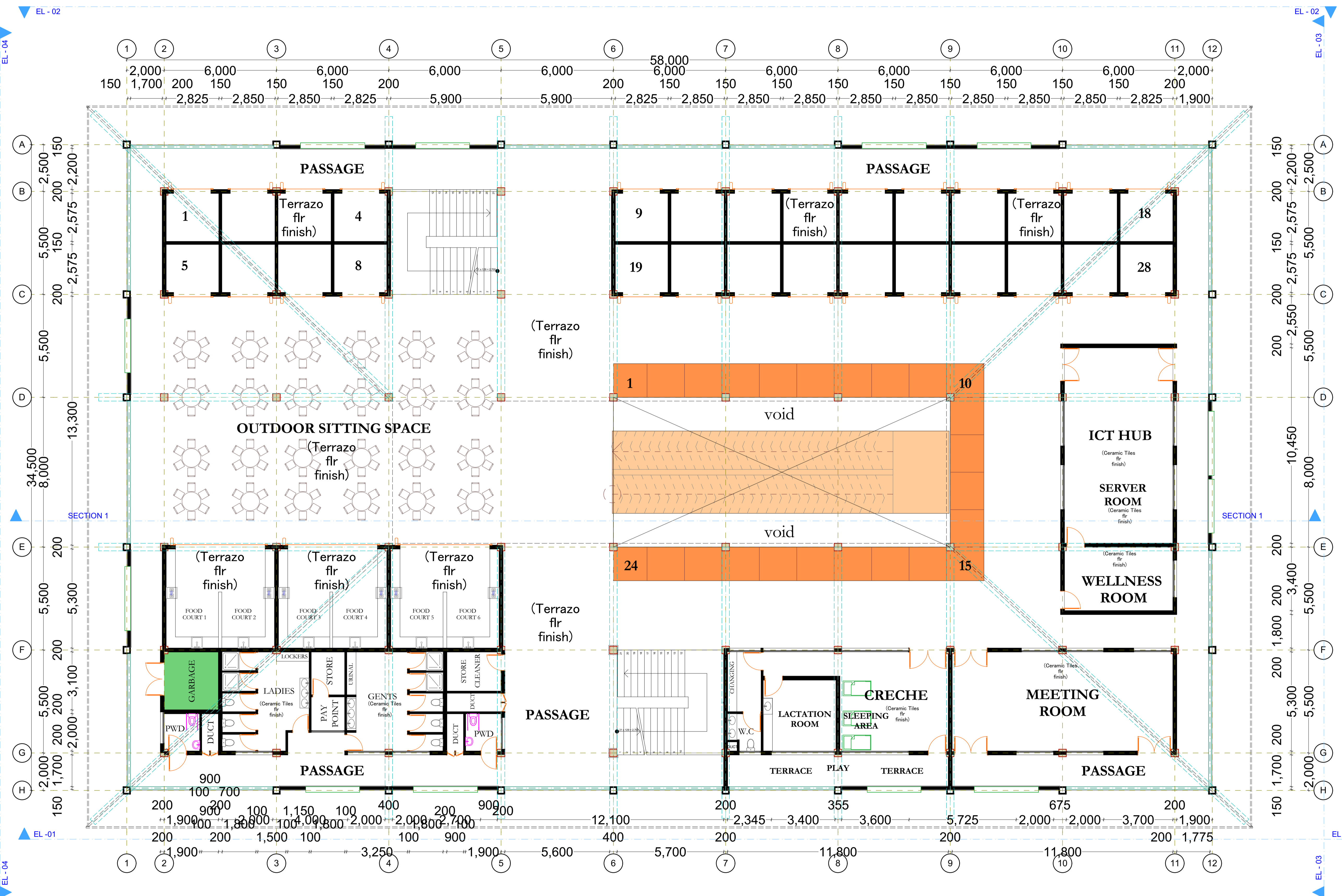
**Designed/Drawn By:**  
MARWA LEONARD

**Approved By:**  
SECRETARY, URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

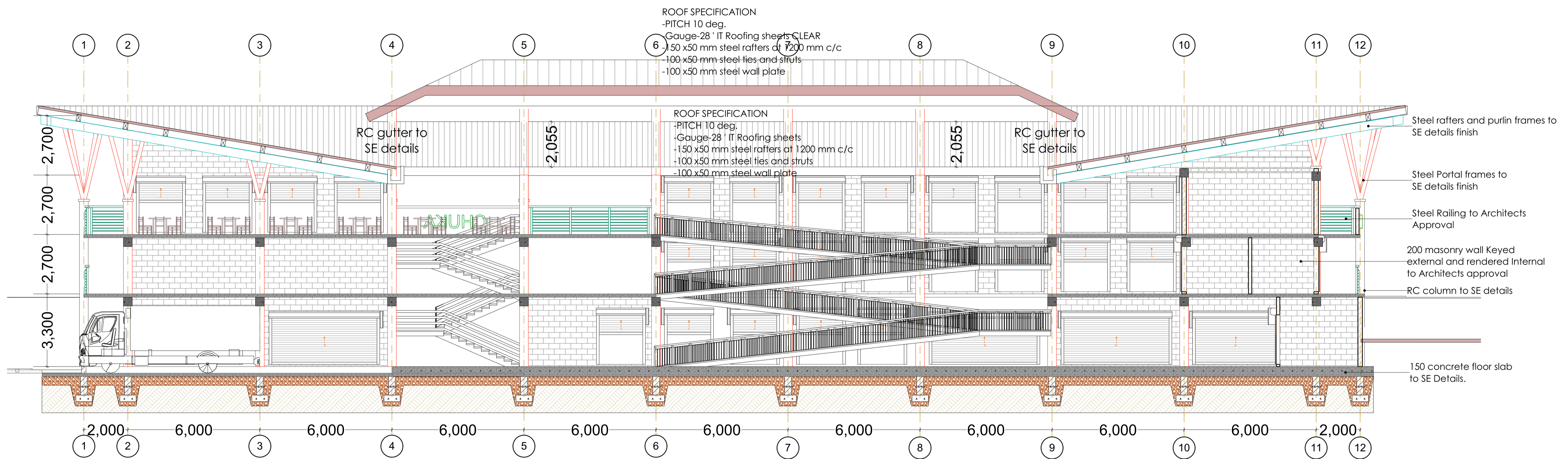
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Job No.: \_\_\_\_\_ Date: 23.08.23



**04**  
**FIRST FLOOR PLAN 2000 Sqm**  
**1:100**

# CHUKA MARKET



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**REVISIONS**

No	Date	Description	Initial

**Project Title:**

THE PROPOSED CHUKA MODERN MARKET  
THARAKA - NITHI COUNTY

**Plot No:**

MINISTRY OF LANDS , PUBLIC WORKS ,  
HOUSING AND URBAN DEVELOPMENT

STATE DEPARTMENT FOR HOUSING AND URBAN  
DEVELOPMENT

**Drawing Title:**

**Architect:**

URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

**Designed/Drawn By:**

MARWA LEONARD

**Approved By:**

SECRETARY, URBAN AND METROPOLITAN  
DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_

