# PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARKS

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## TENDER DOCUMENTS
## VOLUME 1 of 3: MAIN WORKS & CIVIL WORKS

**CLIENT**

**COUNTY GOVERNMENT OF MERU**

**P.O.BOX 120-60200**
**MERU**

**PROJECT MANAGER**
**Chief Officer Public Works**
**P.O.BOX 120-60200**
**MERU**

**COUNTY ARCHITECT**
**P.O.BOX 120-60200**
**MERU**

**COUNTY QUANTITY SURVEYOR**
**P.O.BOX 120-60200**
**MERU**

**COUNTY ELECTRICAL ENGINEER**
**P.O.BOX 120 60200**
**MERU**

**COUNTY STRUCTURAL ENGINEER**
**P.O.BOX 120-60200**
**MERU**

**COUNTY MECHANICAL ENGINEER**
**P.O.BOX 120-60200**
**MERU**

**MAY, 2023**

**TENDER NUMBER:**

**CGM/ONT/047/2022-2023**

# PROPOSED CONSTRUCTION OF COUNTY AGGERGATION & INDUSTRIAL PARKS

# TENDER NUMBER: CGM/ONT/047/2022-2023

## TENDER DOCUMENTS

**Consisting**


| | | | |
|---|---|---|---|
| A | Contents page | | (i) |
| B | Signature and Special notes page | | (ii) |
| C | Standard Tender Documents for Procurement of Works: | | |
| | Section I: | Instructions to Tenderers | 1 |
| | Section II: | Tender Data Sheet (TDS) | 18 |
| | Section III: | Evaluation and Qualification Criteria | 22 |
| | Section IV: | Tendering Forms | 28 |
| | Section V: | Bills of Quantities | 60 |
| | Section VI: | Specifications | 73 |
| | Section VII: | Drawings | 73 |
| | Section VIII: | General Conditions of Contract (GCC) | 74 |
| | Section IX: | Special Conditions of Contract (SCC) | 130 |
| | Section X: | Contract Forms | 132 |
| D | Preliminaries | | P/1 |
| E | Preambles and pricing notes | | PN/1 |
| F | Measured Works | | BW/1 |
| G | Provisional Sums | | PS/1 |
| H | Grand Summary | | GS/1 |

# PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARKS

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## TENDER NUMBER: CGM/ONT/047/2022-2023

Prepared by: -

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

The contract for the above-mentioned works entered into this……. day of..... 20… by the undersigned refers to these Tender Documents and the MINISTRY OF LANDS PUBLIC WORKS, HOUSING & URBAN DEVELOPMENT and public General Specification dated March, 1976 (together with any amendments issued thereto) shall be read and construed as part of the said contract.

| | |
|---|---|
| | …… |
| **THE CONTRACTOR** | **COUNTY SECRETARY**<br>**COUNTY GOVERNMENT OF MERU** |
| Date : …… | Date: ……. |

**SPECIAL NOTES**

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

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

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

**SIGNATURE PAGE AND NOTES**

# TABLE OF CONTENTS

**PREFACE** ..... iv

**APPENDIX TOTHE PREFACE** ..... v

GUIDELINES FOR PREPARATION OF TENDER DOCUMENTS ..... v

2. PART 1 - TENDERING PROCEDURES ..... v
3. PART 2 - PROCUREMENT ENTITY'S REQUIREMENTS ..... vi
4. PART 3 - CONDITIONS OF CONTRACT ANDCONTRACTFORMS ..... vi

**INVITATION TOTENDER** ..... viii

**PART 1:TENDERING PROCEDURES** ..... 1

**SECTION I - INSTRUCTIONSTOTENDERERS** ..... 1

**A. GENERALPROVISIONS** ..... 1
1.0 Scope of tender ..... 1
2.0 Fraud and corruption ..... 1
3.0 Eligible tenderers ..... 1
4.0 Eligible goods, equipment, and services ..... 3
5.0 Tenderer’s responsibilities ..... 3

**B. CONTENTS OFTENDER DOCUMENTS** ..... 4

6.0 Sections of Tender Document ..... 4
7.0 Clarification of Tender Document, Site Visit,Pre-tender Meeting ..... 4
8.0 Amendment of Tender Documents ..... 5
10.0 Language of Tender ..... 5
11.0 Documents Comprising the Tender ..... 5
12.0 Form of Tender and Schedules ..... 6
13.0 Alternative Tenders ..... 6
14.0 Tender Prices and Discounts ..... 6
15.0 Currencies of Tender and Payment ..... 6
16.0 Documents Comprising theTechnicalProposal ..... 7
17.0 Documents Establishing the Eligibility and Qualifications ofTheTenderer ..... 7
18.0 Period of Validity ofTenders ..... 8
19.0 Tender Security ..... 8

20.0 Format and Signing ofTender ..... 9

**D. SUBMISSION AND OPENINGOFTENDERS** ..... 11

21.0 Sealing and Marking ofTenders ..... 11
22.0 Deadline for Submission ofTenders ..... 11
23.0 LateTenders ..... 11
24.0 Withdrawal, Substitution, and ModificationofTenders ..... 11
25.0 Tender Opening ..... 12

**E. EVALUATION AND COMPARISONOFTENDERS** ..... 12

26.0 Confidentiality ..... 12
27.0 Clarification ofTenders ..... 13
29.0 Determination of Responsiveness ..... 13
30.0 Non-material Non-conformities ..... 13
31.0 Arithmetical Errors ..... 14
33.0 Margin of PreferenceandReservations ..... 14
34.0 Nominated Subcontractors ..... 14

35.0 Evaluation ofTenders....15
36.0 Comparison of tenders....15
37.0 Abnormally low tenders and abnormally high tenders....15

Abnormally LowTenders....15

Abnormally high tenders....15
38.0 Unbalanced and/or front-loaded tenders....16
39.0 Qualifications of the tenderer....16
40.0 Lowest evaluated tender....16
41.0 Procuring entity's right to accept any tender, and to reject any oralltenders....16

**F. AWARD OFCONTRACT....17**

42.0 Award criteria....17
43.0 Notice of intention to enter into a contract....17
44.0 Standstill Period....17
44.0 Standstill Period....17
45.0 Debriefing By TheProcuring Entity....17
46.0 Letter ofAward....17
47.0 Signing of Contract....17
48.0 Performance Security....17
49.0 Publication of Procurement Contract....18
50.0 Procurement related Complaint and Administratrive Review....18

**SECTION II - TENDER DATASHEET(TDS)....18**

**SECTION III - EVALUATION AND QUALIFICATION CRITERIA....22**
1. General Provisions....22
2. Preliminary examination for Determination of Responsiveness....22
3. Tender Evaluation....22
4. Multiple Contracts....22
5. AlternativeTenders....23
6. MarginofPreference....23
7. Post qualification and Contract ward....23
8. QUALIFICATION FORM....25

**SECTION IV –TENDERINGFORMS....28**
1. FOREIGN TENDERERS40% RULE....28
2. Form EQU: EQUIPMENT....29
3. FORM PER - 1:....30
4. FORM PER - 2:....31
5. TENDERERS QUALIFICATIONWITHOUTPRE-QUALIFICATION....33

**OTHER FORMS....43**

1. FORM OF TENDER....43
   a) TENDERER'S ELIGIBILITY- CONFIDENTIALBUSINESS QUESTIONNAIRE....46
   b) CERTIFICATE OF INDEPENDENTTENDERDETERMINATION....50
   c) SELF-DECLARATION FORM - SELF DECLARATION OFTHETENDERER....51
   d) APPENDIX 1 - FRAUD AND CORRUPTION....54

2. FORM OF TENDER SECURITY – DEMAND BANKGUARANTEE....56
3. FORM OF TENDER SECURITY (INSURANCE GUARANTEE)....57
4. FORM OF TENDER-SECURING DECLARATION....58
5. APPENDIX TO TENDER....59

**SECTION V – BILLS OF QUANTITIES** ..... **60**
1. PREAMBLES ..... 63
2. Bill No. 1 – Preliminary Items ..... 67
3. Bill No. 2: Work Items ..... 38
4. Bill No. 3: Schedule of Daywork Rates - Labour ..... 69
5. Bill No. 3: Schedule of Daywork Rates - Materials ..... 70
6. Bill No. 3: Schedule of Daywork Rates - Contractor's Equipment ..... 71
7. Bill No. 3: Daywork Summary ..... 71
8. Bill No. 4: Provisional Sums ..... 72
9. GRAND SUMMARY ..... 72

**SECTION VI - SPECIFICATIONS** ..... 73

**SECTION VII - DRAWINGS** ..... 73

**SECTION VIII - GENERAL CONDITIONS OFCONTRACT (GCC)** ..... 74
1. General Provisions ..... 74
2. The Procuring Entity ..... 80
3. The Engineer ..... 81
4. The Contractor ..... 83
5. Nominated Subcontractors ..... 91
6. Staff and Labor ..... 92
7. Plant, Materials and Workmanship ..... 95
8. Commencement, Delays and Suspension ..... 97
9. Tests on Completion ..... 100
10. Procuring Entity's Taking Over ..... 100
11. Defects Liability ..... 102
12. Measurement and Evaluation ..... 104
13. Variations and Adjustments ..... 105
14. Contract Price and Payment ..... 109
15. Termination by Procuring Entity ..... 115
16. Suspension and Termination by Contractor ..... 117
17. Risk and Responsibility ..... 119
18. Insurance ..... 121
19. Force Majeure ..... 124
20. Settlement of Claims and Disputes ..... 126

**Section IX - Special Conditions of Contract** ..... 130

**SECTION X – CONTRACT FORMS** ..... 132
FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD ..... 133
FORM No. 2 –REQUEST FOR REVIEW ..... 135
FORM No. 3 – LETTER OF AWARD ..... 135
FORM No. 4 – CONTRACT AGREEMENT ..... 136
FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional DemandBank Guarantee] ..... 137
FORM No. 6- PERFORMANCE SECURITY [Option 2 – Performance Bond] ..... 138

**TENDER DOCUMENTS FOR PROCUREMENT OF WORKS (BUILDING AND ASSOCIATED CIVIL ENGINEERING WORKS)**

**1) NAME AND CONTACT ADDRESSES OF PROCURING ENTITY**

Name… **COUNTY GOVERNMENT OF MERU**

Address… **P.O. Box 120-60200 MERU**

Email address…procurement.finance@meru.go.ke

**2) Invitation to Tender (ITT) No TENDER NUMBER: CGM/ONT/047/2022-2023**

**3)** Tender Name **PROPOSED CONSTRUCTION OF COUNTY AGGREGATION & INDUSTRIAL PARKS**

INVITATION TO TENDER

**PROCURING ENTITY:** COUNTY GOVERNMENT OF MERU

**CONTRACT NAME AND DESCRIPTION:** PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARKS

1. The ***County Secretary, County Government of Meru*** invites sealed tenders for the construction of ***Proposed Construction of County Aggergation & Industrial Parks***

2. Tendering will be conducted under open competitive method (National)

   *using* a standardized tender document. Tendering is open to all qualified

   and interested Tenderers.

3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours *[. 0900 to 1500 hours]* at the address given below.
4. Completed tender document should be enclosed in plain sealed envelopes marked with tender reference number and be deposited in the Tender Box located at Ground Floor, County Government of Meru Headquarters, Meru Town or be addressed and mailed to:

**TO THE COUNTY SECRETARY**

**COUNTY GOVERNMENT OF MERU**
**PHYSICAL ADDRESS: GROUND FLOOR COUNTY HEADQUARTERS MERU TOWN**
**P.O BOX 120-60200**
**MERU**

and dropped in the Tender Box situated at the Meru County Headquarters **Ground floor** so as to be received on or before **Friday 9th June, 2023 at 11.00 A.M**

5. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non- refundable fees of ***Kenya shillings*** **1000** in cash or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically from the Website(s)www.merucounty.go.ke . Tender documents obtained electronically will be free of charge.

6. Tender documents may be viewed and downloaded for free from the website (***as per tender advertisement***). Tenderers who download the tender document must forward their particulars immediately to ***as per tender advertisement*** to facilitate any further clarification or addendum.

7. Tenders shall be quoted be in Kenya Shillings and shall include all taxes. Tenders shall remain valid for **(...126.)** days from the date of opening of tenders.

8. All Tenders must be accompanied by a *"tender Security"* of ***Kshs.9,000, 000.00.***

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

10. Completed tenders must be delivered to the address below on or before ***[as per tender adevertisement].*** Electronic Tenders ***[will not]*** be permitted.

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

12. Late tenders will be rejected.

13. The addresses referred to above are:

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

(1) Name of Procuring Entity. COUNTY GOVERNMENT OF MERU

(2) Physical address for hand Courier Delivery to an office or Tender Box ( County Government of Meru headquarters).

(3) Postal Address -P.O. Box 120- 60200, Meru

(4) County Secretary, County Government of Meru

procurement.finance@meru.go.ke

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

1) Name of Procuring Entity. COUNTY GOVERNMENT OF MERU

2) Postal Address P.o Box 120-60200 Meru (THE COUNTY SECRETARY).

3) Physical address for hand Courier Delivery to an office or Tender Box (County Government of Meru Headquarter Procurement Office Ground Floor).

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

1) Name of Procuring Entity. COUNTY GOVERNMENT OF MERU
2) Physical address for the location (County Government of Meru headquarter Procurement office ground floor).

**The County Secretary,**
**County Government of Meru,**

Name

Designation CHIEF OFFICER LANDS, HOUSING, PHYSICAL PLANNING URBAN DEVELOPMENT & PUBLIC WORKS.

Signature _____

Date 23RD MAY 2023

# PART1: TENDERING PROCEDURES

## SECTION I - INSTRUCTIONS TO TENDERERS

## A GENERAL PROVISIONS

### 1.0 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.

**1.2** Throughout this tendering document:

a) The term "inwriting" means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;

b) if the context so requires, "singular" means "plural" and vice versa;

c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Procuring Entity. It excludes official public holidays.

### 2.0 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** Tenderers shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity.

**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. 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 in formation that would in that respect give such firm any unfair competitive advantage over competing firms.

### 3.0 Eligible tenderers

**3.1** A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agree mentor with the intent to enter in to such an agreement supported by a letter of intent. 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. 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. 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 an other tenderer;

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

c) Has the same legal representative as an other tenderer;

d) Has a relationship with an other tenderer, directly or through common third parties, that puts it in a position to influence the tender of an other tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;

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

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

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;

h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:

   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) May be involved in the implementation or supervision of such Contract unless the conflicts temming 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 or fraudulent practice. A tenderer that is proven to have been involved in 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. Members of a joint venture may not also make an individual tender, be a sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender.

**3.6** A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. ATenderer 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 sub-contractors or sub-consultants for any part of the Contract including related Services.

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

**3.8** A Tenderer that is a state-owned enterprise or a public institution in Kenya may be eligible to tender and be awarded Contract(s) only if it is determined by the Procuring Entity to meet the following conditions, i.e. if it is:

i) A legal public entity of 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 enterprisetoenableitcompetewithfirmsintheprivatesectoronanequalbasis.

**3.9** Firms and individuals shall be ineligible if their countries of origin are:

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

(b) byanactofcompliancewith a decision of the United Nations Security Council taken under Chapter VII of theCharterof 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, local sub-contracts and labor) from citizen 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 for this purpose in *"SECTIONI II - EVALUATION AND QUALIFICATION CRITERIA, Item 9"*.

**3.11** Pursuant to the eligibility requirements of ITT 3.10, a tender is considered a foreign tenderer, If it is registered in Kenya and has less than 51 percent ownership by nationals of Kenya and if it does not subcontract to foreign firms or individuals more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms registered in Kenya have less 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

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

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

4.14 A kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing valid tax compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

**4.0 Eligiblegoods, 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 ineligible 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.

**5.0 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 and inspect 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 beat 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 again stall 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 examination and 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

### 6.0 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 10.

**PART 1: Tendering Procedures**
Section I – Instructions toTenderers
Section II – Tender Data Sheet (TDS)
Section III- Evaluation and Qualification
Criteria Section IV – Tendering Forms

**PART 2: Works' Requirements**
Section V - Bills of Quantities
Section VI - Specifications
Section VII - Drawings

**PART 3**: **Conditions of Contract and Contract Forms**
**Section VIII - General Conditions (GCC)**
Section IX - Special Conditions of Contract
Section X- Contract Forms

6.2 The Invitation to Tender Notice issued by the Procuring Entity is not part of the Contract documents. 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 a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. Incase of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

6.3 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.

### 7.0 Clarification of Tender Document, Site Visit, Pre-tender Meeting

7.1 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 if provided for in accordance with ITT 7.2. 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 p**rior 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 7.4, including a description of the inquiry but without identifying its source. If so 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 following the procedure under ITT 8 and ITT 22.2.

7.2 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the site(s) of the required contracts and obtain all information that may be necessary for preparing a tender. The costs of visiting the Site shall be at the Tenderer's own expense. The Procuring Entity shall specify in the **TDS** if a pre-arranged Site visit and or a pre-tender meeting will be held, when and where. The Tenderer's designated representative is invited to attend a pre-arranged site visit and a pre-tender meeting, as the case may be. The purpose of the site visit and the pre-tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

7.3 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.

7.4 Minutes of a pre-arranged site visit and those of the pre-tender meeting, 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. Minutes shall not identify the source of the questions asked.

7.5 The Procuring Entity shall al so promptly publish anonymized (*no names*) Minutes of the pre-arranged site visit and those of the pre-tender meeting at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting 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. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.

**8.0 Amendment of Tender Documents**

8.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from the Procuring Entity. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's website in accordance with ITT 7.5.

8.3 To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the dead line for the submission of Tenders, pursuant to ITT 22.2.

## C. PREPARATION OF TENDERS

**9. Cost of Tendering**

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.

**10.0 Language of Tender**

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.

**11.0 Documents Comprising the Tender**

11.1 The Tender shall comprise the following:

a) Form of Tender prepared in accordance with ITT 12;
b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
d) Alternative Tender, if permissible, in accordance with ITT 13;
e) ***Authorization****:* written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordancewithITT20.3;
f) *Qualifications:* documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to per form the Contract if its Tender is accepted;
g) *Conformity:* a technical proposal in accordance with ITT 16;
**h)** Any other document required in the **TDS.**

11.2 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 JV Agreement. Change of membership and conditions of the JV prior to contract signature will render the tenderliable for disqualification.

## 12.0 Form of Tender and Schedules

**12.1** 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 with out 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. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

**12.2** 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.

## 13. Alternative Tenders

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

13.2 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.

13.3 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.

13.4 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.

## 14.0 Tender Prices and Discounts

**14.1** 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.

**14.2** 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.

**14.3** The price to be quoted in the Form of Tender, in accordance with ITT 12.1, shall be the total price of the Tender, including any discounts offered.

**14.4** The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.

**14.5** 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 incases 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.

**14.6** 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 14.4, provided the Tenders for all lots (contracts) are opened at the sametime.

14.7 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.

## 15.0 Currencies of Tender and Payment

15.1 The currency(ies) of the Tender and the currency(ies) of payments shall be the same.

15.2 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) A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya (referred to as "the foreign currency requirements") shall (if so allowed in the **TDS**) indicate in the Appendix to Tender the percentage(s) of the Tender Price (excluding Provisional Sums), needed by the Tenderer for the payment of such foreign currency requirements, limited to no more than two foreign currencies.

b) The rates of exchange to be used by the Tenderer in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Tenderer in the Appendix to Tender and shall be based on the exchange rate provided by the Central Bank of Kenya on the date 30 days prior to the actual date of tender opening. Such exchange rate shall apply for all foreign payments under the Contract.

15.3 Tenderers may be required by the Procuring Entity to justify, to the Procuring Entity's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Tender are reasonable, in which case a detailed break down of the foreign currency requirements shall be provided by Tenderers.

## 16.0 Documents Comprising the Technical Proposal

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, insufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

## 17.0 Documents Establishing the Eligibility and Qualifications of the Tenderer

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

17.2 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.