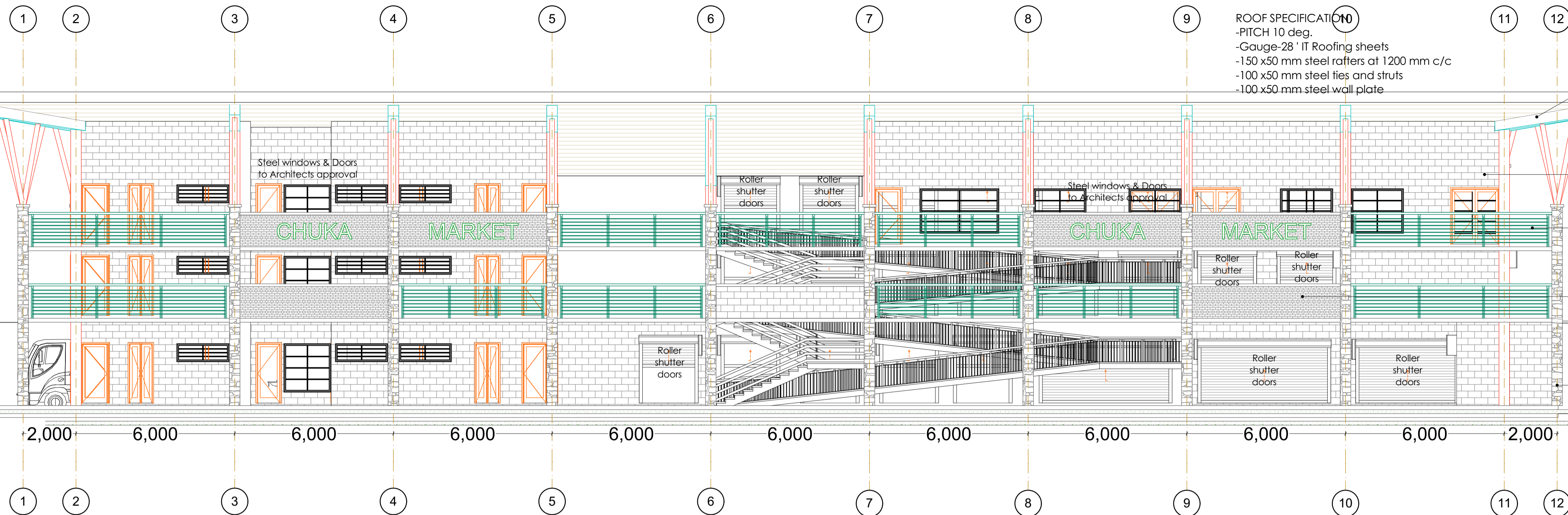
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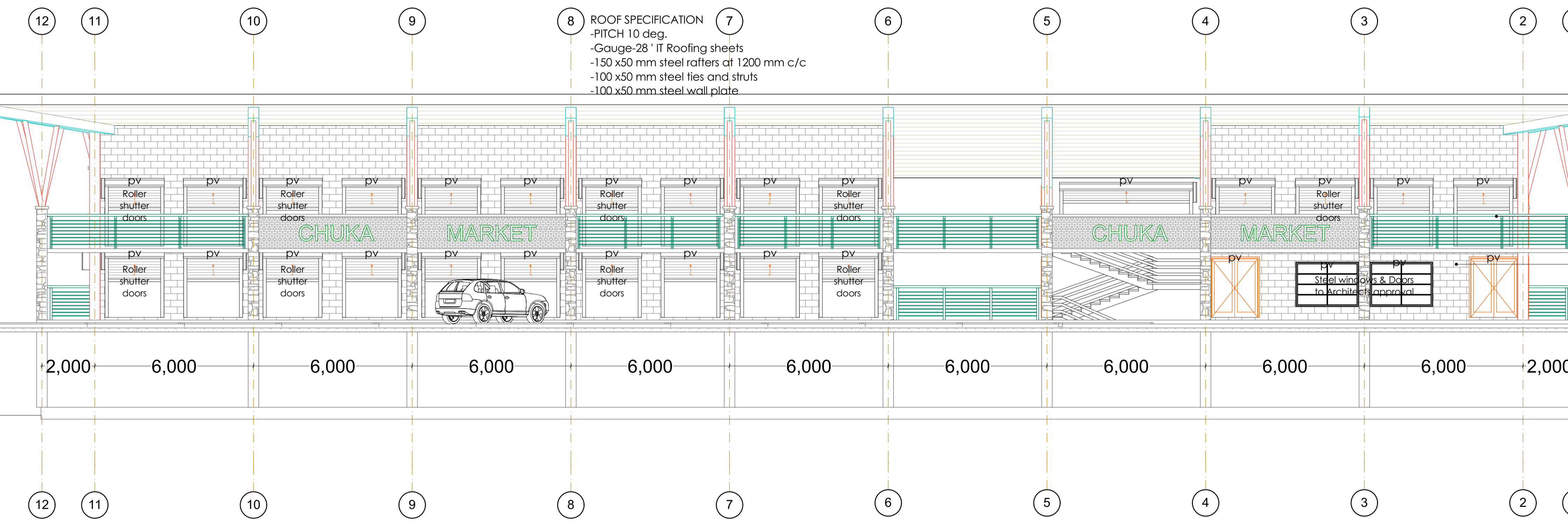
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Date: 23,08, 23