17.3 If a marg in of preference applies as specified in accordance with ITT 33.1, nation al tenderers, individually or in joint ventures, applying for eligibility for national preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

17.4 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 particular 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.

17.5 The purpose of the information described **in ITT 17.4** 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.

17.6 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to owner ship and control which in formation on any changes to the information which was provided by the tenderer under ITT 6.4. 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.

17.7 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.

**17.8** If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, iftheProcuring 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.

**17.9** 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 bed is qualified from the procurement process,

ii) if the contract has been awarded to that tenderer, the contract award will be set as idepending the outcome of (iii),

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

**17.10** If a tenderer submits information pursuant to these requirements that is in complete, in accurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 17.8 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 tender.

**18.0 Period of Validity of Tenders**

18.1. 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 22). At ender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

18.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may requestTendererstoextendtheperiodofvalidityoftheirTenders.Therequestandtheresponsesshallbemadein writing. If a Tender Security is requested in accordance with ITT 19, 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 Tendersecurity.ATenderergrantingtherequestshallnotberequiredorpermittedtomodifyitsTender.

**19.0 Tender Security**

**19.1** 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.

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

I) cash;

ii) a bank guarantee;

iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;

(iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.

**19.3** 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 18.2.

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

**19.5** If a Tender Security is specified pursuant to ITT 19.1, 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 non-responsive or a bidder declines to extend tender validity period.

**19.6** 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.

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

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

b) if the successful Tenderer fails to: -

i) signthe Contract in accordance with ITT47; or

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

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

**19.9** 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.

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

**20.0 Format and Signing of Tender**

**20.1** The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 13, 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 origin a landthe copies, the original shall prevail.

**20.2** 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.

**20.3** 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.

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

**20.5** 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

**21.0 Sealingand Marking of Tenders**

**21.1** 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 a nenvelope or package or container marked "COPIES", all required copies of the Tender; and

c) if alternative Tenders are permitted in accordance with ITT 13, 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.

21.2 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 misplaced or opened prematurely will not be accepted.

**22.0 Deadline for Submission of Tenders**

22.1 Tenders must be received by the Procuring Entity at the address specified in the **TDS** and no later than the date andtimealsospecifiedinthe **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**.

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

**23.0 Late Tenders**

The Procuring Entity shall not consider any Tender that arrives after the deadline for submissionof tenders, in accordance with ITT 22. 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.

**24.0 Withdrawal, Substitution, and Modification of Tenders**

24.1 A Tenderer may withdraw, substitute, or modify its Tenderafterith as 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 20.3, (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 20 and ITT 21 (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 22.

24.2 Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.

24.3 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.

**25. Tender Opening**

25.1 Except in the cases specified in ITT 23 and ITT 24.2, 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 22.1, shall be as specified in the **TDS.**

25.2 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.

25.3 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.

25.4 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 authorizationtorequestthemodificationandisreadoutatTenderopening.

25.5 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.

25.6 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 Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the tender opening committee attending the opening.

25.7 At the Tender Opening, the Procuring Entitys hall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).

25.8 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 new as required;
e) number of pages of each tender document submitted.

25.9 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.

## E. EVALUATION AND COMPARISON OF TENDERS

### 26. Confidentiality

26.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderersorany 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 43.

26.2 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.

26.3 Not withstanding ITT 26.2, 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.

### 27.0 Clarification of Tenders

**27.1** 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 31.

**27.2** 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.

### 28.0 Deviations, Reservations, and Omissions

**28.1** 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.

**29.0 Determination of Responsiveness**

**29.1** 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 11.

**29.2** 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) Affec tin any substantial way the scope, quality, or performance of the Works specified in the Contract;

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;

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

**29.3** The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 16, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

**29.4** 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.

**30.0 Non-material Non-conformities**

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

**30.2** 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 of time, to rectify non-material 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.

**30.3** Provided that a tender is substantially responsive, the Procuring Entity shall rectify quantifiable non-material 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.**

**31.0 Arithmetical Errors**

**31.1** 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.

**31.2** 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 disqualificationofthetenderasnon-responsive.

b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bidpriceshallbe 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

**31.3** Tenderers shall be notified of any error detected in their bid during the notification of award.

**32.0 Conversion to Single Currency**

For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted in to a single currency asspecified in the **TDS**.

**33.0 Margin of Preference and Reservations**

**33.1** A margin of preference may be allowed only when the contract is open to international competitive tendering where foreign contractors are expected to participate in the tendering process and where the contract exceeds the value/threshold specified in the Regulations.

**33.2** A margin of preference shall not be allowed unless it is specified so in the **TDS**.

**33.3** Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 33.4.

**33.4** Where it is intended to reserve a contract to as pecific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and 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 or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

**34.0 Nominated Subcontractors**

**34.1** Unless otherwise stated in the **TDS,** the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected/nominated by the Procuring Entity. Incase the ProcuringEntity nominates a subcontractor, the subcontract agreement shall be signed by the Subcontractor and the Procuring Entity. The main contract shall specify the working arrangements between the main contractor and the nominated subcontractor.

**34.2** Tenderers may propose sub-contracting 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.

**34.3** Domestic 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 so by the Procuring Entity in the **TDS** a scan be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractorsproposed by the Tenderer may be added to the qualifications of the Tenderer.

**35. Evaluation of Tenders**

35.1 TheProcuring 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 theLowest Evaluated Tender in accordance with ITT 40.

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

a) priceadjustment in accordance with ITT 31.1 (iii); excluding provisional sums and contingencies, if any, but including Daywork items, where priced competitively;

b) price adjustment due to discounts offered in accordance with ITT 14.4;

c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 32;

d) pricea djustment due to quantifiable non materialnon-conformities in accordance with ITT 30.3; and

e) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.

35.3 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 consideredin Tender evaluation.

35.4 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers base done lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

## 36.0 Comparison of tenders

The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.2 to determine the Tender that has the lowest evaluated cost.

## 37.0 Abnormally low tenders and abnormally high tenders

### Abnormally LowTenders

37.1 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 Tenderersis compromised.

37.2 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 otherrequirements of the Tender document.

37.3 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.

### Abnormally high tenders

37.4 Anabnormally high tender 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.

37.5 Incase of a nab normally high 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 a ccept 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.

37.6 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.

## 38.0 Unbalanced and/ or front-loaded tenders

38.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or frontloaded, 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.

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

a) accept theTender;

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;

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

d) reject the Tender,

**39.0 Qualifications of the tenderer**

**39.1** 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.

**39.2** The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 17. 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 Sub-contractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

**39.3** 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 ProcuringEntityshallproceedto 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.

**40.0 Lowest evaluated tender**

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

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

**41.0 Procuring entity's right to accept any tender, and to reject any or all tenders.**

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 there by incurring any liability to Tenderers. Incase of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

## F. AWARD OF CONTRACT

**42.0 Award criteria**

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

**43.0 Notice of Intention to Enter into a Contract/Notification of Award**

Uponaward 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) instruction son how to request a debriefing and/ or submit a complaint during the stand still period;

**44.0 Stand still Period**

**44.1** 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.

**44.2** 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.

**45.0 Debriefing by The Procuring Entity**

**45.1** On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, 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.

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

**46.0 Letter of Award**

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 with in 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.

**47.0 Signing of Contract**

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

**47.2** Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and returnittotheProcuringEntity.

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

**48.0 Performance Security**

**48.1** Within twenty-one (21) days of the receipt of the Letter of Award 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 38.2 (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.

**48.2** Failure of the successful Tenderer to submit the above-mentioned Performance Security and otherdocuments 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.

**48.3** Performance security shall not be required for contracts estimated to cost less than the amount specified inthe Regulations.

**49.0 Publication of Procurement Contract**

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 readout at Tender opening.

**50.0 Procurement related Complaints and Administrative Review**

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

**50.2** 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.

| Reference to ITC Clause | PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS |
|---|---|
| **A. General** | |
| **ITT 1.1** | The name of the contract is__**PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARK**<br><br>The reference number of the Contract is__**TENDER NO. CGM/ONT/047/2022-2023**<br><br>The number and identification of lots (contracts) comprising this Tender are<br>*[insert number and identification of lots (contracts)]*<br><br>Lot 1- Name _____<br><br>Lot 2- Name _____<br><br>Lot… Name _____<br>ETC. |
| **ITT 2.4** | ~~The Information made available on competing firms is as follows:~~ |
| **ITT 2.4** | The firms that provided consulting services for the contract being tendered for are:<br>~~**COUNTY GOVERNEMENT OF MERU, P.O.BOX 120-60200 MERU**~~ |
| | |
| **ITT 3.1** | Maximum number of members in the Joint Venture (JV) shall be: ***Not applicable*** |
| **B. Contents of Tender Document** | |
| **ITT 7.1** | ***(i)*** The Tenderer will submit any request for clarifications in writing at the Address __***County Government of Meru*** _____<br><br>to reach the Procuring Entity not later than ***as indicated in the tender advertisement***<br><br>***(ii)*** The Procuring Entity shall publish its response at the website ***as indicated in the tender advertisement*** |
| **ITT 7.2** | ***(A)*** A pre-arranged pretender site visit *[insert "shall" or "shall not"]* take place at the following date, time and place: ***As indicated in the tender advertisement***<br>**Date: 2ND JUNE 2023**<br>**Time: 10:00AM**<br>**Place: RUIRI RWARERA**<br><br>(B) Pre-Tender meeting *[insert "shall" or "shall not"]* take place at the following date, time and place:<br>Date:_____<br>Time:_____<br>Place: _____ |
| **ITT 7.3** | The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than ***As indicated in the tender advertisement***_____before the meeting. |
| **ITT 7.5** | The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is _____ |

| Reference to ITC Clause | PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS |
|---|---|
| **ITT 9.1** | For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:<br><br>**(1)** Name of Procuring Entity **COUNTY GOVERNMENT OF MERU**<br><br>(2) Physical address for hand Courier Delivery to an office or Tender Box (County Government of Meru headquarter Procurement Office Ground Floor)<br><br>Postal Address ***P.O. Box 120-60200 - 00100, Meru***<br><br>(4) , 0727657747 *procurement.finance@meru.go.ke*<br><br>---------- |
| **C. Preparation of Tenders** | |
| ITT 11.1 (h) | The Tenderer shall submit the following additional documents in its Tender: *Program of works* |
| **ITT 13.1** | Alternative Tenders *["shall not be"]*_____considered. |
| ITT 13.2 | Alternative times for completion *["shall not be"]*_____permitted. |
| ITT 13.4 | Alternative technical solutions shall be permitted for the following parts of the Works: ***Not applicable*** |
| **ITT 14.5** | The prices quoted by the Tenderer shall be: ***Fixed*** |
| **ITT 15.2 (a)** | Foreign currency requirements **anot allowed.** |
| **ITT 18.1** | The Tender validity period shall be_____*126* days. |
| **ITT 18.3** | (a) The Number of days beyond the expiry of the initial tender validity period will be _____30___days.<br><br>(b) The Tender price shall be adjusted by the following percentages of the tender price:<br><br>*(i)* By____*Not applicable)*_____ % of *the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension,*<br>*and*<br><br>*(ii) By*____*Not applicable)*_____ *% the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.* |
| **ITT 19.1** | Tender shall provide **a Tender Security**<br>The type of Tender security shall be *Bank guarantee* in the amount of ***Kenya shillings nine Million((Ksh 9,000,000.00)*** |
| **ITT 20.1** | In addition to the original of the Tender, the number of copies is: ***One (1)*** |
| **ITT 20.3** | The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: ***proof of Power of attorney*** |
| **D. Submission and Opening of Tenders** | |
| **ITT 22.1** | (A) For Tender submission purposes only, the Procuring Entity's address is:<br><br>***(1)*** Name of Procuring Entity ***COUNTY GOVERNMENT OF MERU***<br><br>***(2)*** Postal Address ***P.O. Box 120-60200, MERU***<br>***(3)*** Physical address for hand Courier Delivery to an office or Tender Box ***county Government of Meru headquarter procurement office Ground floor.***<br>***(4)*** Date and time for submission of Tenders… ***As indicated in tender advertisment***<br>……. |

| Reference to ITC Clause | PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS |
|---|---|
| | (5) Tenders shall **shall not submit** tenders electronically. |
| **ITT 25.1** | The Tender opening shall take place at the time and the address for Opening of Tenders provided below: ***As indicated in the tender advertisment***<br><br>***(1)*** Name of Procuring Entity ***COUNTY GOVERNMENT OF MERU***<br>***(2)*** Physical address for the location ***County Government of Meru headquarter***<br><br>***(3)*** State date and time of tender opening. ***As indicated in the tender advertisment*** |
| **ITT 25.1** | If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures **specified below** *[insert a description of the electronic Tender opening procedures]***:**<br>_____<br>_____ |
| **E. Evaluation, and Comparison of Tenders** | |
| **ITT 30.3** | The adjustment shall be based on the_____*[insert "average" or "highest"]* 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. |
| **TT 32.1** | The currency that shall be used for Tender evaluation and comparison purposes only to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is:_____*[insert name of currency]*<br><br>The source of exchange rate shall be: **The Central bank of Kenya** (mean rate)<br><br>The date for the exchange rate shall be*:* **the deadline date for Submission of the Tenders.**<br><br>*For comparison of Tenders, the Tender Price, corrected pursuant to ITT 31, shall first be broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Tenderer in accordance with ITT 15.1.*<br><br>*In the second step, the Procuring Entity will convert the amounts in various currencies in which the Tender Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.* |
| **ITT 33.2** | A margin of preference shall ***Not*** apply. |
| **ITT 33.4** | The invitation to tender is extended to the following group that qualify for Reservations_____***Not applicable*** _____<br>_____ |
| **ITT 34.1** | At this time, the Procuring Entity_____*["does not intend"]* to execute certain specific parts of the Works by subcontractors selected in advance. |

| Reference to ITC Clause | PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS |
|---|---|
| **ITT 34.2** | Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: *__10_____% of the total contract amount.* Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience. |
| **ITT 34.3** | The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows:<br>***___Electrical Installation Works_____***<br>***__Mechanical Installation Works_____***<br><br>For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation. |
| **ITT 35.2 (e)** | Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria. |
| **ITT 48.1** | Other documents required in addition to the Performance Security are<br>_____N/A_____ |
| **ITT 50.1** | The procedures for making a Procurement-related Complaint are detailed in the "Notice of Intention to Award the Contract" herein and are also available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke.<br><br>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:<br><br>For the attention: *MARTIN GITIJE*<br><br>Title/position: *CHIEF OFFICER LANDS,HOUSING,PHYSICAL PLANNING URBAN DEVELOPMENT &PUBLIC WORKS*<br><br>Procuring Entity: *COUNTY GOVERNMENT OF MERU*<br><br>Email address*: procurement.finance@meru.go.ke*<br><br>In summary, a Procurement-related Complaint may challenge any of the following (among others):<br><br>(i) the terms of the Tender Documents; and<br><br>(ii) the Procuring Entity's decision to award the contract. |

## SECTION III - EVALUATION AND QUALIFICATION CRITERIA

### 1.0 GENERAL PROVISIONS

1.1 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 evaluatingTenders.

1.2 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.

### 1.3 EVALUATION AND CONTRACT AWARD CRITERIA

TheProcuring 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 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.

| S/No | PRELIMINARY EVALUATION CRITERIA / MANDATORY REQUIREMENTS FOR MAIN CONTRACTOR |
|---|---|
| MR1 | Dully filled and signed form of tender prepared in accordance with ITT 12 |
| MR2 | Provide proof of registration with the National Construction Authority **(NCA) category 2 and above** under builders works category with current annual contractors practicing license. |
| MR3 | Must submit **one original** copy of the Tender Document and **one copy**. Submission of Original and Copy (all Volumes) in the format required by the procuring entity and all the tender document (all volumes) to be **BOUND** |
| MR4 | Properly bound; perfect cover, hard cover or case bound ***(use of spring bound and spring files will lead to automatic disqualification)***, paginated, **serialized tender document** (each page of the tender submission must have a number and the numbers must be in chronological order). **For pagination, Arabic Numerals shall be used, i.e. 1,2,3,4,5,6,7,8,9,10…..n** ( n being the last numerical page of the tender document) |
| MR5 | Tender Security in accordance with ITT 19.1; of Bank Guarantee from a bank or insurances approved by Public Procurement Regulatory Authority (PPRA) in the amount of **Kenya shillings 9,000,000.00.** The tender security shall be as per the prescribed forms in section (IV) |
| MR6 | Provide proof of power of attorney (of tender signatory if not director of the company/ partner, signed and stamped by Commissioner of Oaths) |
| MR7 | Valid Copy of Certificate of Incorporation/ Registration. |
| MR8 | Valid Current Tax Compliance Certificate |
| MR9 | Dully filled, signed and stamped Confidential Business Questionnaire |
| MR10 | Valid Copy of Current Single Business permit (for the year 2023) |
| MR11 | Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 12months) or National Identity Card(s) for Sole Proprietorship/ Partnership |
| MR12 | Must duly fill the Certificate of Independent Tender Determination in the format provided |

| | |
|---|---|
| MR13 | Must duly fill the Self-declaration form that the person/tenderer is not debarred in the matter of the Public Procurement and Asset Disposal Act 2015 in the format provided **- Form SD1.** |
| MR14 | Must duly fill the Self-declaration that the person/tenderer will not engage in any corrupt or fraudulent practice in the format provided **- Form SD2** |
| MR15 | Must fill and submit Declaration and Commitment to The Code of Ethics in the format provided |
| | NB:<br>• Bidders who do not satisfy any of the above requirements shall be considered non responsive and their tenders will not be evaluated further.<br><br>• Order of evaluation of works will be as follows:<br>a) Preliminary evaluation of Main Works,Electrical and Mechanical Works<br>b) Technical Evaluation of Main Works***(Qualification Form)***, Financial Evaluation |

## 3.0 TENDER EVALUATION (ITT 35)

Price evaluation: in addition to the criteria listed in ITT 35.2 (a) – (d) the following criteria shall apply:

(i) Alternative Completion Times, if permitted under ITT13.2, will be evaluated as follows: ……

(ii) Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows:……

(iii) Other Criteria; if permitted under ITT 35.2(j):

……

## 4.0 MULTIPLE CONTRACTS

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

**OPTION 1**

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

(ii) If 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 tosecond lowest the tenderers.

**OPTION2**

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 share holding of Kenyan citizensis 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 foraward. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

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

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

b) Incase 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* **147,000,000.00*(Attach evidence in form of letter from bank, overdraft facility, current bank statements for the last 6 months)***_____

ii) Minimum average annual construction turnover of Kenya Shillings ***1,287,000,000.00*** equivalent calculated as total certified payments received for contracts in progressand/or completed within the last_____**3** years.

(***Attach evidence in form of audited accounts serialized on every page ; duly signed and stamped by a registered auditor /audit firm (ICPAK REGISTERED)***

iii) Atleast_____**2** of contract(s) of a similar nature executed within Kenya, or the East African Community or a broad, that have been satisfactorily and substantially completed asa prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings ***412,000,000***_____equivalent***.(Attach evidence of letter of award, acceptance letter, contract signed and certificate of practical completion)***

iv) Contractor's Representative and Key Personnel, which are specifiedas listed in qualification form_____

*v)* Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as *listed in qualification form*_____

iv) 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_____***3 years*** The required information shall be furnished in the appropriate form.

**b) Pending Litigation**

Financialpositionandprospectivelong-termprofit 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) LitigationHistory**

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last _____***3 years***. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or on going unde rits 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.

## QUALIFICATION FORM*

| 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 Kenya Revenue Authority in accordance with ITT 3.14. | Attachment | |
| 3 | Conflict of Interest | No conflicts of interest in accordance with ITT 3.3 | Form of Tender | |
| 4 | PPRA Eligibility | Not having been declared ineligible by the PPRA as described in ITT 3.7 | 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 1st January […….]. | Form CON-2 | |
| 8 | Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity | Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9 | Form of Tender | |
| 9 | Pending Litigation | Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer. | Form CON – 2 | |
| 10 | Litigation History | No consistent history of court/arbitral award decisions against the Tenderer since 1st January *[2019]*. | Form CON – 2 | |
| 1. Non performance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.<br>2. This requirement also applies to contracts executed by the Bidder as JV member. | | | | |
| 11 | Financial Capabilities | (i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the | Form FIN – 3.1, with attachments | |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Item No.** | **Qualification Subject** | **Qualification Requirement** | ***Document To be Completed by Tenderer*** | ***For Procuring Entity's Use (Qualification met or Not Met)*** |
| | | construction cash flow requirements estimated as Kenya Shillings ***147,000,000.00*** equivalent for the subject contract(s) net of the Tenderer's other commitments.<br><br>(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.<br><br>(iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last *[3]* years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability. ***Attach evidence in form of letter from bank, overdraft facility, current bank statements for the last 6 months)_____*** | | |
| 12 | Average Annual Construction Turnover | Minimum average annual construction turnover of Kenya Shillings ***1,287,000,000.00,*** equivalent calculated as total certified payments received for contracts in progress and/or completed within the last *3* years, divided by *3* years ***Attach evidence in form of audited accounts serialized on every page ; duly signed and stamped by a registered auditor /audit firm***<br>***(ICPAK REGISTERED)*** | 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 *3* years, starting 1st January *2017*. | Form EXP – 4.1 | |
| 14 | Specific Construction & Contract Management Experience | A minimum number of *2* similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2017 and tender submission deadline i.e. ….2 (contracts, each of minimum value Kenya shillings……***412,000,000.00……... equivalent.***<br>[Bidders shall attach copies of the following:<br>a) Letters of Award or,<br>b) Signed Contract and Completion Certificate for the respective projects. Or | Form EXP 4.2(a) | |

| 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)*** |
| | | If project is ongoing it must be at least 80% complete. Bidder to attach copies of interim payment certificatesThe similarity of the contracts shall be based on the following: [*Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITT 34.3]* | | |

1. The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in the Bills of Quantities and Drawings. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.
2. Substantial completion shall be based on 80% or more works completed under the contract.
3. For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.
4. In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

| Item No. | Qualification Subject | Qualification Requirement | *Document To be Completed by Tenderer* | *For Procuring Entity's Use (Qualification met or Not Met)* |
|---|---|---|---|---|
| | **5. Equipment** | | | |
| 15 | Contractors key equipment | 1. Pick up (2 tonne)– Four (4)<br>2. Low loader (12Hp and above)-1no.<br>3. Grader- 1no<br>4. Forklift-1no.<br>5. Tower crane<br>6. Water bowser (20 litres)-2no.<br>7. Backhoe (1.2m3)-1no.<br>8. Diesel generator(200kVA)- One (1)<br>9. Tippers- Three (3)<br><br>**Notes**<br>• If the equipment is owned, must provide **CLEAR** copies of logbook or proof of ownership.<br><br>• If equipment is hired or leased Provide a commitment letter from the lessor of the equipment addressed to the **Principal Secretary – State Department For Investment Promotion** indicating that the lessor shall avail the equipment upon award of the tender and submit a copy of a written agreement to lease between lessee and lessor indicating list of equipment and their corresponding copies of log books or proof of ownership by lessor;<br><br>• The equipment listed shall be available on site when required | Form EQU: Equipment | |

| Item No. | Qualification Subject | Qualification Requirement | *Document To be Completed by Tenderer* | *For Procuring Entity's Use (Qualification met or Not Met)* |
|---|---|---|---|---|
| | **6. Key Personnel** | | | |
| 16 | Contractor's Representative and Key Personnel | **a) Project Manager**<br>Minimum qualifications and technical experience<br>1. Bachelor's degree in Architecture, Quantity Surveying, Construction Management or Civil / Structural Engineering.<br>**2.** Registered Professional with the respective registration bodies **Engineers Board of Kenya (EBK)** or **Board of Registration of Architects and Quantity Surveyors (BORAQS)** with a valid practicing license - **Mandatory**<br>3. General& Specific Experience –10 years.<br>**b) Site Agent**<br>Minimum qualifications and technical experience<br>1. Higher Diploma in Building Construction or equivalent.<br>2. Specific experience on Construction of building works – 7 years.<br>**c) Foreman**<br>Minimum qualifications and technical experience<br>1. Certificate- Building Construction, Electrical, Mechanical<br>2. Experience – **5** years<br>**d) Artisans**<br>Minimum qualifications and technical experience<br>1 Trade Test certificate in relevant field<br>2 Experience-5 years<br>**e) Occupational Health and Safety Personnel**<br>Qualifications and technical experience<br>1. Certificate- Occupational Safety and Health<br>2. Experience – **5** years<br>**f) ICT Works Supervisor**<br>Minimum qualifications and technical experience<br>1. Bachelors degree/diploma holder in Information Technology/Computer Science/Computer Engineering<br>2. Experience-5 years<br><br>**Note: Certified copies of certificates to be provided as evidence.** | Form PER -1<br>&<br>Form PER -2 | |

## SECTION IV - TENDERING FORMS

### QUALIFICATION FORMS

### 1. FOREIGN TENDERERS 40%RULE

Pursuant to ITT 3.9, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

| ITEM | Description of Work Item | Describe location of Source | COST in K. shillings | Comments, if any |
|---|---|---|---|---|
| A | Local Labor | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| B | Sub contracts from Local sources | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| C | Local materials | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| D | Use of Local Plant and Equipment | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| E | Add any other items | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| | TOTAL COST LOCAL CONTENT | | XXXXX | |
| | PERCENTAGE OF CONTRACT PRICE | | | |

## 2. 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 fo ralternative 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<br>☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured | |

Omit the following information for equipment owned by the Tenderer.

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

## 3. FORM PER -1

**Contractor's Representative and Key Personnel Schedule**

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

**Contractor' Representative and Key Personnel**

| | | |
|---|---|---|
| **1.** | **Title of position:** Contractor's Representative | |
| | **Name of candidate:** | |
| | **Duration of appointment:** | [*insert the whole period (start and end dates) for which this position will be engaged*] |
| | **Time commitment: for this position:** | [*insert the number of days/week/months/ that has been scheduled for this position*] |
| | **Expected time schedule for this position:** | [*insert the expected time schedule for this position (e.g. attach high level Gantt chart*] |
| **2.** | **Title of position:** *[_____]* | |
| | **Name of candidate:** | |
| | **Duration of appointment:** | [*insert the whole period (start and end dates) for which this position will be engaged*] |
| | **Time commitment: for this position:** | [*insert the number of days/week/months/ that has been scheduled for this position*] |
| | **Expected time schedule for this position:** | [*insert the expected time schedule for this position (e.g. attach high level Gantt chart*] |
| **3.** | **Title of position:** *[_____]* | |
| | **Name of candidate:** | |
| | **Duration of appointment:** | [*insert the whole period (start and end dates) for which this position will be engaged*] |
| | **Time commitment: for this position:** | [*insert the number of days/week/months/ that has been scheduled for this position*] |
| | **Expected time schedule for this position:** | [*insert the expected time schedule for this position (e.g. attach high level Gantt chart*] |
| **4.** | **Title of position:** *[_____]* | |
| | **Name of candidate:** | |
| | **Duration of appointment:** | [*insert the whole period (start and end dates) for which this position will be engaged*] |
| | **Time commitment: for this position:** | [*insert the number of days/week/months/ that has been scheduled for this position*] |
| | **Expected time schedule for this position:** | [*insert the expected time schedule for this position (e.g. attach high level Gantt chart*] |
| **5.** | **Title of position:** *[insert title]* | |
| | **Name of candidate** | |
| | **Duration of appointment:** | [*insert the whole period (start and end dates) for which this position will be engaged*] |
| | **Time commitment: for this position:** | [*insert the number of days/week/months/ that has been scheduled for this position*] |
| | **Expected time schedule for this position:** | [*insert the expected time schedule for this position (e.g. attach high level Gantt chart*] |

## 4. FORM PER - 2:

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

| Name of Tenderer |
|---|
| |

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

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

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

**Declaration**

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

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

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

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

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

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

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

# 5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

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.

## 5.1 FORM ELI -1.1

**Tenderer InformationForm**

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:<br>*[indicate country of Constitution]* |
| Tenderer's actual or intended year of incorporation: |
| Tenderer's legal address [in country of registration]: |
| Tenderer's authorized representative information<br>Name:_____<br>Address:_____<br>Telephone/Fax numbers: _____<br>E-mail address: _____ |
| 1. Attached are copies of original documents of<br>☐ 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<br>☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5<br>☐In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing:<br>• Legal and financial autonomy<br>• Operation under commercial law<br>1. Establishing that the Tenderer is not under the supervision of the Procuring Entity<br>2. Included are the organizational chart and a list of Board of Directors |

## 52 FORM ELI -1.2

**Tenderer's JV Information Form**
**(to be completed for each member of Tenderer's JV)**

Date:_____

ITT No. andtitle:_____

| |
|---|
| 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<br>Name:_____<br>Address: _____<br>Telephone/Fax numbers: _____<br>E-mail address: _____ |
| 1. Attached are copies of original documents of<br>☐ 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.<br>☐ 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 3.5.<br><br>2. Included are the organizational chart and a list of Board of Directors. |

53 **FORM CON –2**

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

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

| Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria | | | |
|---|---|---|---|
| ☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.<br><br>☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1<br><br>☐ Contract(s) withdrawn since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1 | | | |
| **Year** | **Non- performed portion of contract** | **Contract Identification** | **Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)** |
| *[insert year]* | *[insert amount and percentage]* | Contract Identification: *[indicate complete contract name/ number, and any other identification]*<br>Name of Procuring Entity: *[insert full name]*<br>Address of Procuring Entity: *[insert street/city/country]*<br>Reason(s) for nonperformance: *[indicate main reason(s)]* | *[insert amount]* |
| Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria | | | |
| ☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.<br>☐ 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: _____<br>Name of Procuring Entity: _____<br>Address of Procuring Entity: _____<br>Matter in dispute: _____<br>Party who initiated the dispute: Status of dispute: _____ | |
| | | Contract Identification:<br>Name of Procuring Entity:<br>Address of Procuring Entity:<br>Matter in dispute:<br>Party who initiated the dispute:<br>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.<br>☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below. | | | |

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

Include details relating to potential bid-rigging practices such as previous occasions where tenders were withdrawn, joint bids with competitors, subcontracting work to unsuccessful tenderers, etc.

## 5.4 FORM FIN – 3.1:

**Financial Situation and Performance**

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

### 5.4.1. 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

### 5.4.2 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 | | |

### 5.4.3 Financial documents

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

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

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

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

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

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

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

55 **FORM FIN – 3.2:**

**Average Annual Construction Turnover**

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

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

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

## 5.6 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 | | |
| | | |

## 5.7 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 | | | | | |
|---|---|---|---|---|---|
| **No.** | **Name of Contract** | **Procuring Entity's Contact Address, Tel,** | **Value of Outstanding Work [Current Kenya Shilling /month Equivalent]** | **Estimated Completion Date** | **Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]** |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| | | | | | |

## 5.8 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: _____<br>Brief Description of the Works performed by the Tenderer:_____<br>Amount of contract: _____<br>Name of Procuring Entity: _____<br>Address: _____ | |
| | | Contract name: _____<br>Brief Description of the Works performed by the Tenderer:_____<br>Amount of contract: _____<br>Name of Procuring Entity: _____<br>Address: _____ | |
| | | Contract name: _____<br>Brief Description of the Works performed by the Tenderer:_____<br>Amount of contract: _____<br>Name of Procuring Entity: _____<br>Address: _____ | |

## 5.9 FORM EXP - 4.2(a)

**Specific Construction and Contract Management Experience**

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

| **Similar Contract No.** | **Information** | | | |
|---|---|---|---|---|
| Contract Identification | | | | |
| Award date | | | | |
| Completion date | | | | |
| Role in Contract | Prime Contractor ☐ | Member in JV ☐ | Management Contractor ☐ | Sub-contractor ☐ |
| Total Contract Amount | | | **Kenya Shilling** | |
| If member in a JV or sub-contractor, specify participation in total Contract amount | | | | |
| Procuring Entity's Name: | | | | |
| Address:<br>Telephone/fax number<br>E-mail: | | | | |


## 5.9 FORM EXP - 4.2(a)

**Specific Construction and Contract Management Experience**

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


| **Similar Contract No.** | **Information** | | | |
|---|---|---|---|---|
| Contract Identification | | | | |
| Award date | | | | |
| Completion date | | | | |
| Role in Contract | Prime Contractor ☐ | Member in JV ☐ | Management Contractor ☐ | Sub-contractor ☐ |
| Total Contract Amount | | | **Kenya Shilling** | |
| If member in a JV or sub-contractor, specify participation in total Contract amount | | | | |
| Procuring Entity's Name: | | | | |
| Address:<br>Telephone/fax number<br>E-mail: | | | | |

## 5.9 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 | |

## 5.10 FORM EXP - 4.2(b)

**Construction Experience in Key Activities**

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

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

*1.* Key Activity No One: _ _____

| | **Information** | | | |
|---|---|---|---|---|
| Contract Identification | | | | |
| Award date | | | | |
| Completion date | | | | |
| Role in Contract | Prime Contractor ☐ | Member in JV ☐ | Management Contractor ☐ | Sub-contractor ☐ |
| Total Contract Amount | | | **Kenya Shilling** | |
| Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year | Total quantity in the contract (i) | Percentage participation (ii) | | Actual Quantity Performed (i) x (ii) |
| Year 1 | | | | |
| Year 2 | | | | |
| Year 3 | | | | |
| Year 4 | | | | |
| Procuring Entity's Name: | | | | |
| Address:<br>Telephone/fax number<br>E-mail: | | | | |

[2] If applicable

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

2. Activity No. Two
3. ……

## OTHER FORMS

## 6. FORM OF TENDER

### (Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

***INSTRUCTIONS TO TENDERERS***

*a) All italicized text is to help the Tenderer in preparing this form.*

*ii) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.*

*iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (xxii) below.*

**Date of this Tender submission**:.....*[insert date (as day, month and year) of Tender submission]* **Tender Name and Identification**:.....*[insert identification]* **Alternative No.**:.....*[insert identification No if this is a Tender for an alternative]*

To .....*[Insert complete name of Procuring Entity]*

**Date of thisTender 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[3] of Kenya Shillings [*[Amount in figures]*_____Kenya Shillings *[amount in words]*_____

The above amount includes foreign currency[4] amount (s) of [*state figure or a percentage and currency*] [figures]_____[words] _____
_____

*2.* We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Architect 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 adhereby this tender until_____*[Insert date]*, and it shall remain binding upon us and may be accepted at any time before that date.

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

*5.* We, the under signed, further declare that:

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

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

[3] *This sum should be carried forward from the Summary of the Bills of Quantities.*
[4] *The percentage quoted above should not include provisional sums, and not more than two foreign currencies are allowed.*

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, incase of one lot: Total priceis: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*]; or

Option2, 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 obtaina Performance Security in accordance with the Tendering document;

xii) One Tender Per Tender: Weare 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 sub-contractor, 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, Engineer, 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 ITT3.8*];

*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 there of 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 here by certify that we have taken steps to ensure that no personacting for us or on our behalf engages in any type of Fraud and Corruption; and

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) **Beneficial Ownership Information:** We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.

xxii) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:

a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are no tin any conflict to interest.

(b) Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.

(a) Self-Declarationo f 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*]

Datesigned_____dayof_____,_____

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

**(a) Tenderer'sdetails**

| | 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<br>2. City<br>3. Location<br>4. Building<br>5. Floor<br>6. Postal Address<br>7. Name and email of contact person. |
| 6 | Current Trade License Registration Number and Expiring date | |
| 7 | Name, country and full address (*postal and physical addresses, email, and telephone number*) of Registering Body/Agency | |
| 8 | Description of Nature of Business | |
| 9 | Maximum value of business which the Tenderer handles. | |
| 10 | State if Tenders Company is listed in stock exchange, give name and full address (*postal and physical addresses, email, and telephone number*) of<br>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 | | | |

**(iii) 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 | | |

| | Type of Conflict | Disclosure YES OR NO | If YES provide details of the relationship with Tenderer |
|---|---|---|---|
| | 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. | | |

**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_____

Titleor 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:

Icertify, on behalf of_____*[NameofTenderer]*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. Iamthe 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. TheTenderer 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) theTenderer 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. Inparticular, 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 intentiono r 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 pursuan tto 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 toparagraph(5)(b) above;

8. Thetermsofthe 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, whichevercomesfirst, unless otherwise required byl aw or as specifically disclosed pursuant to paragraph (5)(b) above.

Name_____
Title_____
Date _____

Signature……

*[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/Direct or 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 here in above is true to the best of my knowledge, information and belief.

| | | |
|---|---|---|
| ……. | ……. | …… |
| (Title) | (Signature) | (Date) |

Bidder Official Stamp

## FORM SD2

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

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

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

2. THAT theafore said Bidder, its servants and/oragents/subcontractorswillnotengageinanycorruptorfraudulent 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 here in 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 Procurementand Asset Disposal and my responsibilities under the Code.

I do here by 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

1.1 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.

### 2. Requirements

2.1 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.

2.2 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 as set 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 whohas 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 in to, take part in any decision relating to the procurement or contract; and

   c) shall not be a subcontract or for the tender to whom was awarded contract, or a member of the group of tenderers 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 conflictofinteresttotheprocuringentity;

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.

**3.** 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 setf orth 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 is representation, 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; “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;
iv) “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 processorthe exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.

c) Rejects a proposal for award[1] of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

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

e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring(i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect[2] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

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

---

[1] *For the avoidance of doubt, a party's in eligibility to be awarded a contract shall includee, 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.*

[2] *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, suc has 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 copyor electronic format) deemed relevant for th einvestigation/audit, and making copies there of 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 forTenders No:**

_____

**Date:**_____

**TENDER GUARANTEE No.:**_____

**Guarantor:** _____

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

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

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

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

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

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

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

_____

*[signature(s)]*

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

**FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]**

**TENDER GUARANTEE No.: _____**

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

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

   Sealed with the Common Seal of the said Guarantor this____day of_____20___.

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

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

   b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructionsto 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 substantiateits 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 Applicantis not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notificationto 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 indicatedabove on or before that date.

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

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

**FORM OF TENDER - SECURING DECLARATION**

*[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 ourobligation(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 Iam /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 orstamp

## Appendix toTender

**Schedule of Currency requirements**

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

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

# PART II - WORKS REQUIREMENTS

## SECTION V - BILLS OF QUANTITIES

### A. Notes and Sample Items for Preparing a Bill of Quantities

1. These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Tender Documents. Priced Bills of Quantities shall be part and parcel of the Contract Documents.

2. The objectives and purpose of the Bills of Quantities are to provide sufficient information on the specifications, descriptions and quantities of Works to be performed to enable tenders to be prepared efficiently and accurately and when a contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed. Inorder to attain these objectives, Works should be itemized in the Bill of Quantities insufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried outin different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and clear as possible.

3. The Bills of Quantities should be divided generally into thef ollowing sections:

a) Preambles
b) Preliminary items
c) Work Items
c) Daywork Schedule; and
d) Provisionalitems
e) Summary.

### 4. NOTES TO PREPARING PREAMBLES

4.1 The Preambles should include only those items that constitute the cost of the works but would not be priced separately as they are expected to be included in the unit prices. Care should be taken to ensure that these items are not are petition of the conditions of contract. The Preambles should indicate the inclusiveness of the unit prices and should state the methods of measurement that have been adopted in the preparation of the Bill of Quantities, that are to be used for the measurement of any part of the Works. The units of measurement and abbreviations should be defined and any mandatory national units defined and described. The methods of and procedure for re- measurement should be described in the Preambles.