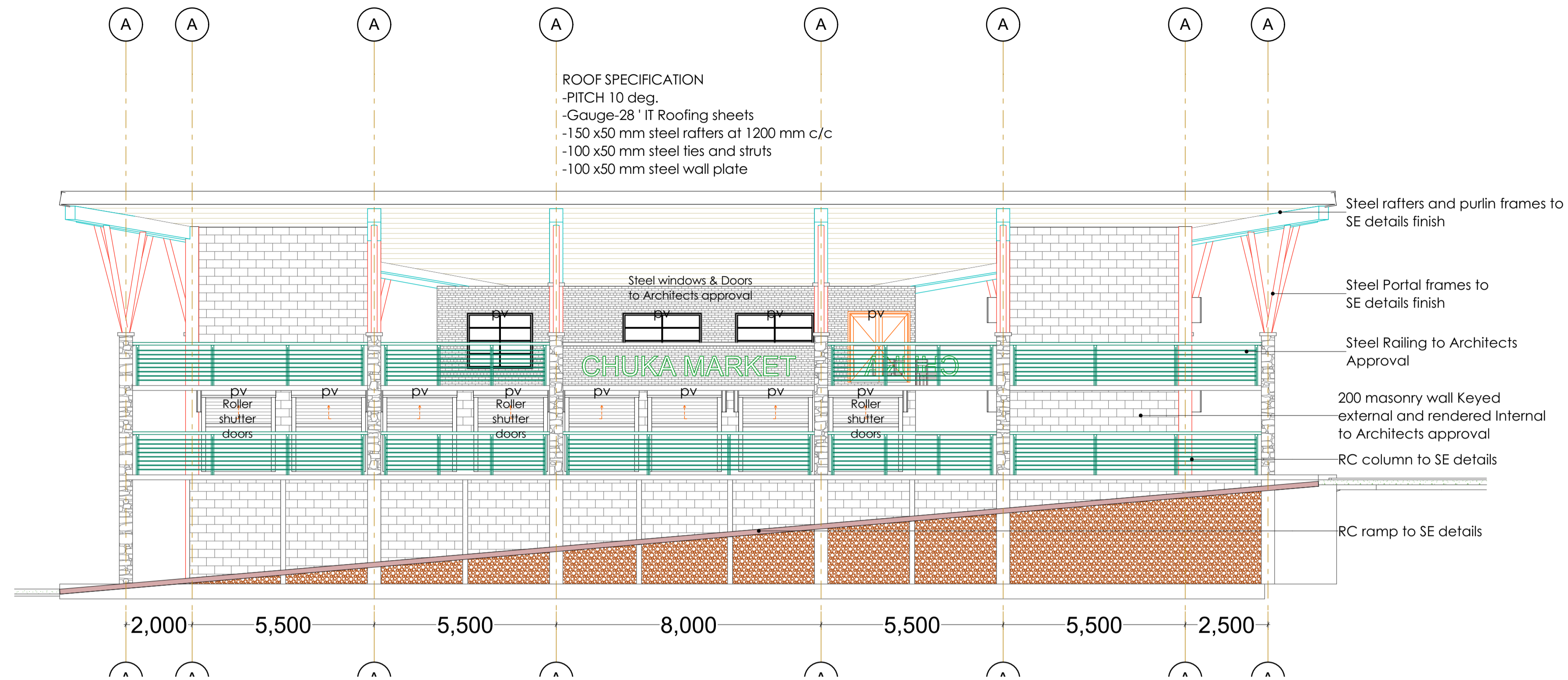
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**ELEVATION 1**  
**1:100**