4.2 Units of Measurement - The following units of measurement and abbreviations shall be used, unless other national units are mandatory in Kenya.

| Unit | Abbreviation | Unit | Abbreviation |
|---|---|---|---|
| cubic meter | $m^3$ *or* cu m | millimetre | mm |
| hectare | ha | month | mon |
| hour | h | number | nr |
| kilogram | kg | square meter | $m^2$ *or* sq m |
| lump sum | ls | square millimeter | $mm^2$ *or* sq mm |
| meter | m | week | wk |
| metric ton | t | | |

4.3 The Bills of Quantities shall be read in conjunction with the Instructions to Tenders, General and Special Conditions of Contract, Technical Specifications, and Drawings.

4.4. The quantities given in the Bills of Quantities are estimated and partly provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Architect and valued at the rates and prices tender in the priced

Bills of Quantities, where applicable, and otherwise at such rates and prices as the Architect may fix within the terms of the Contract.

4.5. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.

4.6. Arateorprice shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.

4.7. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the ratesand prices entered for the related Items of Work.

4.8. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documents shall be made before entering prices agains teach item in the priced Bills of Quantities.

4.9 Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Architect in accordance with Sub-Clause13.5 and Clause 13.6 of the General Conditions of contract.

4.10 In preparing the Bills of Quantities, notes should be removed as they are intended to guide the person preparing the Tender Documents. The Contractor must allow in his rates for any costs associated with and complying with the requirements in the Preambles.

4.11 Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the itemor items will be executed without any additional costs or without being treated like variations.

## 5. NOTES ON PREPARING BILLS OF QUANTITIES

5.1 The Preliminary Items should be limited to tangible items that should be priced by the tenderer, are identifiable and can be priced separately and included in the interim valuations precisely. Such items may include such items as site office, notice boards, and other temporary works, otherwise items such as security for the Works which are primarily part of the Contractor's obligations should be included in the Contractor's rates.

5.2 The work items in the Bills of Quantities should be grouped into sections to distinguish between those parts of the Works which by nature, location, access, timing, or any other special characteristics may give rise to different methods of construction, or phasing of the Works, or considerations of cost. Such groups could be ground excavations, structures, external works, services, etc. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.

5.3 Quantities should be computed net from the Drawings, unless directed otherwise in the Contract, and no allowance should be made for bulking, shrinkage or waste. Quantitiesshouldberoundedupwhereappropriate.

5.4 Where the measured items a redeemed not to be exact because of the likelihood that the scope can change during the execution of the works, such items could be subject to re-measurement, the word **"provisional"** should be used to identify such cases. Where whole sections of the work items fall in this class, for example foundations, they should be labelled "Provisional Quantities" or "Provisional Items" so that the Tenderer/Contractor is advised up front that such items are subject to re-measurement to done before such work is cover-up.

5.5 All items that have not been measured and therefore not subject tot enders pricing should be listed in the Bills of Quantities as **Provisional Sums** for particular item or class of Work, which may be subject to a nominated subcontract or separate measurements at a later date during the execution of the works. For example, if it is deemed not possible to measure electrical works before going to tender because detail designs are not ready, a provisional sum can be allowed in the Bills of Quantities for "Installation of Electrical Works" to be executed later when actual design details are completed. To the extent not covered above, there should be in the Bills of Quantities a general provision for physical and financial contingencies made as a "Provisional Sum for

Contingencies" and "Provisional Sum for Fluctuations". The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises.

5.6 Provisional sums to cover specialized works normally carried out by Nominated Sub Contractors should be avoided and instead Bills of Quantities of the specialized Works should be included as a section of the main Bills of Quantities to be priced by the Main Contractor. The Main Contractor should be required to indicate the name(s) of the specialized firms he proposes to engage to carry out the specialized Works as his approved domestic sub-contractors. Only provisional sums to cover specialized Works by statutory authorities should be included in the Bills of Quantities.

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

i) A list of the various classes of labor, and materials for which basic.

ii) Daywork rates and prices for various categories of labor are to be inserted by the tenderer, together with a statement of the conditions under which the Contractor will be paid for Work executed on a Daywork basis.

iii) A percent a get o be entered by the tenderer agains teach basic Day work item.

iv) Subtotal amount for labor, materials and plant representing the Contractor's profit, overheads, supervision and other charges.

5.8 The Summary should contain a tabulation of the separate parts of the Bills of Quantities carried forward, with provisional sums for Daywork, Provisional sums and Contingencies, and provision for Total Costing. The last line should allow for tenderer to indicate any discounts before arriving at a total cost carried forward to the Form of Tender.

## BILLS OF QUANTITIES

### (a) Preambles

1. The method of measurement of completed work for payment shall be in accordance with *[insert the name of a standard reference guide, or full details of the methods to be used]*.

2. The Site is situated in (*provide full description where the site is situated, coordinates from the nearest known landmark like a town and its size*)_____It is approximately_____Kilometers from Nairobi. Access to the site shall be through_____,

   Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.

3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.

4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entityor Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.

5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.

6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.
7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub- Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. Noclaimfor extension of time due to the normal in clement weather for this area shall be entertained.

9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates there of. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.

10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progresson all important items of each section or portion of the Works.

11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer.The Photographs shall provide a record of the Site and adjacent are as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect withintwo weeks of exposure.

12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub-Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.

13. Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, waterpipes or other services in the are aand he shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging if necessary,to locate precisely the position and details of the services which are likely to affect his operations.

14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.

15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.

16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.

17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub–contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.

18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection there with.

19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall giveh is whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractordirections and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Engineer.

20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard–rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.

21. The are as available to the Contractor for workyards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractorshallsourcethenatowncost.

22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.

23. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existingand adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.

24. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.

25. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998.Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-upo f his rates.

26. The Contractor shall provide temporary sheds, offices meshrooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.

27. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.

28. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.

29. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.

30. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.

31. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.

32. The Contractor shall take all necessary precautions such as temporaryf encing, hoarding fans, planked footways, guard–rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.

33. Cover up all and protect from damage, including damage from in clement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion ofthe Contract.

34. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken toleavecleanallfloors and windows and tore move all paint and cement all rubbis hand dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.

35. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.

36. The Contractors hall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure f or submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer.The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.

37. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable

to all in terim payments exceeding Kshs .....for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.

38. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.

39. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to over see the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6$^{th}$June 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.

40. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VATAct Cap 476 clause 19(9). The tenderer must allow for VAT1.19 as instructed else where.

41. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

## BILL NO. 1 - PRELIMINARY ITEMS

| ITEM No. | DESCRIPTION | AMOUNT |
|---|---|---|
| 1. | The Contractor shall provide, or erect and maintain an approved lock-up office for the sole use of the Architect and his own site staff. The office, which will have a total floor area of not less than---------- square metres, will be divided into two separate interconnected offices. Services to be provided shall include a telephone, water sanitary and electrical supply and drainage. The offices shall be supplied with furniture and equipment that shall include:<br>4 No. desks with chairs; 1 No. large table with sufficient number of chairs; drawing table along the full length of one side with plan drawers and drawing stools: 4 No. waste paper baskets: sufficient number of pin boards: and any additional furniture and fittings as may reasonably be required during the Contract period. The Contractor shall provide the Architect and site staff with computer sets or laptops, printers and telephones all that are necessary for project use.<br>The office furniture and equipment shall all be to the approval of the Engineer. The Contractor shall also provide all labor, equipment and consumable stores equipment throughout the currency of the contract. | |
| 2 | [OPTIONAL] Contractor shall provide a house for Engineers site agent, which shall be one bedroomed temporary house with a sitting room, toilet, bathroom and a kitchen complete with electrical and sanitary installations and provide maintenance and paying of bills of water and electricity up to and including end of the contract period. | |
| 3 | Provide a signboard not less than_____square meters in size of a design type, and with lettering and coloring and in a position approved by the Engineer. The signboard shall be for the display of the Main Contractor's name and the names of all his Sub-Contractors, with the Procuring Entity's name painted thereon. All Consultants names be printed in letters not exceeding 50 mm high. No other signboard or advertising shall be allowed. The signboard shall be fully maintained during the Contract Period and shall be pulled down and removed at the end of the contract. | |
| 4 | Add others (if any) | |
| 5 | | |
| 6 | | |
| | TOTAL CARRIED TO GRAND SUMMARY | |

## BILL NO. 2: WORK ITEMS

*(organized appropriately into work sections, such as foundations, walls/structure, finishes, doors and windows, mechanical installations. etc.*

**Bill No 2 -** *(Name of Section e.g. Foundations).*

| ***Item no.*** | ***Description*** | ***Unit*** | ***Quantity*** | ***Rate*** | ***Amount*** |
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| Total for Bill No. 2 (carried forward to Summary, p.____) | | | | | _____ |

**Bill No. 3: Schedule of Daywork Rates - Labor**

| Item no. | Description | Unit | Nominal quantity | Rate | Amount |
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| | Subtotal | | | | |
| | Allow_____percent[a] of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above. | | | | |
| | Total for Daywork (carried forward to Daywork Summary, p.___) | | | | |

a. To be entered by the Tenderer.

**Bill No. 4: Schedule of Daywork Rates - Materials**

| Item no. | Description | Unit | Nominal quantity | Rate | Extended amount |
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| | Subtotal | | | | |
| | Allow_____percent a. of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 4 (b) above. | | | | |
| | Total for Daywork: Materials (carried forward to Daywork Summary, p. _____) | | | | |

a. To be entered by theTenderer.

## Bill No. 5: Schedule of Daywork Rates - Contractor's Equipment

| *Item no.* | *Description* | *Nominal quantity (hours)* | *Basic hourly rental rate* | *Extended amount* |
|---|---|---|---|---|
| | | | | |
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| | | | | |
| | | | | |
| | | | | |
| | Allow _ percent [a] of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 5 above. | | | |
| Total for Daywork: Contractor's Equipment (carried forward to Daywork Summary, p. _ ) | | | | |

a. To be entered by theTenderer.

## Bill No. 6: Daywork Summary

| | *Amount*[a] | *% Foreign* | *Currency* |
|---|---|---|---|
| 1. Total for Daywork: Labor | | | |
| 2. Total for Daywork: Materials | | | |
| 3. Total for Daywork: Contractor's Equipment | | | |
| Total for Daywork (Provisional Sum) (carried forward to Summary of Bills of Quantities, p._____) | | | |

## Bill No. 7: Provisional Sums

| *Bill no.* | *Item no.* | *Description* | *Amount* |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| etc. | | | |
| Total for Specified Provisional Sums (carried forward to Grand Summary | | | |

## GRAND SUMMARY

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

(i) If a percentage used, it should be indicated on which Bill No. items but on Bill No.4 – Provisional Sums.

## SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

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

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

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

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

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

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

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

## SECTION VII - DRAWINGS

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

# PART III - THE CONDITIONS OF CONTRACT AND CONTRACT

# SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

[Name of Procuring Entity]

[Name of Contract]

[Architect Name and Address]

**General Conditions of Contract**

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## 1. GENERALPROVISIONS

### 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"** meansthedateofcompletionoftheWorksascertifiedbytheEngineer.

**"Contract Price"** means the price defined in the contract and there after 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'sPersonnel"** 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 timeby 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 oraSection(asthecasemaybe) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], whichextendsoverthedaysstated intheSpecialConditionsofContract.

**“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 [ApplicationforFinalPaymentCertificate].

**“Force Majeure”** is defined in Clause19 [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.

**"Testson Completion"** means the tests which are specified in the Contractor 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, sentor transmitted to the addressf or 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 addressfromwhichtherequestwasissued.

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 ofthe 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 formannexed 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**

1.8.1 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.

1.8.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over bythe Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.

1.8.3 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.

1.8.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, theParty shall promptly give notice to the other Party of such error or defect.

**1.9 Timely provision of Drawings or Instructions**

1.9.1 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.

1.9.2 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.

1.9.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

1.9.4 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 Asagreed 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 Entityf or 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 permitor 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 ofthe Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of in eligibility pursuant to the Procuring Entity's prevailing sanctions procedures).

## 2 THE PROCURING ENTITY

### 2.1 Right of Access to the Site

2.1.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within thetime (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 ofanyfoundation, 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.

2.1.2 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].

2.1.3 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.

2.1.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

2.1.5 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.

## 2.2 Permits, Licenses or Approvals

2.2.1 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.

## 2.3 Procuring Entity'sPersonnel

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 action ssimilar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) ofSub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

## 2.4 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 Clause14 [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 Architectis required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the S**pecial 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 approvalis required, then (for the purposes of the Contract) the contractor shall require the Architect toprovideevidence 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 shallbedeemedtoactfortheProcuring 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) anyact 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-Clause13.4: Specifying the amount payable in each of the applicable three currencies.

3.1.7 Not withstanding 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.

## 3.2 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.

## 3.3 Instructions of the Engineer

3.3.1 The Architect may issue to the Contractor (at anytime) instructions and additional or modified Drawings which may benecessary 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 Architec tor 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).

### 3.4 Replacement of the Engineer

IftheProcuring Entity intends to replace the Engineer, the Procuring Entity shall, in not less than 21 days before theintendeddateofreplacement, give notice to the Contractor of the name, address and relevant experience of the intended person to replace the Engineer.

### 3.5 Determinations

3.5.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause3.5 to agreeor 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 theContract, taking due regard of all relevant circumstances.

3.5.1 The Architect shall give notice to both Parties of each agree mentor 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, ands hall 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 designor 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, befit 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 Architectthe “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.

## 4.2 Performance Security

4.2.1 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.

4.2.2 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.

4.2.3 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executedand 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.

4.2.4 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.

4.2.5 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.

4.2.6 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copyof the Taking-Over Certificate.

4.2.7 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.

## 4.3 Contractor's Representative

**4.3.1** 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.**

4.3.2 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 with held 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 an other suitable person for such appointment.

4.3.3 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint are placement.

4.3.4 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.

4.3.5 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

4.3.6 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.

4.3.7 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause1.4

[Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreter savailable during all working hours in a number deemed sufficient by the Engineer.

**4.4 Sub-contractors**

4.4.1 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.

4.4.2 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if theyweret heacts 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].

4.4.3 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.

4.4.4 Wher epracticable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

**4.5 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.

**4.6 Co-operation**

4.6.1 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.

4.6.2 Any such instruction shall constitute a Variation if and to the extent that it cause sthe Contractor to suffer delays and/ortoincur 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.

4.6.3 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.

**4.7 Setting Out of the Works**

4.7.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contractor 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.

4.7.2 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 errorin 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 thise.

**4.8 Safety Procedures**

The Contractor shall:
a) Comply with all applicable safety regulations,
b) Takec are 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.

**4.9 Quality Assurance**

4.9.1 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 entitledto audit any aspect of the system.

4.9.2 Details of all procedures and compliance documents shall be submitted to the Architectf or 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 TheContractor 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 shal ldescribe 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 Contractorwhen submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor'sinterpretationofanysuchevidence.

## 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 be tween 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 a vailability 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 thetransport 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 hall 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 Entitys hall 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-Clause3.5 [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, defector 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 [NominatedSubcontractors]),

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 adjacentl and.

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].

## 5.2 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 hisobligations 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].

## 5.3 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].

## 5.4 Evidence of Payments

5.4.1 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, directto 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 theContractor.

6.2.2 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.

**6.3 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.

**6.4 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.

**6.5 Working Hours**

Nowork 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.

**6.6 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.

**6.7 Health and Safety**

6.7.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with loca lhealth 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.

6.7.2 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 what ever is required by this person to exercise this responsibility and authority.

6.7.3 The Contractor shall send, to the Engineer, details of any accident as soon as practicable after itsoccurrence. 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.

6.7.4 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 transferof these diseases between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

**6.8 Contractor's Superintendence**

6.8.1 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 super intendence 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 Contractors 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 ofthe 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 Sitea n 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 a tall 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 there of 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 employ mentor 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 sin 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 placef ort he 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, not withstanding 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 thespecified tests have be enpassed, 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 Not withstanding any previous test or certification, the Architect may instruct the Contractorto:

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.

7.6.2 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).

7.6.3 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.

7.6.4 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 in corporated 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) thedisposal of material from demolitions and excavations and of other surplus material (whether natural orman-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 shave 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-Clause1 6.2 [Terminationby Contractor].

8.1.3 The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shal lthen 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 Testson 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 within1 4 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.

8.3.2 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.

8.3.3 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.

8.3.4 If, at anytime, 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

8.4.1 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.

8.4.2 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 Architec tshall 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

8.6.1 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.

8.6.2 Unless the Architect notifies otherwise, the Contractor shall adopt these revised methods, which mayrequire 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.

8.6.3 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

8.7.1 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.

8.7.2 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

8.8.1 The Architect may at anytime 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 a gainst any deterioration, loss or damage.

8.8.2 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

8.9.1 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.

8.9.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause3.5 [Determinations] to agree or determine these matters.

8.9.3 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 ProlongedSuspension**

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 receivingf rom the Architec tan 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 resultsof 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 Testson 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 carryout the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Test sat 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 asaccurate.

**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-Clause1 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 Contract or 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 Contract or, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor out standing 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 undert his 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 thel ast 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 Contractor agreed by the Contractor, 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 there after 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.

### 10.3 Interference with Tests on Completion

10.3.1 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.

10.3.2 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.

10.3.3 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.

10.3.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

### 10.4 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 (fairwear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable there after, 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 appl yto any defectsor 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[ Costo f 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) Requirethe 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 Contractas 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 Contractor 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**

Unti lthe 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 defecton 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.

11.9.2 The Architect shall issue the Completion Certificate within 30days after the latest of the expiry dates of the Defects Liability Period, or as soon there after 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 Completionn Certificate shall be issued to the Procuring Entity.

11.9.3 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 AN 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 Contractorshall 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 agreet her ecords 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 paymentofthe 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.

**12.3 Evaluation**

12.3.1 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 workd one 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.

12.3.2 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.

12.3.3 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.

12.3.4 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 Clause13 [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.

12.3.5 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.

12.3.6 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.

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

**12.4 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, wouldhavebeen 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 in validate 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 otherc haracteristics 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.

13.1.4 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.

**13.2 Variation Order Procedure**

13.2.1 Priortoany 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.

**13.2.2 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 entitledto be paid:

a) The cost of any partial execution of the Work srendered useless by any such variation,

b) Thecostof 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 financec osts, 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.

**13.2.3 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-Clause31.3.

**13.3 Value Engineering**

13.3.1 TheContractor may, at anytime, 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.

13.3.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

13.2.3 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 behalf (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.

## 13.4 Variation Procedure for Value Engineering proposal

13.4.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writinga s 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.

13.4.2 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 a waiting a response.

13.4.3 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.

13.4.4 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.

## 13.5 Paymentin 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.

## 13.6 Provisional Sums

13.6.1 Each Provisional Sum shall only be used, in whole or inpart, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include onlysuch 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, Materialso r 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.

13.6.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

## 13.7 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 delive reach 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].

## 13.8 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 Not withstanding 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 forChanges in Cost].

## 13.9 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 a mounts 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 Im/Io**

where:

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

**A** and **B** a recoefficients **specified in the SCC,** representing then on adjustable and adjustable portions, respectively, of the Contract Price payable and

**I m** is the index prevailing at the end of the month being invoiced and **Io**c 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.

13.9.4 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, itshall 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.

13.9.5 Incases 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.

13.9.6 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.

13.9.7 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 applicableo n 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.

13.9.8 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 Clause12 [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.

14.1.2 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.

**14.2 Advance Payment**

**14.2.1** 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.**

14.2.2 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.

14.2.3 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 a dvance 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.

14.2.4 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.

14.2.5 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.

14.2.6 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 thec ase 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.

**14.3 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 aform 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 there porton the progress during this month in accordance with Sub-Clause4.21 [Progress Reports].

14.3.2 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.

## 14.4 Schedule of Payments

14.4.1 I fthe 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.

14.4.2 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.

## 14.5 Plant and Materials intended for the Works

14.5.1 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].

14.5.2 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.

14.5.3 The Architect shall determine and certify each addition if the following conditions a resatisfied:

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-Clause14.2 [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.

14.5.4 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.

14.5.5 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.

**14.6 Issue of Interim Payment Certificates**

14.6.1 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 Statemen tif any.

14.6.2 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.

14.6.3 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], which ever 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 [Terminationby 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 isissued.

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 behalf (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 behalf (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 hall 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-Clause13.8 [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.

14.10.2 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 Contractor 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 be comes 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 out standing 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 30days 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 theContractor 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 in demnification obligations, or the Procuring Entity's liability in any case of fraud, deliberate default or reckless misconduct by the Procuring Entity.

### 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) otherpaymentsanddeductions 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 theseacts 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, incompeting for or in executing the Contract.

15.2.2 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 sub-paragraph (e) or (f) or (g) or (h), the Procuring Entity may by notice terminate the Contract immediately.

15.2.3 The Procuring Entity's election to terminate the Contract shall not prejudice any other rights of the Procuring Entity, under the Contractor otherwise.

15.2.4 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.

15.2.5 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.

15.2.6 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.

**15.3 Valuation at Date of Termination**

Assoon 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.

**15.4 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 [Procurin 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.

**15.5 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-Clausein 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].

**15.6 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 thisor 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 receivedthe Payment Certificate, reasonable evidence or payment, as the case may bea nd 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 [Terminationby 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/ori ncurs 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-Clause1 4.7 [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].

16.3.2 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.

16.3.3 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contractor otherwise.

### 16.4 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.

### 16.5 PaymentonTermination

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 outo for 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.

### 17.2 Contractor's Care of the Works

17.2.1 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.

17.2.2 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.

17.2.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractorisresponsiblefor 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.

17.2.4 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.

## 17.3 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 gradiation 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.

## 17.4 Consequences of Procuring Entity's Risks

17.4.1 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.

17.4.2 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 TimeforCompletion], and
(b) paymentofany 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.

17.4.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

## 17.5 Intellectual and Industrial Property Rights

17.5.1 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.

17.5.2 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.

17.5.3 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 be ingused 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.

17.5.4 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.

17.5.5 IfaPartyisentitledtobeindemnified 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.

17.5.6 For operation and maintenance of any plan to requipment 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.

### 17.6 Limitation of Liability

17.6.1 Neither Party shall be liable to the other Party for loss of use of anyW orks, 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].

17.6.2 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.

17.6.3 This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

### 17.7 Use of Procuring Entity's Accommodation/Facilities

17.7.1 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).

17.7.2 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 at tempts 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 Contractor 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 Contractor 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, liabilitieso r 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.

## 18.2 Insurance for Works and Contractor's Equipment

18.2.1 The insuring Party shall insure the Works, Plant, Material sand 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.

18.2.2 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]).

18.2.3 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.

18.2.4 Unless otherwise stated in the Special Conditions, insurances under this Sub-Clause:

a) Shal lbe 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,t his 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) apart of the Works which is lost or damaged inorder 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) apart 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].

18.2.5 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 asthe 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].

## 18.3 Insurance against Injury to Persons and Damage to Property

18.3.1 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 Worksand 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.

18.3.2 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.

18.3.3 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.

**18.4 Insurance for Contractor's Personnel**

18.4.1 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.

18.4.2 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 Contractoror any othe rof 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.

18.4.3 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 over come, 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, s olong 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 lock out by persons other than the Contractor's Personnel,

d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as maybeattributabletotheContractor'suseofsuchmunitions, 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.

19.2.3 Not withstanding 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.

**19.3 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.

**19.4 Consequences of Force Majeure**

19.4.1 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-Clause18.2 [Insurance for Works and Contractor's Equipment].

19.4.2 After receiving this notice, the Architect shall proceed in a ccordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

**19.5 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.

**19.6 Optional Termination, Payment and Release**

19.6.1 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].

19.6.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:

a) theamountspayableforanyworkcarriedoutforwhichapriceisstatedintheContract;

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'sdisposal;

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.

**19.7 Release from Performance**

Not withstanding 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 Partyofsucheventorcircumstance:

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 TheContractorshallkeepsuch contemporary records as may be necessary to substantiate any claim, either on the Site or at an other 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 42days 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 eventor 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.

## 20.2 Procuring Entity's Claims

20.2.1 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditionsor 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.

20.2.2 The notice shall be given as soon as practicable and no longer than 30 days afte rthe 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.

20.2.3 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].

20.2.4 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.

## 20.3 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 arbitrationa fter 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.

## 20.4 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.

## 20.5 Arbitration

20.5.1 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.

20.5.2 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.

20.5.3 Not withstanding 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.

20.5.4 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 a ward any sums which ought to have been the subject of or included in any certificate.

20.5.5 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision require mentor notice had been given.

20.5.6 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.

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

20.5.7 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.

20.5.8 Thetermsofthere muneration 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**

20.6.1 If the Contractis with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws ofKenya. 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

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

**20.7 Arbitration with Foreign Contractors**

20.7.1 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.

20.7.2 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-Clause1.4 [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 Failureto Comply with Arbitrator's Decision**

20.9.1 The award of such Arbitrator shall be final and binding up on the parties.

20.9.2 In the even tthat 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 here in shall prevail over those in the GCC.

| Conditions | Sub-Clause | Data |
|---|---|---|
| **Part A - Contract Data** | | |
| Procuring Entity's name and address | Heading | COUNTY GOVERNMENT OF MERU<br>P.O.Box 120-60200 MERU |
| Name and Reference No. of the Contract | Heading and 1.1 | W.P.ITEM NO. CGM/ONT/047/2022-2023 |
| Engineers Name and address | Heading and 3.1.1 | The Works Secretary, State Department for Public Works of P.O.Box 30734-00100 |
| Contractor's Representative's name | 4.3.1 | To be agreed with the Engineer |
| Key Personnel names | 16.9.1 | To be agreed with the Engineer |
| Time for Completion | 1.1. | _____days **28 weeks** |
| Defects Notification Period | 1.1 | _____days **26 weeks** |
| Sections | 1.1 | Not applicable |
| Electronic transmission systems | 1.3 | |
| Time for the Parties entering into a Contract Agreement | 1.6 | Within 30days |
| Commencement Date | 8.1.1 | |
| Time for access to the Site | 2.1.1 | No later than the Commencement Date, and not later than_____7_____days after Commencement Date |
| Architect Duties and Authority | 3.1.6 (b) (ii) | Variations resulting in an increase of the Accepted Contract Amount in excess of __0 % shall require approval of the Procuring Entity. |
| Performance Security | 4.2.1 | The performance security will be in the form of a ***"performance bond"*** in the amount(s) of ***5* percent** of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount. |
| Normal working hours | 6.5 | To be agreed with the Engineer |
| Delay damages for the Works | 8.7 & 14.15(b) | _____0.05% % of the Contract Price per day. |
| Maximum amount of delay damages | 8.7.1 | ____5__% of the final Contract Price. |
| Provisional Sums | 13.6. (b)(ii) | As determined by the Engineer*]*<br>_____% |
| Adjustments for Changes in Cost | 13.9 | Not applicable |
| Total advance payment | 14.2.1 | Not applicable |
| Repayment amortization rate of advance payment | 14.2.5 (b) | Not applicable |
| Percentage of Retention | 14.3.2 (c) | ____10___% |
| Limit of Retention Money | 14.3.2 (c) | _____5__% of the Accepted Contract Amount |
| Plant and Materials | 14.5.3(b)(i) | If Sub-Clause 14.5 applies:<br>Plant and Materials for payment Free on Board _____*[list]*. |
| | 14.5.3(c)(i) | Plant and Materials for payment when delivered to the Site *Plant and materials to be incorporated into permanent works* |

| Conditions | Sub-Clause | Data |
|---|---|---|
| Minimum Amount of Interim Payment Certificates | 14.6.2 | Not applicable |
| Publishing source of commercial interest rates for financial charges in case of delayed payment | 14.8 | Central Bank of Kenya |
| Maximum total liability of the Contractor to the Procuring Entity | 17.6.2 | As per applicable laws |
| Periods for submission of insurance:<br>a. evidence of insurance.<br>b. relevant policies | 18.1.6 | <br><br>__14___days<br>___14__days |
| Maximum amount of deductibles for insurance of the Procuring Entity's risks | 18.2.4 (d) | *As per applicable laws* |
| Minimum amount of third-party insurance | 18.3.2 | *As per applicable laws* |
| The place of arbitration | 20.7.2 | *Meru County, Kenya* |

## SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM NO. 2 – REQUEST FOR REVIEW

FORM No. 3-LETTEROF 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 TOAWARD 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 ProcuringEntity]*

   *ii)* Project: *[insert name ofproject]*

   *iii)* Contract title: *[insert the name of thecontract]*

   *iv)* ITT No: *[insert ITT reference number from ProcurementPlan]*

   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) OtherTenderers

   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 (5) Business Days of receipt of this Notification of Intention to Award.

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

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

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

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 a vailable from the Website 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……

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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 *[amoun tin 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 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* ),[1] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand it self or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

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

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

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

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

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

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

## FORM No. 6- PERFORMANCE SECURITY

**[Option 2– Performance Bond]**

*[**Note:** Procuring Entities a readvised to use Performance Security – Unconditiona lDemand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]*

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insertnameandAddressof*ProcuringEntity*]*

**Date:** _____*[Insert date of issue]*

**PERFORMANCE BONDNo.:**_____

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

1. By this Bond_____as Principal (hereinafter called "the Contractor") and _____] as Surety (hereinafter called "the Surety"),are held and firmly bound unto ] as Obligee (hereinafter called "the Procuring Entity") in the amount of_____for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the_____day of_____,20_____, for_____in accordance with the documents, plans, specifications, and amendments 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 a vailable 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 thefirst 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 upto 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_____

Inthepresenceof_____

SIGNED ON_____on behalf of_____

By_____in the capacity of_____

Inthepresence of_____

## FORM NO. 7 - ADVANCE PAYMENT SECURITY

**[Demand Bank Guarantee]**
*[Guarantor letterhead]*

**Beneficiary:**_____*[Insert name and Address of* ProcuringEntity*]*

**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*_____)[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
   a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which 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, oronthe_____dayof_____,2_____,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

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

_____

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

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

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[1]*The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance paymen tas specified in the Contract.*

[2]*Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee 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 executionof_____*[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 upto the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[*insert the second half of the Retention Money] is to be made against a Retention Money guarantee.

3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]*_____ (*[insert amount in words*_____*])*[1] upon receipt by us of the Beneficiary's complying demands upported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifyingthedemand, 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 ofApplicant's bank]*.

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

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

_____

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

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

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

[2]*Insert a date that is twenty-eight days after the expiry of retention period after the actua lcompletion 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)** |
|---|---|---|---|---|---|---|
| **1.** | Full Name<br>National identity card number or Passport number<br>Personal Identification Number (where applicable)<br>Nationality<br>Date of birth *[dd/mm/yyyy]*<br>Postal address<br>Residential address<br>Telephone number<br>Email address<br>Occupation or profession | | Directly---------- %<br>of shares<br>Indirectly---------- % of shares | Directly…… …….% of voting rights<br>Indirectly---------- % 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----<br>**2.** Is this right held directly or indirectly?:<br>Direct……<br>Indirect…… | 1. Exercises significant influence or control over the Company body of the Company (tenderer**)**<br>Yes -----No----<br>2. Is this influence or control exercised directly or indirectly?<br>Direct……..<br>Indirect…… |
| | | | | | | |

| | 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<br><br>Indirectly---------- % of shares | Directly…… …….% of voting rights<br><br>Indirectly---------- % 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----<br>2. Is this right held directly or indirectly?:<br><br>Direct…… …<br><br>Indirect…… ... | **1.** Exercises significant influence or control over the Company body of the Company (tenderer**)**<br>Yes -----No----<br><br>2. Is this influence or control exercised directly or indirectly?<br><br>Direct……..<br><br>Indirect…… |
| | National identity card number or Passport number | | | | | |
| | Personal Identification Number (where applicable) | | | | | |
| | 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

***Public Procurement Regulatory Authority (PPRA)***
*KISM Towers, 6th Floor, Ngong Rd*
*P.O Box 58535- 00200, Nairobi*
*Kenya Telephone: +254 020*
*3244000,*

*2213106/7*

*Email: info@ppra.go.ke*
*Website:*

*www.ppra.go.k*
*e*

# PARTICULAR PRELIMINARIES

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| | PARTICULAR PRELIMINARIES | |
| A | EMPLOYER<br><br>State Department For Investment Promotion<br>Ministry of Trade, Investments and Industry<br><br>The term "Employer" and "Government" wherever used in the contract document shall be synonymous | |
| B | LOCATION OF SITE<br>The site of the proposed works is-<br><br>The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained. | |
| C | DESCRIPTION OF THE WORKS<br>The works to be carried out under this contract comprise<br>Construction of warehouses, ablution block, pump house,pump house,boundaary wall icluding substructure works, rc superstructure, steel superstructure, doors, wiindowa, finishes, joinery and associated mechanical, electrical & civil works | |
| D | FORM OF CONTRACT<br>The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building Works & Civil Engineering Works(Revised Edition 2022-(2015)) included herein.Particulars of insertions to be made in the Appendix to the Contract Agreement will be found in the Particular Preliminaries part of these Bills of Quantities | |
| E | BID BOND<br><br>A bid bond shall be required in the amount stated here or in the invitation to tender or advertisement<br><br>Bid bond shall be from EITHER an insurance or bank. | |
| F | CLEARING AWAY<br><br>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.<br><br>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. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | WORKING CONDITIONS<br>These are works to be undertaken in an existing building.<br>The contractor must allow for compliance with all County & Civic Authority laws & regulations | |
| B | CLAIMS<br><br>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 claim or intent to claim notice to the PROJECT MANAGER within the contract period.<br>No claims shall be entertained upon the expiry of the said contract period. | |
| C | LABOUR CAMPS<br>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. | |
| D | PRICING RATES<br>The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities.<br><br>Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.<br><br>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.<br>Prices quoted should be net inclusive of all taxes, must be in Kenya shillings<br>Prices shall remain valid for One Hundred and twenty (120) days from the closing date of tender.<br><br>The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract. | |
| E | MATERIALS FROM DEMOLITIONS<br>Any materials arising from demolitions SHALL NOT BE re-used shall become the property of the client unless otherwise advised. | |
| F | URGENCY OF THE WORKS<br><br>The Contractor is notified that these "works are urgent" and should be completed within the period stated in these Particular Preliminaries.The Contractor shall allow in his rates for any costs he deems that he/she may incur by having to complete the works within the stipulated contract period. | |
| | Total carried to summary | - |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | PAYMENTS GENERALLY<br>The contractor is advised to deliver & concur on his claim for payment with the PM before the following site visit to enable approval of the same by the Acceptance & Approval Committee.<br><br>The claim shall be prepared in the same format as these bills clearly showing quantities & rates (both work & materials).<br><br>Both the PM & contractor should be able to locate & identify the items claimed from the main bill.<br><br>The last contractual claim/invoice for the relevant financial year should reach the PM by 30th May. Latter claims shall not be processed for payment in the current year. | |
| B | PAYMENT FOR MATERIALS ON SITE<br><br>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. | |
| C | ADVANCE PAYMENTS<br>The tenderer's attention if drawn to the fact that the Government does not make any advance payments. | |
| D | EXISTING SERVICES<br><br>Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services. | |
| E | TENDER DOCUMENTS<br>Tender documents are as listed in Clause 6 of the Instruction to Tenderer's Page 9 | |
| F | DELIVERY OF TENDER<br>Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement.<br><br>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. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | MEASUREMENTS<br><br>In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER in accordance with Clause 12 of the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 12 of the said Conditions. | |
| B | VALUE ADDED TAX<br>The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993 which requires payment of VAT on all contracts.<br><br>In accordance with Government public notice No. 35 & 36 Dated 11th September 2003 operational from 1st October 2003, withholding VAT was to be levied against the contract sum by the Employer and remitted to the Commissioner of VAT through all interim certificates. | |
| C | THE CURRENT LAWS ON THIS SUBJECT SHALL APPLY<br>The contractor should include this tax in the RATES and NOT in the Grand Summary. | |
| D | PROJECT MANAGEMENT.<br><br>Allow a provisional Sum of Kenya Shillings Three Million and Five Hundred(KShs. 3,500,000) only for Project Management to be expended as directed by the PM<br><br>Allow a percentage sum for the contractors administrative costs, profits and all taxes for the above ( .....%) | 3,500,000.00 |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| | PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEEMENT | |
| | The following are the insertions to be made in the appendix to the contract Agreement:- | |
| A | Period of Final Measurement 3 Months from Practical Completion | |
| B | Defects Liability Period 6 Months from Practical Completion | |
| C | Date for Possession To be agreed with the Project Manager | |
| D | Date for Completion Sixteen 28 WEEKS from the Date of possession | |
| E | Liquidated and Ascertained Damages At a rate of 0.05% of the contract price per day | |
| F | Period of Interim Certificates Monthly | |
| G | Period of Honouring Certificates 30 Days | |
| H | Percentage of Certified Value Retained 10% | |
| I | Limit of Retention Fund 5% | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| | SUMMARY | |
| | Brought forward from page PP/1 | |
| | Brought forward from page PP/2 | |
| | Brought forward from page PP/3 | |
| | Brought forward from page PP/4 | |
| | Brought forward from page PP/5 | |
| | TOTAL CARRIED TO GRAND SUMMARY | |