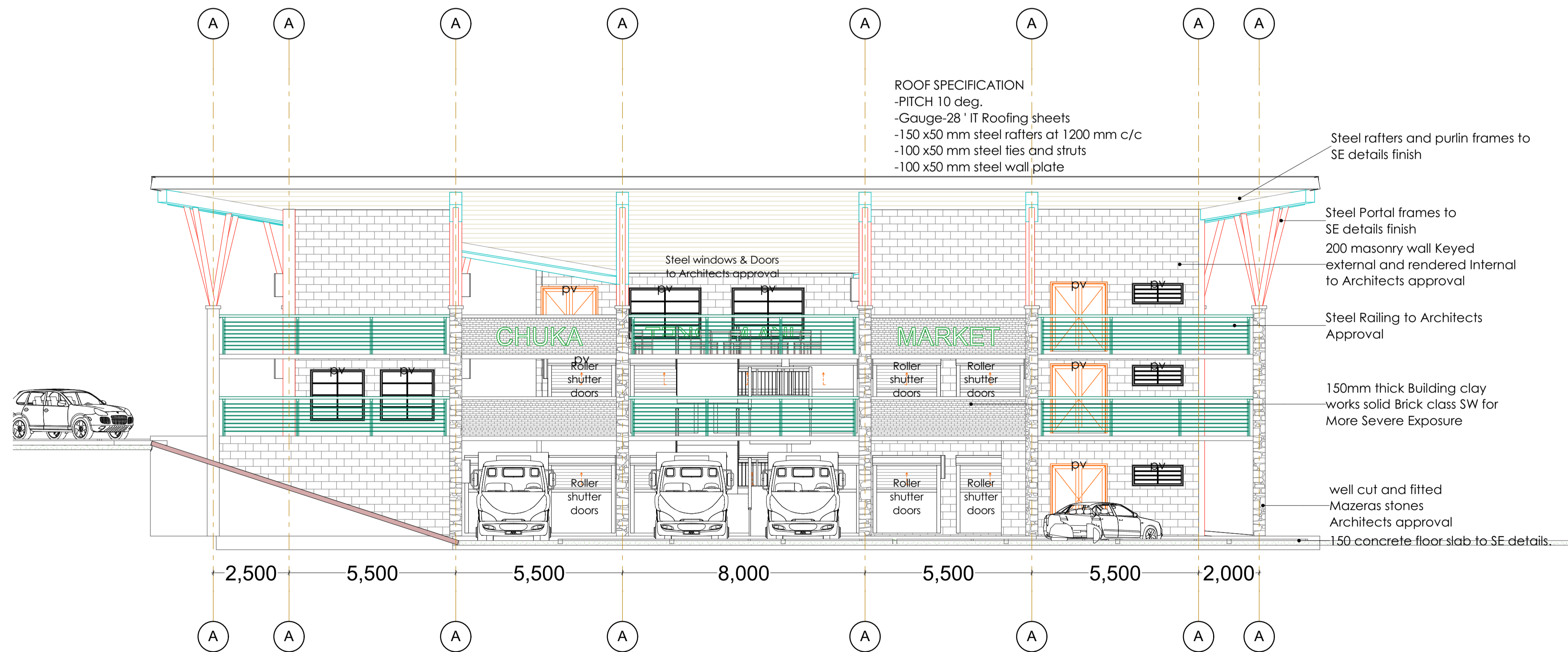
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**ELEVATION 2**  
**1:100**



07

**ELEVATION 3**  
**1:100**



08

**ELEVATION 4**  
**1:100**

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**REVISIONS**

No	Date	Description	Initial

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THE PROPOSED CHUKA MODERN MARKET  
 THARAKA - NITHI COUNTY

**Plot No:**

**Client:**

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 HOUSING AND URBAN DEVELOPMENT  
 STATE DEPARTMENT FOR HOUSING AND URBAN  
 DEVELOPMENT