# GENERAL PRELIMINARIES

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| | GENERAL PRELIMINARIES | |
| A. | PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES<br><br>Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification.<br><br>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.<br><br>Failure to price an item shall not exempt the contractor form carrying out works described therein.<br><br>Should the contractor fail to carry out works which he/she did not price and after having received a written instruction from the PM, then the value of such works shall be deducted from the very immediate certificate issued to the contractor.<br><br>MoPW current rates, manufacturers or fair rates shall be used by the PM in valuation of unpriced items which the contractor shall fail to execute.<br><br>The contractor is advised to read and understand all preliminary items.<br>The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained. | |
| B | FIRM PRICE CONTRACT<br>Unless otherwise specifically stated in the Contract Data and/or Particular preliminaries this is a firm price contract 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. | |
| C | VISIT SITE AND EXAMINE DRAWINGS.<br><br>The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries hereof. He shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from his failure to comply with this recommendation will be considered. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | BONDS.<br><br>The Contractor shall find and submit on the Form of Tender a guarantor and who will be willing to be bound the Government in the amount of the bond.<br><br>The amount of the bond is SPECIFIED IN THE PARTICULAR PRELIMINARIES<br><br>The guarantor shall be an approved institution as specified in the particular preliminaries or invitation to tender and who will when and if called upon, sign a Bond to that effect on the relevant standard form included herein. (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Government, the Contractor shall furnish within seven days another Surety to the approval of the Government. | |
| B | PERFORMANCE BOND<br>Perfomance Bond equaivalent to 5% of the contract sum will be required in accordance with clause 48 of the Instruction to Tenderers<br><br>The period for supplying the bond shall be within 21 days of the receipt of the letter of award from the Procuring Entity<br><br>No contract shall besigned, NOR shall any payment bemade before the bidder has complied with the bond requirements<br><br>Failure to deliver the bond within the specified period shall automatically disqualify the bidder and the tender shall be awarded to next most reponsive bidder without reference to the defaulting bidder.<br>Should the bidder commence works and subsequently fail to provide the bond, he shall be evicted from site without any reimbursement not withstanding the site having been handed over by the PM and client. The handing over only kickstarts the process and is not a waiver to bond conditions.<br><br>The bond for the due performances of the Contract shall be valid up to the date of completion as certified by the PROJECT MANAGER<br><br>Any bond which provides otherwise or attempts to vary the duration of validity shall be invalid<br><br>The bond shall comply in all respects with the PPRA copy enclosed in the instructions to tender. A bond that does not match the PPRA copy shall be treated as NO BOND<br><br>The contractor shall provide a bid security duly signed, sealed and stamped from an approved Bank of required amount in the particular preliminaries | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT | |
| | Attendance ; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted:- | |
| | Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary;providing space for office accommodation and for storage of plant and materials;providing light and water for their work: clearing away rubbish; unloading checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub-Contractors' work and being responsible for the accuracy of the same. | |
| | Fix Only:- | |
| | "Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only. | |
| B | ABBREVIATIONS | |
| | Throughout these Bills units of measurement and terms are abbreviated and shall be interpreted as follows:- | |
| | CM or Cm — Shall mean cubic meter | |
| | SM or Sm — Shall mean square meter | |
| | LM or Lm — Shall mean linear meter | |
| | MM or mm — Shall mean Millimeter | |
| | KG or Kg. — Shall mean Kilogramme | |
| | No or Nr — Shall mean Number | |
| | PRS or Prs. — Shall mean Pairs | |
| | B.S. — Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I England | |
| | M.S. — Shall mean measured separately | |
| | Ditto — shall mean the whole of the preceding description except as qualified in the description in which it occurs. | |
| | Do — shall mean the whole of the preceding description except as qualified in the description in which it occurs. | |
| | a.b. — Shall mean as before described | |
| | a.b.d. — Shall mean as before described | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | EMPLOYER<br><br>The "Employer" is<br>AS DEFINED UNDER PARTICULAR PRELIMINARIES<br><br>The term "Employer" and "Government" wherever used in the contract document shall be synonymous | |
| B | PROJECT MANAGER shall be -:<br>The term "P.M." wherever used in these Bills of Quantities shall be deemed to imply the Project Manager as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.<br><br>In this Project, the PM shall be -:<br>WORKS SECRETARY<br>M.O.L.P.W. H.&U.D (STATE DEPARTMENT FOR PUBLIC WORKS)<br>P.O. BOX 30743-00100<br>NAIROBI | |
| C | ARCHITECT<br><br>The term "Architect" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is as above | |
| D | QUANTITY SURVEYOR<br><br>The term "Quantity Surveyor" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is as above | |
| E | ELECTRICAL ENGINEER<br><br>The term "Electrical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is as above | |
| F | MECHANICAL ENGINEER<br><br>The term "Mechanical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is as above | |
| G | STRUCTURAL ENGINEER<br><br>The term "Structural Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is as above | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | PLANT, TOOLS AND VEHICLES<br><br>Allow for providing all scaffolding, plant, tools and vehicles required for the worksexcept 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. | |
| B | TRANSPORT.<br><br>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. | |
| C | MATERIALS AND WORKMANSHIP.<br>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 materialsto be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials. | |
| D | SIGN FOR MATERIALS SUPPLIED.<br>The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER | |
| E | STORAGE OF MATERIALS<br>The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | SAMPLES<br>The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER PROVIDED THEY PASS THE TEST. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works.<br><br>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.<br><br>Samples of paint, carpets, curtains & covers, tiles & timber shall be required for approval by the PM together with the employer.<br><br>No alternte rate shall be offered on account that the employer has chosen a superior finish unless the bidder had attached the sample he priced. | |
| B | PUBLIC AND PRIVATE ROADS.<br><br>Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the PROJECT MANAGER | |
| C | EXISTING PROPERTY.<br>The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER | |
| D | ACCESS TO SITE AND TEMPORARY ROADS.<br><br>Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | AREA TO BE OCCUPIED BY THE CONTRACTOR<br>The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER | |
| B | SECURITY OF WORKS ETC.<br>The Contractor shall be entirely responsible for the security of all the works stores,materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public. | |
| C | PROGRESS CHART.<br>The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds. | |
| D | INSURANCE<br>The Contractor shall insure as required in Conditions No. 18 of the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection. | |
| D | CONTRACTOR'S SUPERINTENDENCE/SITE AGENT<br>The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | PROVISIONAL WORK<br>All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall if the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense. | |
| B | PROVISIONAL SUMS.<br>The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement.Such sums are net and no addition shall be made to them for profit. | |
| C | ADJUSTMENT OF PROVISIONAL SUMS.<br>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 , but should any part of the work be executed by a Nominated Sub-Contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added. | |
| D | PRIME COST (OR P.C.) SUMS.<br>The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement . Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods are described herein as Nominated Sub-Contractors.Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers. | |
| | Total carried to summarys | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | ADJUSTMENT OF P.C. SUMS.<br>In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them. Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor. | |
| B | NOMINATED SUB-CONTRACTORS<br>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". | |
| C | DIRECT CONTRACTS<br>Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed. | |
| D | ATTENDANCE UPON OTHER TRADESMEN, ETC.<br>The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | OFFICE ETC. FOR THE PROJECT MANAGER<br>The Contractor shall provide, erect and maintain where directed on site and afterwards dismantle the site office of the type noted in the Particular Preliminaries, 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. | |
| B | WATER AND ELECTRICITY SUPPLY FOR THE WORKS<br>The Contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub--contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use. | |
| C | SANITATION OF THE WORKS<br>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 | |
| D | SUPERVISION AND WORKING HOURS<br>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. | |
| E | PROTECTION OF THE WORKS.<br>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. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | WORKS TO BE DELIVERED UP CLEAN<br><br>Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings,glass inside and outside and any other parts of the works and remove all marks,blemishes, stains and defects from joinery, fittings and decorated surfaces generally,polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER | |
| B | GENERAL SPECIFICATION.<br><br>For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities. | |
| C | TRAINING LEVY<br>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. | |
| D | MATERIALS ON SITE<br>All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers. | |
| E | HOARDING<br>The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centres with two 75 x 50 mm timber rails for a total length of approximately three hundred meters. 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. | |
| F | ALTERATIONS TO BILLS, PRICING, ETC.<br>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. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| A | MATERIALS ARISING FROM EXCAVATIONS<br>Materials of any kind obtained from the excavations shall be the property of the Government. Unless otherwise provided for in the particular preliminaries. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed. | |
| B | PREVENTION OF ACCIDENT, DAMAGE OR LOSS<br>The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. 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 Client. The Contractor shall allow in his rates any expense he deems necessary by taking such care within the site. | |
| C | GOVERNMENT ACTS REGARDING WORKPEOPLE ETC.<br>Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. In particular the Contractor's attention is drawn to the provisions of the Factory Act 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations,including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the 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.<br><br>No claim in respect of want of knowledge in this connection will be entertained. | |
| D | REMOVAL OF RUBBISH ETC.<br>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. | |
| C | BLASTING OPERATIONS<br>Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives. | |
| D | SIGNBOARD<br>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. | |
| | Total carried to summary | |

| ITEM | DESCRIPTION | AMOUNT (Kshs.) |
|---|---|---|
| | SUMMARY | |
| | Brought Forward From Page GP/1 | |
| | Brought Forward From Page GP/2 | |
| | Brought Forward From Page GP/3 | |
| | Brought Forward From Page GP/4 | |
| | Brought Forward From Page GP/5 | |
| | Brought Forward From Page GP/6 | |
| | Brought Forward From Page GP/7 | |
| | Brought Forward From Page GP/8 | |
| | Brought Forward From Page GP/9 | |
| | Brought Forward From Page GP/10 | |
| | Brought Forward From Page GP/11 | |
| | Brought Forward From Page GP/12 | |
| | TOTAL CARRIED TO GRAND SUMMARY | |

# AGGREGATION WAREHOUSES & COLD STORAGES

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES (ALL PROVISIONAL) | | | | |
| | Site Clearance | | | | |
| A | Clear site of all shrubs, bushes and small trees and grub up roots, cart away to spoil heaps away from site | 4,155 | SM | | |
| | Bulk Excavation | | | | |
| B | Bulk soil excavation to levels not exceeding 1.50m deep starting from ground level | 6,233 | CM | | |
| C | Excavate for strip footings depth not exceeding 1.5m from black cotton excavation level | 102 | CM | | |
| D | Excavate for column and column bases depth not exceeding 1.5m from black cotton excavation level | 220 | CM | | |
| E | Extra over excavation in rock | 655 | CM | | |
| F | Remove and cart away surplus excavated materials. | 6,555 | CM | | |
| | Diposal of water | | | | |
| G | Keeping all excavations free from all water including spring or running water | | ITEM | | |
| | Planking and strutting | | | | |
| H | Uphold the sides of all excavations | | ITEM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Selected imported material | | | | |
| A | Filling in making up levels around foundation, spread levelled, well rammed and consolidated in 150mm layers. | 6,233 | CM | | |
| | Hardcore filling | | | | |
| B | Hardcore fillings in making up levels: levelled and compacted in 150 mm layers | 1,216 | CM | | |
| C | 50mm (average) thick quarry dust blinding to surfaces of hardcore | 4,052 | SM | | |
| | Antitermite treatment | | | | |
| D | Premise 200 CC' or other equal and approved anti-termite insecticide treatment with ten years guarantee, applied strictly in accordance with manufacturer's instructions, to tops of fill and foundation walls | 4,052 | SM | | |
| | 50mm thick mass concrete class Q(1:3:6) in:- | | | | |
| E | Column bases | 440 | SM | | |
| F | Strip foundation | 408 | SM | | |
| | Reinforced concrete; class 30 | | | | |
| G | Column bases | 220 | CM | | |
| H | Strip foundations | 82 | CM | | |
| I | Foundation columns | 41 | CM | | |
| J | Ground Beam | 27 | CM | | |
| K | 150mm thick ground slab | 4,052 | SM | | |
| L | 150mm thick Ramp | 208 | SM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Reinforcement<br>Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| A | Assorted daimeters | 61,046 | KG | | |
| | Sawn formwork to insitu concrete as described to :- | | | | |
| B | Sides; vertical or battering of foundation columns | 328 | SM | | |
| C | Sides; vertical or battering of columns bases | 400 | SM | | |
| D | Sides; vertical or battering of strip | 272 | SM | | |
| D | Sides; vertical or battering of ground beam | 272 | SM | | |
| D | Edges of ground floor slab; 150 to 225 mm wide | 411 | LM | | |
| | Insitu Finishings | | | | |
| E | 14mm thick 2No. coatwork cement sand(1:3) render; wood floated to concrete or blockwork base to walls; external | 411 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| F | Wood floated rendered plinths over 300mm girth | 411 | SM | | |
| | Masonry | | | | |
| | 200mm thick approved natural stone; local; roughly squared to foundation walling; bedding and jointing in cement sand (1:3) mortar including reinforcing with hoop iron ties every alternate course. | | | | |
| I | 200mm thick walling | 1,020 | SM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | BRC Fabric mesh reinforcement Ref. A252 with 200 mm laps or D8@ 100mm @ 100mm crossway (measured net ; no allowances made for laps) to basement floor bed | 4052 | SM | | |
| | <u>Expansion joint filler</u> | | | | |
| B | Flexcell expansion joint filler 50x150mm deep | 310 | LM | | |
| | <u>Expansion joint</u> | | | | |
| C | 50x25 mm approved mastic expansion joint sealer | 310 | LM | | |
| | Carried to Collection | | | | |
| | <u>COLLECTION</u><br>From page 3/1<br>From page 3/2<br>From page 3/3<br>From page above | | | | |
| | TOTAL FOR SUBSTRUCTURES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 2 | | | | |
| | REINFORCED CONCRETE FRAMING AND STEEL WORKS | | | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| A | 150mm thick suspended slab | 500 | SM | | |
| B | Beams | 82 | CM | | |
| C | Columns | 7 | CM | | |
| D | Stairs | 12 | CM | | |
| | Reinforcement | | | | |
| | Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| E | Assorted ribbed bars | 26,314 | KG | | |
| | Sawn formwork to insitu concrete as describedto :- | | | | |
| F | Soffits of suspended slab | 500 | SM | | |
| G | To sides and soffits of beams. | 1,768 | SM | | |
| H | Vertical sides of columns | 33 | SM | | |
| I | Edges of slab<br>-150 to 225mm high | 200 | LM | | |
| J | Slopping soffits of stairs | 43 | SM | | |
| J | Risers<br>-150 to 225mm high | 96 | LM | | |
| K | Edges of stairs<br>-150 to 225mm high | 48 | LM | | |
| | Total carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Supply, deliver to site and erect mild steel frame steelwork to BS 449 with and including welds and bolting connections. Rates to include for all materials,labour ,stiffeners,welding or bolts , wastage and cutting,drilling all gusset plates fastenings and connections and all other items necessary for satisfactory incorporation into works including wire brushing surfaces free from rust,steel to be painted with one coat an epoxy primer containing zinc chromate followed by two coats of masterseal SP 120 before fabrication and one other coat after fabrication<br><br>All structural steelworks in roofing shall be in accordance with ASTM A500 KS02-104 Grade 250,all welding in accordance with BS5135 and bolts and nuts,grade 4.6 to BS4360.All steelwork shall be primed withn red oxide before delivery to site.<br><br>Columns and posts , size | | | | |
| A | - 356 x 171 x 57kg/m UB | 46,683 | KG | | |
| | Beams , size | | | | |
| C | - 203 x 133 x 25kg/m UB | 6,288 | KG | | |
| | Carried to collection | | | | |
| | Brought forward from page WH/5 | | | | |
| | Brough down from above | | | | |
| | TOTAL FOR RC FRAME CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 3 | | | | |
| | WALLING | | | | |
| | Hessian based bituminous felt damp proof course laid on cement and sand (1:4) mortar under:- | | | | |
| A | 200mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar | 411 | LM | | |
| B | Ditto 100mm wide | 264 | LM | | |
| | Precast concrete grade 20(12mm aggregate) including formwork, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in cement and sand (1:3) mortar | | | | |
| C | 200 x 200 mm Lintel reinforced with and including two 12mm diameter mild steel rods hooked at ends (in 38No.) | 72 | LM | | |
| | EXTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| D | Walls 200 mm thick | 2,295 | SM | | |
| | INTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| F | Walls 200 mm thick | 2,499 | SM | | |
| G | Walls 100 mm thick | 70 | SM | | |
| | TOTAL FOR WALLING CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 4<br>DOORS | | | | |
| | Pannelled doors as B.S 459 part 2 | | | | |
| | 50mm thick mahogany pannelled single door in , comprising 150 x 50mm top and bottom rails infilled with 50mm thick solid moulded 1no. timber panels per leaf with moulded beading around panels; edges bevelled and grooved into 100x50mm frames; all framed, clamped and grooved together to Architects details | | | | |
| A | Door overall size 900 x 2400mm | 16 | NO. | | |
| | 45mm thick semi-solid core flush doors with scratch proof laminate (BEECH VENEER) and matching 12.5mm thick hardwood lipping on three sides and post-formed edge on door lock side to Architect's approval | | | | |
| B | Single leaf door size 900 x 2400mm high | 60 | No. | | |
| | Metal casement powdder coated steel door in 50x45mm RHS bottom, middle and top rails and stiles infilled with steel panels welded to door and framed, including cutting and pinning lugs to concrete or concrete blockwork surround and bedding frame in cement and sand mortar | | | | |
| C | Door overall size 900 x 2400mm | 4 | NO. | | |
| | Medium gauge galvanized steel roller shutter door complete with framing rollong mechanism,iron mongery,finishing fixed to concrete jambsto | | | | |
| D | Door overall size 5000 x 3000mm | 8 | NO. | | |
| | Wrot Hardwood framed frames and framings | | | | |
| E | 150 x 50 mm; 2 No. labours; plugged door frame | 479 | LM | | |
| F | 40 x 35 mm moulded architrave | 479 | LM | | |
| G | 25 x 25mm moulded quadrants | 479 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Iron mongery | | | | |
| | Supply and fix the following to UNION catalogue or other equal and approved | | | | |
| | *To softwood, hardwood or the like fixing with screws* | | | | |
| A | Three lever mortice lock complete with set lever aluminium handle furniture of high quality and as suuplied by Assa abloy or equivalent | 76 | NO. | | |
| B | 100x76x3mm Stainless steel hinges | 114 | PRS | | |
| C | Indicator vacant/engaged bolts | 44 | NO. | | |
| | *To concrete or blockwork; fixing with bolts; plugging* | | | | |
| D | Rubber door stop complete with 38 mm rawl bolt | 80 | NO. | | |
| | Painting and Decorations | | | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| E | Backs of frame, board, etc over 100mm but not exceeding 200mm girth | 479 | LM | | |
| | Knot, prime and stop; prepare and apply three coats polyurethane clear varnish on woodwork | | | | |
| F | General surfaces of timber doors over 300mm girth; external | 328 | SM | | |
| G | Frames; over 200mm but not exceeding 300mm girth; in | 479 | LM | | |
| H | Frames; not exceeding 100mm girth, | 958 | LM | | |
| | On Metal work | | | | |
| | Prepare and apply three coats of premium qualitity super gloss oil paint as approved to: - | | | | |
| I | General door surfaces | 258 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION<br>From page 3/8<br>From page 3/9 | | | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar | | | | |
| A | 150 x 25mm thick clay window sill | 361 | LM | | |
| | PURPOSE - MADE UNITS | | | | |
| | Supply, assemble and fix the following purpose-made mild steel casement windows; standard metal section from approved manufacturer complete with frames, transomes, mullions and with and including permanent ventilators comprising "T" bar, gauze and 16 gauge sheet metal hood 50mm high x 50mm projection to full width of window, coupling mullions, approved ironmongery and one coat manufacturer's primer; all welding ground to smooth finish. | | | | |
| | *Steel; for glazing with putty, lugs to two jambs, cutting and pinning to concrete or blockwork, fixing to head and sill with screws; plugging* | | | | |
| B | Window, overall size 5000 X 1500mm high | 40 | NO | | |
| C | Window, overall size 4500 X 1500mm high | 16 | NO | | |
| D | Window, overall size 4500 X 900mm high | 8 | NO | | |
| E | Window, overall size 2400 X 1500mm high | 4 | NO | | |
| F | Window, overall size 2100 X 900mm high | 8 | NO | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Glazing | | | | |
| A | 4mm Thick clear sheet glass panes over 0.5 but not exceeding 1.0 square meters; fixing with putty | 470 | SM | | |
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| | Prepare and apply three coats of premium qualitity super gloss oil paint as approved to: - | | | | |
| B | General window surfaces; over 300mm girth internal | 470 | SM | | |
| D | General window surfaces; over 300mm girth external | 470 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION | | | | |
| | From page 3/10 | | | | |
| | From page 3/11 | | | | |
| | TOTAL FOR WINDOWS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| | Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand (1:3) mortar; one coat of bituminous paint. | | | | |
| A | Walls, beams and columns; external | 2217 | SM | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base generally to: - | | | | |
| B | Beams-External | 78 | SM | | |
| C | Walling internal | 4469 | SM | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved 300x300mm ceramic tiles to B.S. 1281; local; glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| D | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to walls internal | 670 | SM | | |
| E | Plastic edging | 320 | LM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| F | 14mm thick one coat backings; wood floated to receive ceramic tiles (m/s) to concrete or blockwork base; to walls internal | 670 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Painting & Decoration | | | | |
| | Prepare and apply three coats of premium quality weather guard paint as approved to:- | | | | |
| A | Walls; external beam | 78 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl emulsion paint as approved to:- | | | | |
| B | Walls; internal | 4,469 | SM | | |
| | Floor finishes | | | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved 400x400mm non slip ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| C | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to floor | 800 | SM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| D | 40mm thick backings; wood floated to receive ceramic tiles (m/s) ; to floor | 800 | SM | | |
| E | Skirtings;100mm High with round with coved junction with floor finish | 922 | LM | | |
| F | Terrazo finish of 20mm thickness to floor | 1350 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Power float floor finish to concrete floor finish | | | | |
| | 50mm thick class 25 concrete top later laid to falls to warehouse to Engineers details with power float finish to Architects detail and satisfaction | | | | |
| A | Oil and dusted proofed power floated hardened screed finish laid in bays not exceeding 10 square metre including black plastic approved durable dividing strips | 2274 | SM | | |
| | Ceiling finishes | | | | |
| | Render; 18mm thick, 1 No. coatwork of cement and sand (1:3); wood floated to concrete or blockwork base generally to: - | | | | |
| B | Slab soffits | 500 | SM | | |
| | Prepare and apply three coats of premium quality matt emulsion paint as approved to:- | | | | |
| C | Slab soffits | 500 | SM | | |
| D | Acoustic ceiling | | | | |
| | Hunter-douglas suspended alluminium ceiling comprising V-carries, panels suspension hangers,flush jointing and trap doors in matt finish | 300 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION | | | | |
| | From page 3/13 | | | | |
| | From page 3/14 | | | | |
| | From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 7 | | | | |
| | FITTINGS | | | | |
| | Vibrated reinforced concrete class 25 | | | | |
| A | Worktop, thickness<br>- 75 mm | 10 | SM | | |
| | Plain concrete | | | | |
| B | Plinth, thickness<br>- 100 mm | 10 | SM | | |
| | Steel mesh fabric reinforcement to B.S 4483 | | | | |
| C | Layer of mesh fabric reinforcement laid in slab or bed (measured nett - no allowance made for laps) Ref. A142 w | 10 | SM | | |
| | Formwork | | | | |
| D | Soffits of worktops | 10 | SM | | |
| E | Edges of worktop & plinths<br>- not exeeding 75 mm high | 64 | LM | | |
| | Lime plaster | | | | |
| F | Plaster to soffits of worktop | 10 | SM | | |
| | Prepare and apply three coats matt emulsion paint according to manufacturer's instructions on, | | | | |
| G | Plastered soffits | 10 | SM | | |
| | Sundries | | | | |
| H | Chase in walling for edge of slab, size<br>- 75 x 50 mm | 32 | LM | | |
| | Tile tops | | | | |
| I | - 20 mm | 10 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | Fascia, width and thickness<br>- 100 x 20 mm | 32 | LM | | |
| | Joinery fittings<br><br>Joinery fittings made of hardwood framing and good quality 18mm thick MDF as supplied by PG BYSON to form sides, divisions, shelving and doors. Fittings complete with all necessry ironmongery and finishing to | | | | |
| B | Low level kitchen cabinets, overal size<br>- 2300 x 800 x 1000mm | 1 | No. | | |
| | Carried to collection | | | | |
| | COLLECTION<br><br>From page 3/16<br><br>From above | | | | |
| | TOTAL FOR FITTINGS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 8<br><br>BALUSTRADING & RAILINGS<br><br>Balustrading and railings comprising of mildsteel rhs handrail size 75x50mm fixed to 50x50mm balusters at 1000mm spacing, balusters bolted to concrete plinths or beds and 25mm mid-rails fixed to balusters at 200mm, overal height | | | | |
| A | - 900mm | 192 | LM | | |
| | TOTAL FOR BALUSTRADING & RAILINGS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 10 | | | | |
| | STRUCTURAL STEELWORK & ROOFING | | | | |
| | Supply, deliver to site and erect mild steel frame steelwork to BS 449 with and including welds and bolting connections. Rates to include for all materials,labour ,stiffeners,welding or bolts , wastage and cutting,drilling all gusset plates fastenings and connections and all other items necessary for satisfactory incorporation into works including wire brushing surfaces free from rust,steel to be painted with one coat an epoxy primer containing zinc chromate followed by two coats of masterseal SP 120 before fabrication and one other coat after fabrication | | | | |
| | All structural steelworks in roofing shall be in accordance with ASTM A500 KS02-104 Grade 250,all welding in accordance with BS5135 and bolts and nuts,grade 4.6 to BS4360.All steelwork shall be primed withn red oxide before delivery to site. | | | | |
| | Rafters, size | | | | |
| E | - 356 x 171 x 45kg/m UB | 40,998 | KG | | |
| | Z PURLIN | | | | |
| F | - 150 x 50 x 2x4.7kg/m | 13,239 | KG | | |
| | Braces, size | | | | |
| G | - 50 x 50 x 3x4.43kg/m SHS | 4,396 | KG | | |
| H | 16mm diameter antisag rods | 880 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Mild steel plates and bolts | | | | |
| A | Triangular apex haunch 5000mm long, size - 457 x 191 x 67.1kg/m UB | 44 | No. | | |
| B | Triangular knee haunch 5000mm long, size - 457 x 191 x 67.1kg/m UB | 88 | No. | | |
| | Base Plate, size | | | | |
| C | - 400x400x20mm plate bolted to reinforced concrete colums | 91 | No. | | |
| D | - 170x850x15mm ms plate;bolted on rafters and apex haunches | 44 | No. | | |
| E | - 170x850x15mm ms plate welded to columns; bolted to rafters | 88 | No. | | |
| F | - 80x191x15mm ms stifenner plates welded to the flange and web of the column | 55 | No. | | |
| G | - 252x160x15mm ms plate welded to columns | 55 | No. | | |
| H | - 75x75x6 mm purlin connnection ms plate | 470 | No. | | |
| I | - 75x75x4mm ms plate at purlin rafters connection | 616 | No. | | |
| J | - 220x60x3 mm ms fish plate at purlin rafters connection | 616 | No. | | |
| | Bolts,nuts and washers | | | | |
| K | 25 mm Diameter holding down RAG bolts with nut and washer fixed to reinforced concrere columns, lenghth - 400 mm | 546 | No. | | |
| L | 20 mm Diameter bolts with nut and washer fixed to rafters and apex haunches, lenghth - 150 mm | 528 | No. | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | 20mm Diameter bolts with nut and washer fixed to rafters and knee haunches, lenghth<br>- 150 mm | 1,056 | No. | | |
| B | 16 mm Diameter bolts with nut and washer fixed to columns and beams<br>- 150 mm | 440 | No. | | |
| C | 12 mm Diameter bolts with nut and washer fixed for purlin connection<br>- 150 mm | 940 | No. | | |
| D | 12 mm Diameter bolts with nut and washer at purlin rafters connection<br>- 150 mm | 2,464 | No. | | |
| E | 2mm thick galvanised gutter overall girth,<br>- 762mm | 252 | LM | | |
| F | Roof covering in 28G galvanised iron sheets; 150mm laps both sides ; and fixing to C purlins (m.s.) on steel trusses (m.s.) with zinc nails at 5000mmc/c all laid to fall | 4170 | SM | | |
| G | Av. 300mm dia ridge sheet 24 G with stiffeners | 256 | LM | | |
| | RAINWATER DISPOSAL | | | | |
| H | 24g Galvanised mild steel sheeting; all welds ground smooth<br>150 x 100mm box gutter including soldered joints in the running length fixed to fascia board with and including brackets at approved centers | 256 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | Extra; for 900 corners. | 22 | No | | |
| B | Extra; 100mm dia.outlet 100mm long | 22 | No | | |
| C | 100mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed to wall | 132 | LM | | |
| D | Extra; swanneck bend with 1135mm projection | 22 | No | | |
| E | Extra; horse shoe bend | 22 | No | | |
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| H | General surfaces; over 300mm girth external | 228 | SM | | |
| I | Small pipes | 132 | LM | | |
| | Carried to Collection | | | | |
| | COLLECTION<br>From page 3/20<br>From page 3/21<br>From page 3/22<br>From above | | | | |
| | TOTAL FOR STRUCTURAL STEELWORK CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | NO. OF UNITS | AMOUNT KSh |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | 3/4 | 1 | |
| 2 | R.C FRAME | | 3/5 | 1 | |
| 3 | WALLING | | 3/6 | 1 | |
| 4 | DOORS | | 3/9 | 1 | |
| 5 | WINDOWS | | 3/12 | 1 | |
| 6 | FINISHES | | 3/15 | 1 | |
| 7 | FITTINGS | | 3/17 | 1 | |
| 8 | BALUSTRADING & RAILINGS | | 3/18 | 1 | |
| 9 | STRUCTURAL STEELWORK & ROOFING | | 3/21 | 1 | |
| | TOTAL BUILDER'S WORK FOR WAREHOUSES | | | | |

# VALUE ADDITION WAREHOUSES

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES (ALL PROVISIONAL) | | | | |
| | Site Clearance | | | | |
| A | Clear site of all shrubs, bushes and small trees and grub up roots, cart away to spoil heaps away from site | 4,155 | SM | | |
| | Bulk Excavation | | | | |
| B | Bulk soil excavation to levels not exceeding 1.50m deep starting from ground level | 6,233 | CM | | |
| C | Excavate for strip footings depth not exceeding 1.5m from black cotton excavation level | 102 | CM | | |
| D | Excavate for column and column bases depth not exceeding 1.5m from black cotton excavation level | 220 | CM | | |
| E | Extra over excavation in rock | 655 | CM | | |
| F | Remove and cart away surplus excavated materials. | 6,555 | CM | | |
| | Diposal of water | | | | |
| G | Keeping all excavations free from all water including spring or running water | | ITEM | | |
| | Planking and strutting | | | | |
| H | Uphold the sides of all excavations | | ITEM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Selected imported material | | | | |
| A | Filling in making up levels around foundation, spread levelled, well rammed and consolidated in 150mm layers. | 6,233 | CM | | |
| | Hardcore filling | | | | |
| B | Hardcore fillings in making up levels: levelled and compacted in 150 mm layers | 1,216 | CM | | |
| C | 50mm (average) thick quarry dust blinding to surfaces of hardcore | 4,052 | SM | | |
| | Antitermite treatment | | | | |
| D | Premise 200 CC' or other equal and approved anti-termite insecticide treatment with ten years guarantee, applied strictly in accordance with manufacturer's instructions, to tops of fill and foundation walls | 4,052 | SM | | |
| | 50mm thick mass concrete class Q(1:3:6) in:- | | | | |
| E | Column bases | 440 | SM | | |
| F | Strip foundation | 408 | SM | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| G | Column bases | 220 | CM | | |
| H | Strip foundations | 82 | CM | | |
| I | Foundation columns | 41 | CM | | |
| J | Ground Beam | 27 | CM | | |
| K | 150mm thick ground slab | 4,052 | SM | | |
| L | 150mm thick Ramp | 208 | SM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Reinforcement<br>Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| A | Assorted daimeters | 61,046 | KG | | |
| | Sawn formwork to insitu concrete as described to :- | | | | |
| B | Sides; vertical or battering of foundation columns | 328 | SM | | |
| C | Sides; vertical or battering of columns bases | 400 | SM | | |
| D | Sides; vertical or battering of strip | 272 | SM | | |
| D | Sides; vertical or battering of ground beam | 272 | SM | | |
| D | Edges of ground floor slab; 150 to 225 mm wide | 411 | LM | | |
| | Insitu Finishings | | | | |
| E | 14mm thick 2No. coatwork cement sand(1:3) render; wood floated to concrete or blockwork base to walls; external | 411 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| F | Wood floated rendered plinths over 300mm girth | 411 | SM | | |
| | Masonry | | | | |
| | 200mm thick approved natural stone; local; roughly squared to foundation walling; bedding and jointing in cement sand (1:3) mortar including reinforcing with hoop iron ties every alternate course. | | | | |
| I | 200mm thick walling | 1,020 | SM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 4052 | SM | | |
| | <u>Expansion joint filler</u> | | | | |
| B | Flexcell expansion joint filler 50x150mm deep | 310 | LM | | |
| | <u>Expansion joint</u> | | | | |
| C | 50x25 mm approved mastic expansion joint sealer | 310 | LM | | |
| | Carried to Collection | | | | |
| | <u>COLLECTION</u><br>From page 4/1<br>From page 4/2<br>From page 4/3<br>From page above | | | | |
| | TOTAL FOR SUBSTRUCTURES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 2<br><br>REINFORCED CONCRETE FRAMING AND STEEL WORKS | | | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| A | 150mm thick suspended slab | 500 | SM | | |
| B | Beams | 82 | CM | | |
| C | Columns | 7 | CM | | |
| D | Stairs | 12 | CM | | |
| | Reinforcement | | | | |
| | Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| E | Assorted ribbed bars | 26,314 | KG | | |
| | Sawn formwork to insitu concrete as describedto :- | | | | |
| F | Soffits of suspended slab | 500 | SM | | |
| G | To sides and soffits of beams. | 1,768 | SM | | |
| H | Vertical sides of columns | 33 | SM | | |
| I | Edges of slab<br>-150 to 225mm high | 200 | LM | | |
| J | Slopping soffits of stairs | 43 | SM | | |
| J | Risers<br>-150 to 225mm high | 96 | LM | | |
| K | Edges of stairs<br>-150 to 225mm high | 48 | LM | | |
| | Total carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Supply, deliver to site and erect mild steel frame steelwork to BS 449 with and including welds and bolting connections. Rates to include for all materials,labour ,stiffeners,welding or bolts , wastage and cutting,drilling all gusset plates fastenings and connections and all other items necessary for satisfactory incorporation into works | | | | |
| | including wire brushing surfaces free from rust,steel to be painted with one coat an epoxy primer containing zinc chromate followed by two coats of masterseal SP 120 before fabrication and one other coat after fabrication<br><br>All structural steelworks in roofing shall be in accordance with ASTM A500 KS02-104 Grade 250,all welding in accordance with BS5135 and bolts and nuts,grade 4.6 to BS4360.All steelwork shall be primed withn red oxide before delivery to | | | | |
| | site.<br><br>Columns and posts , size | | | | |
| A | - 356 x 171 x 57kg/m UB | 46,683 | KG | | |
| | Beams , size | | | | |
| C | - 203 x 133 x 25kg/m UB | 6,288 | KG | | |
| | Carried to collection | | | | |
| | Brought forward from page 4/5 | | | | |
| | Brough down from above | | | | |
| | TOTAL FOR RC FRAME CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 3 | | | | |
| | WALLING | | | | |
| | Hessian based bituminous felt damp proof course laid on cement and sand (1:4) mortar under:- | | | | |
| A | 200mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) | 411 | LM | | |
| B | Ditto 100mm wide | 264 | LM | | |
| | Precast concrete grade 20(12mm aggregate) including formwork, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in cement and sand (1:3) mortar | | | | |
| C | 200 x 200 mm Lintel reinforced with and including two 12mm diameter mild steel rods hooked at ends (in 38No.) | 72 | LM | | |
| | EXTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| D | Walls 200 mm thick | 2,295 | SM | | |
| | INTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| F | Walls 200 mm thick | 2,499 | SM | | |
| G | Walls 100 mm thick | 70 | SM | | |
| | TOTAL FOR WALLING CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 4<br>DOORS | | | | |
| | Pannelled doors as B.S 459 part 2 | | | | |
| | 50mm thick mahogany pannelled single door in , comprising 150 x 50mm top and bottom rails infilled with 50mm thick solid moulded 1no. timber panels per leaf with moulded beading around panels; edges bevelled and grooved into 100x50mm frames; all framed, clamped and grooved together to Architects details | | | | |
| A | Door overall size 900 x 2400mm | 16 | NO. | | |
| | 45mm thick semi-solid core flush doors with scratch proof laminate (BEECH VENEER) and matching 12.5mm thick hardwood lipping on three sides and post-formed edge on door lock side to Architect's approval | | | | |
| B | Single leaf door size 900 x 2400mm high | 60 | No. | | |
| | Metal casement powdder coated steel door in 50x45mm RHS bottom, middle and top rails and stiles infilled with steel panels welded to door and framed, including cutting and pinning lugs to concrete or concrete blockwork surround and bedding frame in cement and sand mortar | | | | |
| C | Door overall size 900 x 2400mm | 4 | NO. | | |
| | Medium gauge galvanized steel roller shutter door complete with framing rollong mechanism,iron mongery,finishing fixed to concrete jambsto specifications | | | | |
| D | Door overall size 5000 x 3000mm | 8 | NO. | | |
| | Wrot Hardwood framed frames and framings | | | | |
| E | 150 x 50 mm; 2 No. labours; plugged door frame | 479 | LM | | |
| F | 40 x 35 mm moulded architrave | 479 | LM | | |
| G | 25 x 25mm moulded quadrants | 479 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Iron mongery | | | | |
| | Supply and fix the following to UNION catalogue or other equal and approved | | | | |
| | *To softwood, hardwood or the like fixing with screws* | | | | |
| A | Three lever mortice lock complete with set lever aluminium handle furniture of high quality and as suuplied by Assa abloy or equivalent | 76 | NO. | | |
| B | 100x76x3mm Stainless steel hinges | 114 | PRS | | |
| C | Indicator vacant/engaged bolts | 44 | NO. | | |
| | *To concrete or blockwork; fixing with bolts; plugging* | | | | |
| D | Rubber door stop complete with 38 mm rawl bolt | 80 | NO. | | |
| | Painting and Decorations | | | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| E | Backs of frame, board, etc over 100mm but not exceeding 200mm girth | 479 | LM | | |
| | Knot, prime and stop; prepare and apply three coats polyurethane clear varnish on woodwork | | | | |
| F | General surfaces of timber doors over 300mm girth; external | 328 | SM | | |
| G | Frames; over 200mm but not exceeding 300mm girt | 479 | LM | | |
| H | Frames; not exceeding 100mm girth, | 958 | LM | | |
| | On Metal work | | | | |
| | Prepare and apply three coats of premium qualitity super gloss oil paint as approved to: - | | | | |
| I | General door surfaces | 258 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION<br>From page 3/7<br>From page 3/8 | | | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar | | | | |
| A | 150 x 25mm thick clay window sill | 361 | LM | | |
| | PURPOSE - MADE UNITS | | | | |
| | Supply, assemble and fix the following purpose-made mild steel casement windows; standard metal section from approved manufacturer complete with frames, transomes, mullions and with and including permanent ventilators comprising "T" bar, gauze and 16 gauge sheet metal hood 50mm high x 50mm projection to full width of window, coupling mullions, approved ironmongery and one coat manufacturer's primer; all welding ground to smooth finish. | | | | |
| | *Steel; for glazing with putty, lugs to two jambs, cutting and pinning to concrete or blockwork, fixing to head and sill with screws; plugging* | | | | |
| B | Window, overall size 5000 X 1500mm high | 40 | NO | | |
| C | Window, overall size 4500 X 1500mm high | 16 | NO | | |
| D | Window, overall size 4500 X 900mm high | 8 | NO | | |
| E | Window, overall size 2400 X 1500mm high | 4 | NO | | |
| F | Window, overall size 2100 X 900mm high | 8 | NO | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Glazing | | | | |
| A | 4mm Thick clear sheet glass panes over 0.5 but not exceeding 1.0 square meters; fixing with putty | 470 | SM | | |
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| | Prepare and apply three coats of premium qualitity super gloss oil paint as approved to: - | | | | |
| B | General window surfaces; over 300mm girth internal | 470 | SM | | |
| D | General window surfaces; over 300mm girth external | 470 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION<br>From page 4/10<br>From page 4/11 | | | | |
| | TOTAL FOR WINDOWS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| | Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand (1:3) mortar; one coat of bituminous paint. | | | | |
| A | Walls, beams and columns; external | 2217 | SM | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base generally to: - | | | | |
| B | Beams-External | 78 | SM | | |
| C | Walling internal | 4469 | SM | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved 300x300mm ceramic tiles to B.S. 1281; local; glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| D | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to walls internal | 670 | SM | | |
| E | Plastic edging | 320 | LM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| F | 14mm thick one coat backings; wood floated to receive ceramic tiles (m/s) to concrete or blockwork base; to walls internal | 670 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Painting & Decoration | | | | |
| | Prepare and apply three coats of premium quality weather guard paint as approved to:- | | | | |
| A | Walls; external beam | 78 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl emulsion paint as approved to:- | | | | |
| B | Walls; internal | 4,469 | SM | | |
| | Floor finishes | | | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved 400x400mm non slip ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| C | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to floor | 800 | SM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| D | 40mm thick backings; wood floated to receive ceramic tiles (m/s) ; to floor | 800 | SM | | |
| E | Skirtings;100mm High with round with coved junction with floor finish | 922 | LM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Power float floor finish to concrete floor finish | | | | |
| | 50mm thick class 25 concrete top later laid to falls to warehouse to Engineers details with power float finish to Architects detail and satisfaction | | | | |
| A | Oil and dusted proofed power floated hardened screed finish laid in bays not exceeding 10 square metre including black plastic approved durable dividing strips | 3624 | SM | | |
| | Ceiling finishes | | | | |
| | Render; 18mm thick, 1 No. coatwork of cement and sand (1:3); wood floated to concrete or blockwork base generally to: - | | | | |
| B | Slab soffits | 500 | SM | | |
| | Prepare and apply three coats of premium quality matt emulsion paint as approved to:- | | | | |
| C | Slab soffits | 500 | SM | | |
| D | Acoustic ceiling | | | | |
| | Hunter-douglas suspended alluminium ceiling comprising V-carries, panels suspension hangers,flush jointing and trap doors in matt finish | 300 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION | | | | |
| | From page 4/12 | | | | |
| | From page 4/13 | | | | |
| | From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 7 | | | | |
| | FITTINGS | | | | |
| | Vibrated reinforced concrete class 25 | | | | |
| A | Worktop, thickness<br>- 75 mm | 10 | SM | | |
| | Plain concrete | | | | |
| B | Plinth, thickness<br>- 100 mm | 10 | SM | | |
| | Steel mesh fabric reinforcement to B.S 4483 | | | | |
| C | Layer of mesh fabric reinforcement laid in slab or bed (measured nett - no allowance made for laps) Ref. A142 w | 10 | SM | | |
| | Formwork | | | | |
| D | Soffits of worktops | 10 | SM | | |
| E | Edges of worktop & plinths<br>- not exeeding 75 mm high | 64 | LM | | |
| | Lime plaster | | | | |
| F | Plaster to soffits of worktop | 10 | SM | | |
| | Prepare and apply three coats matt emulsion paint according to manufacturer's instructions on, | | | | |
| G | Plastered soffits | 10 | SM | | |
| | Sundries | | | | |
| H | Chase in walling for edge of slab, size<br>- 75 x 50 mm | 32 | LM | | |
| | Tile tops | | | | |
| I | - 20 mm | 10 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | Fascia, width and thickness<br>- 100 x 20 mm | 32 | LM | | |
| | Joinery fittings | | | | |
| | Joinery fittings made of hardwood framing and good quality 18mm thick MDF as supplied by PG BYSON to form sides, divisions, shelving and doors. Fittings complete with all necessry ironmongery | | | | |
| B | Low level kitchen cabinets, overal size<br>- 2300 x 800 x 1000mm | 1 | No. | | |
| | Carried to collection | | | | |
| | COLLECTION<br><br>From page 4/15<br><br>From above | | | | |
| | TOTAL FOR FITTINGS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 8<br><br>BALUSTRADING & RAILINGS<br><br>Balustrading and railings comprising of mildsteel rhs handrail size 75x50mm fixed to 50x50mm balusters at 1000mm spacing, balusters bolted to concrete plinths or beds and 25mm mid-rails fixed to balusters at 200mm, overal height | | | | |
| A | - 900mm | 192 | LM | | |
| | TOTAL FOR BALUSTRADING & RAILINGS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 10 | | | | |
| | STRUCTURAL STEELWORK & ROOFING | | | | |
| | Supply, deliver to site and erect mild steel frame steelwork to BS 449 with and including welds and bolting connections. Rates to include for all materials,labour ,stiffeners,welding or bolts , wastage and cutting,drilling all gusset plates fastenings and connections and all other items necessary for satisfactory incorporation into works including wire brushing surfaces free from rust,steel to be painted with one coat an epoxy primer containing zinc chromate followed by two coats of masterseal SP 120 before fabrication and one other coat after fabrication | | | | |
| | All structural steelworks in roofing shall be in accordance with ASTM A500 KS02-104 Grade 250,all welding in accordance with BS5135 and bolts and nuts,grade 4.6 to BS4360.All steelwork shall be primed withn red oxide before delivery to site. | | | | |
| | Rafters, size | | | | |
| A | - 356 x 171 x 45kg/m UB | 40,998 | KG | | |
| | Z PURLIN | | | | |
| B | - 150 x 50 x 2x4.7kg/m | 13,239 | KG | | |
| | Braces, size | | | | |
| C | - 50 x 50 x 3x4.43kg/m SHS | 4,396 | KG | | |
| D | 16mm diameter antisag rods | 880 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Mild steel plates and bolts | | | | |
| A | Triangular apex haunch 5000mm long, size - 457 x 191 x 67.1kg/m UB | 44 | No. | | |
| B | Triangular knee haunch 5000mm long, size - 457 x 191 x 67.1kg/m UB | 88 | No. | | |
| | Base Plate, size | | | | |
| C | - 400x400x20mm plate bolted to reinforced concrete colums | 91 | No. | | |
| D | - 170x850x15mm ms plate;bolted on rafters and apex haunches | 44 | No. | | |
| E | - 170x850x15mm ms plate welded to columns; bolted to rafters | 88 | No. | | |
| F | - 80x191x15mm ms stifenner plates welded to the flange and web of the column | 55 | No. | | |
| G | - 252x160x15mm ms plate welded to columns | 55 | No. | | |
| H | - 75x75x6 mm purlin connnection ms plate | 470 | No. | | |
| I | - 75x75x4mm ms plate at purlin rafters connection | 616 | No. | | |
| J | - 220x60x3 mm ms fish plate at purlin rafters connection | 616 | No. | | |
| | Bolts,nuts and washers | | | | |
| | 25 mm Diameter holding down RAG bolts with nut and washer fixed to reinforced concrere columns, lenghth | | | | |
| K | - 400 mm | 546 | No. | | |
| | 20 mm Diameter bolts with nut and washer fixed to rafters and apex haunches, lenghth | | | | |
| L | - 150 mm | 528 | No. | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | 20mm Diameter bolts with nut and washer fixed to rafters and knee haunches, lenghth<br>- 150 mm | 1,056 | No. | | |
| B | 16 mm Diameter bolts with nut and washer fixed to columns and beams<br>- 150 mm | 440 | No. | | |
| C | 12 mm Diameter bolts with nut and washer fixed for purlin connection<br>- 150 mm | 940 | No. | | |
| D | 12 mm Diameter bolts with nut and washer at purlin rafters connection<br>- 150 mm | 2,464 | No. | | |
| E | 2mm thick galvanised gutter overall girth,<br>- 762mm | 252 | LM | | |
| F | Roof covering in 28G galvanised iron sheets; 150mm laps both sides ; and fixing to C purlins (m.s.) on steel trusses (m.s.) with zinc nails at 5000mmc/c all laid to fall | 4170 | SM | | |
| G | Av. 300mm dia ridge sheet 24 G with stiffeners | 256 | LM | | |
| | RAINWATER DISPOSAL | | | | |
| | 24g Galvanised mild steel sheeting; all welds ground smooth | | | | |
| H | 150 x 100mm box gutter including soldered joints in the running length fixed to fascia board with and including brackets at approved centers | 256 | LM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| A | Extra; for 900 corners. | 22 | No | | |
| B | Extra; 100mm dia.outlet 100mm long | 22 | No | | |
| C | 100mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed to wall | 132 | LM | | |
| D | Extra; swanneck bend with 1135mm projection | 22 | No | | |
| E | Extra; horse shoe bend | 22 | No | | |
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| H | General surfaces; over 300mm girth external | 228 | SM | | |
| I | Small pipes | 132 | LM | | |
| | Carried to Collection | | | | |
| | COLLECTION<br>From page 4/18<br>From page 4/19<br>From page 4/20<br>From above | | | | |
| | TOTAL FOR STRUCTURAL STEELWORK CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | NO. OF UNITS | AMOUNT KSh |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | 4/4 | 1 | |
| 2 | R.C FRAME | | 4/5 | 1 | |
| 3 | WALLING | | 4/6 | 1 | |
| 4 | DOORS | | 4/9 | 1 | |
| 5 | WINDOWS | | 4/12 | 1 | |
| 6 | FINISHES | | 4/15 | 1 | |
| 7 | FITTINGS | | 4/17 | 1 | |
| 8 | BALUSTRADING & RAILINGS | | 4/18 | 1 | |
| 9 | STRUCTURAL STEELWORK & ROOFING | | 4/24 | 1 | |
| | TOTAL BUILDER'S WORK FOR WAREHOUSES | | | | |