**Drawing Title:**

**Architect:**

URBAN AND METROPOLITAN  
 DEVELOPMENT DEPARTMENT

**Designed/Drawn By:**

MARWA LEONARD

**Approved By:**

SECRETARY, URBAN AND METROPOLITAN  
 DEVELOPMENT DEPARTMENT

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Drawing No.: \_\_\_\_\_

Scale: 1:100

Job No.: \_\_\_\_\_

Date: 23,08, 23

# CHUKA MARKET



# CHUKA MARKET



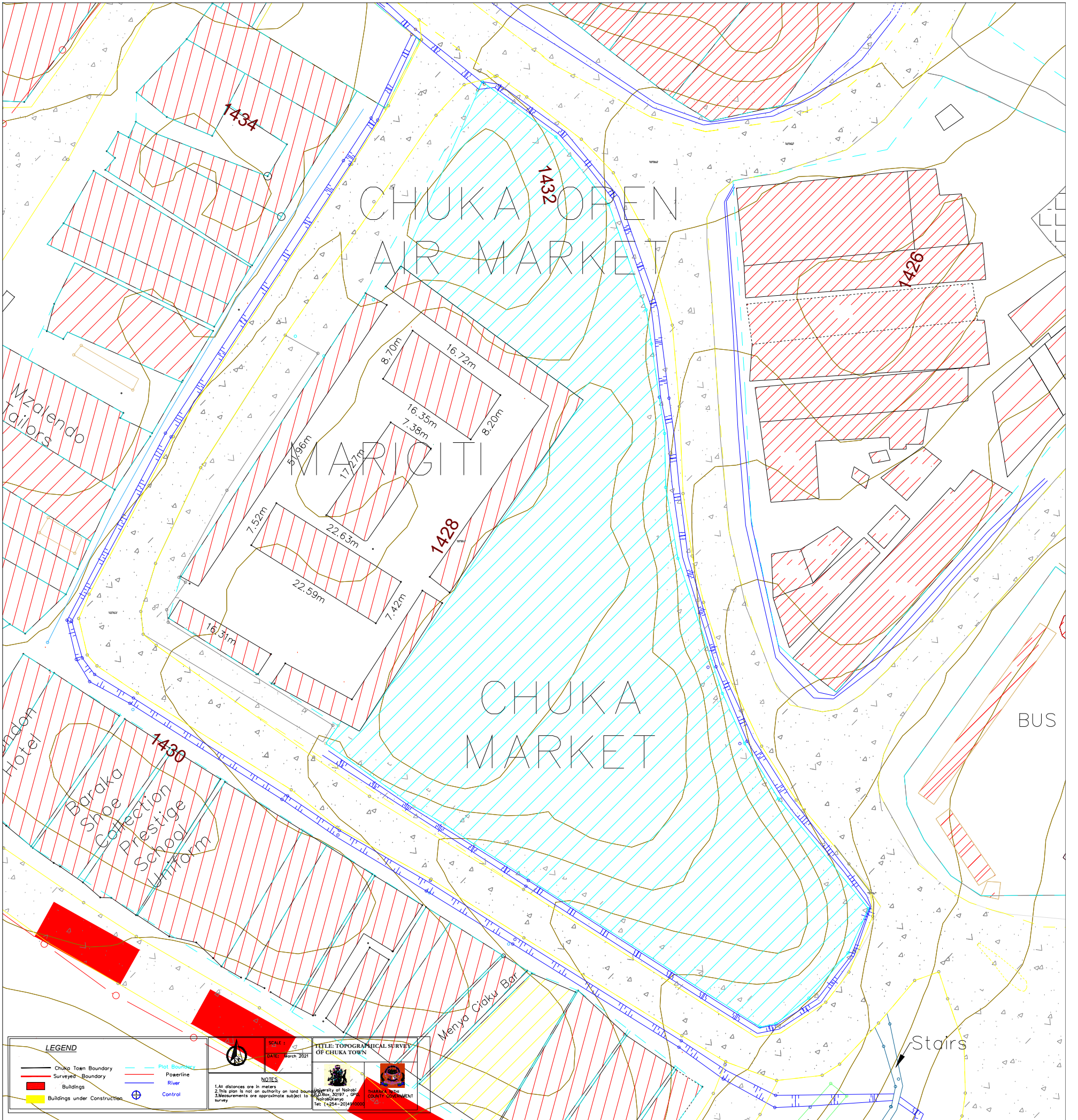


# CHUKA MARKET



# CHUKA MARKET





**LEGEND**

	Chuka Town Boundary		Plot Boundary
	Surveyed Boundary		Powerline
	Buildings		River
	Buildings under Construction		Control

**NOTES**

1. All distances are in meters
2. This plan is not an authority on land boundaries
3. Measurements are approximate subject to a survey

**TITLE: TOPOGRAPHICAL SURVEY OF CHUKA TOWN**

**DATE: March 2021**

**SCALE: 1:500**

**CHUKA TOWN COUNTY GOVERNMENT**

**TEL: (+254-20) 491000**