# BOUNDARY WALL

| ITEM | DESCRIPTION | QTY | UNIT | RATE | TOTAL (Kshs) |
|---|---|---|---|---|---|
| | BOUNDARY WALL(ALL PROVISIONAL) | | | | |
| | SUBSTRUCTURES | | | | |
| | Site preparation | | | | |
| A | Clear site of all bushes,shrubs, grab up roots and either cart away from site or burn all arisig | 1,620 | SM | | |
| | Excavation and Earthworks | | | | |
| B | Excavate trenches for strip foundation not exceeding 1.5 metres from reduced level | 486 | CM | | |
| C | Ditto for column bases | 448 | CM | | |
| D | Extra over excavation in hard rock | 234 | CM | | |
| | Filling and Carting away | | | | |
| E | Return, fill and ram with selected and approved excavated material around excavations | 560 | CM | | |
| F | Load and cart away excavated materials from site | 374 | CM | | |
| | Planking and strutting | | | | |
| G | Planking and strutting to sides of all excavations keep excavations free from all fallen materials | | Item | | |
| | Disposal of water | | | | |
| H | Keep excavations free from all water including spring or running water | | Item | | |
| | Totals boundary wall carried to collection | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | TOTAL (Kshs) |
|---|---|---|---|---|---|
| | 50mm thick plain concrete blinding (mix1:4:8) grade 15/20 aggregate under:- | | | | |
| A | Foundation strips | 262 | SM | | |
| B | Column Bases | 448 | SM | | |
| | Insitu reinforced concrete (mix1:1.5:3) class 25/20)Vibrated in | | | | |
| C | Foundation strip | 52 | CM | | |
| D | Column Bases | 134 | CM | | |
| E | Ground Beams | 49 | CM | | |
| F | Substructure Columns | 15 | CM | | |
| G | Columns above ground | 41 | CM | | |
| H | Ring beam | 49 | CM | | |
| | Hot rolled ribbed bars reinforcement to K.S ISO 6935-2 | | | | |
| I | 8mm dia | 5,043 | Kg | | |
| J | 12mm dia | 27,934 | Kg | | |
| | Sawn formwork:to | | | | |
| K | Vertical sides of foundation bases | 240 | SM | | |
| L | Vertical sides of columns | 249 | SM | | |
| M | Vertical sides of column bases | 448 | SM | | |
| N | Vertical sides of ground beams | 486 | SM | | |
| A | Sides and soffits of ring beams | 648 | SM | | |
| B | Sides of columns above ground | 684 | SM | | |
| | Totals boundary wall carried to collection | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | TOTAL (Kshs) |
|---|---|---|---|---|---|
| | Natural stone walling in cement and sand (1:3) mortar and including reinforcing with 20 x 3mm thick hoop iron in every alternate course. | | | | |
| A | 200mm Thick walling below ground | 437 | SM | | |
| B | 200mm Thick walling above ground | 961 | SM | | |
| | Precast concrete trimming finished fair on all exposed faces | | | | |
| C | Coping, size<br>- 350 x 100 mm | 437 | LM | | |
| D | 550 x 550mm Coping to columns | 309 | No. | | |
| E | Pier caps, size<br>- 550 x 550 x 75 mm | 2 | No. | | |
| F | Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand (1:3) mortar; one coat of bituminous paint. | 1922 | SM | | |
| | Render; 15mm thick, 1 No. coatwork of cement and sand (1:3); wood floated to concrete or blockwork base generally to: - | | | | |
| G | Columns | 684 | SM | | |
| | Painting and Decoration<br>plastic emulsion paint with stone texture effect to: | | | | |
| H | Columns | 684 | SM | | |
| I | 5000x3000mm mild steel Gates | 2 | No. | | |
| J | Allow a provisional sum of Kshs 1,000,000.00 for guard house | | Item | | |
| | Totals boundary wall carried to collection | | | | |
| | COLLECTION<br>Brought forward from Page BW/1<br>Brought forward from page BW/2<br>Brought forward from above | | | | |
| | TOTAL FOR BOUNDARY WALL CARRIED TO SUMMARY | | | | |

# OFFICE BLOCK

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | OFFICE BLOCK | | | | |
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES | | | | |
| | (All provisional) | | | | |
| | Site Preparation | | | | |
| A | Clear site of all bushes, shrubs and grub up roots and remove from site | 120 | SM | | |
| | Excavations & Earthworks | | | | |
| B | Bulk excavation for black cotton soil to reduced levels depth not exceeding 1.5 M from the ground level | 120 | CM | | |
| C | Excavation for strip foundation commencing at reduced bulk excavation levels depth not exceeding 1.5M deep | 14 | CM | | |
| C | Excavation for bases commencing at reduced bulk excavation levels depth not exceeding 1.5M deep | 5 | CM | | |
| D | Extra over all descriptions of excavations and removal from site for excavating in rock | 6 | CM | | |
| | Disposal of excavated material | | | | |
| E | Fillings aroundfdn: backfill and compact in 150 mm layers: selected excavated materials | 11 | CM | | |
| F | Remove surplus spoil from site to an authorized dumping site | 128 | CM | | |
| | Planking and strutting | | | | |
| G | Planking and strutting to sides of all excavations: keep excavations free from all falling materials | | ITEM | | |
| | Disposal of Water | | | | |
| H | Keep excavations free from all water including spring, underground and running water. | | ITEM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Hardcore Filling | | | | |
| A | 300mm thick fillings in making up levels: levelled and compacted in 150 mm layers | 120 | SM | | |
| | Murram | | | | |
| B | 50mm Thick murram blinding to surfaces of hardcore | 120 | SM | | |
| | Selected imported material | | | | |
| C | Filling in making up levels under floors, spread levelled, well rammed and consolidated in 150mm layers. | 120 | CM | | |
| | Insecticide treatment | | | | |
| | 'Premise 200CC" insecticide treatment on top of hardcore filling and over foundation walls applied as per manufacturer's instruction with a 10 year guarantee | | | | |
| D | To murram surface | 120 | SM | | |
| | Concrete Work | | | | |
| | Insitu concrete mix (1:4:8): in | | | | |
| E | 50 mm thick blinding under foundations and bases | 72 | SM | | |
| | Insitu reinforced concrete: CLASS 25 vibrated in:- | | | | |
| F | Strip footing | 11 | CM | | |
| G | Bases | 5 | CM | | |
| H | Ground beams | 5 | CM | | |
| I | Columns | 1 | CM | | |
| J | Floor bed 150 mm thick | 120 | SM | | |
| | Reinforcement ( Provisional ) | | | | |
| | Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting, spacers and supporting all in position | | | | |
| | High tension square twisted mild steel bars reinforcement to BS 4449 in structural concrete work (Provisional) | | | | |
| K | Assorted bars | 2216 | KG | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| A | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 120 | SM | | |
| | Marine board formwork: to | | | | |
| B | Edges: slab not exceeding 150 mm girth | 52 | LM | | |
| C | Sides of foundation | 36 | SM | | |
| D | Sides and soffits of ground beams | 73 | SM | | |
| E | Sides of columns | 24 | SM | | |
| | Damp proof membrane | | | | |
| F | 1000 gauge polythene laid under surface beds | 120 | SM | | |
| | Walling | | | | |
| | Natural stone walling in cement and sand (1:3) mortar and including reinforcing with 20 x 3mm thick hoop iron in every alternate course. | | | | |
| G | 200mm Thick walling | 91 | SM | | |
| | Insitu Finishings | | | | |
| H | 14mm thick 2 No. coatwork cement sand (1:3) render; wood floated to concrete or blockwork base to walls; | 16 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| I | Wood floated rendered plinths over 300mm girth | 16 | SM | | |
| | CARRIED TO COLLECTION | | | | |
| | SUBSTRUCTURES<br><br>Brought Forward From Page TS/1<br><br>Brought Forward From Page TS/2<br><br>Brought Forward From Page TS /3 | | | | |
| | TOTAL SUBSTRUCTURE CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO.2 | | | | |
| | REINFORCED CONCRETE SUPERSTRUCTURES | | | | |
| | Insitu reinforced concrete: grade 25 : vibrated in:- | | | | |
| A | Beams | 5 | CM | | |
| B | Columns | 2 | CM | | |
| | Reinforcement ( Provisional ) | | | | |
| | Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting, spacers and supporting all in position | | | | |
| | High tension square twisted mild steel bars reinforcement to BS 4449 in structural concrete work (Provisional) | | | | |
| D | Assorted bars | 730 | KG | | |
| | Sawn timber formwork: to | | | | |
| H | Sides and soffits of beams | 73 | SM | | |
| I | Sides of columns | 64 | SM | | |
| | TOTAL REINFORCED CONCRETE SUPERSTRUCTURES CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 3<br>EXTERNAL WALLING<br><br>Precast concrete grade 20(12mm aggregate) including formwork, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in cement and sand (1:3) mortar | | | | |
| A | 200 x 200 mm Lintel reinforced with and including two 12mm diameter mild steel rods hooked at ends (in 5 No.) | 6 | LM | | |
| | EXTERNAL WALLING<br><br>Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| B | Walls 200 mm thick | 126 | SM | | |
| C | Ditto gable ends | 16 | SM | | |
| | Damp Proof Course<br><br>Damp proof course : bituminous felt : bedded in cement and sand mortar (1:3) : 300 mm laps ( measured net-no allowance for laps) | | | | |
| D | Horizontal: 200 mm wide | 52 | LM | | |
| E | 200 mm eaves filling, 200mm high including dressing between rafters | 35 | LM | | |
| | TOTAL EXTERNAL WALLING CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 4 | | | | |
| | INTERNAL WALLING | | | | |
| | Approved local stone; squared ; machine dressed one side; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| A | Walls 200 mm thick | 123 | SM | | |
| | Damp Proof Course | | | | |
| | Damp proof course : bituminous felt : bedded in cement and sand mortar (1:3) : 300 mm laps ( measured net-no allowance for laps) | | | | |
| B | Horizontal: 200 mm wide | 41 | LM | | |
| C | Walls 100 mm thick | 15 | SM | | |
| | TOTAL INTERNAL WALLING CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | ROOFING CONSTRUCTION, COVERING AND RAIN WATER DISPOSAL | | | | |
| | Stone coated steel roofing sheets; 28 gauge | | | | |
| A | Roof covering; 150mm laps on one end and one and a half corrugation side lap; and nailing to 75 x 50mm celcured sawn cypress purlins (m/s) to receive roofing sheets (m/s) | 191 | SM | | |
| | Truss Type 1 | | | | |
| | The following 9 No. timber trusses spanning at 9m and placed 2000c/c and 3m from ground level | | | | |
| B | 100x50 mm rafters | 79 | LM | | |
| C | 150x50 mm kingpost | 14 | LM | | |
| D | 100x50 mm struts & ties | 50 | LM | | |
| E | 150x50mm tie beam | 75 | LM | | |
| | End of trusses | | | | |
| F | 75X50mm purlins | 172 | LM | | |
| G | 100x50mm wall plate | 48 | LM | | |
| | Wrot cypress as described | | | | |
| H | 250X25mm fascia board & Burge board | 56 | LM | | |
| I | 100x20mm T&G in eaves boarding | 50 | SM | | |
| | RAINWATER DISPOSAL | | | | |
| | 24g Galvanised mild steel sheeting; all welds ground smooth | | | | |
| J | 150 x 100mm box gutter including soldered joints in the running length fixed to fascia board with and including brackets at approved centers | 34 | LM | | |
| K | Extra; for 900 corners. | 4 | No. | | |
| L | Extra; 100mm dia.outlet 100mm long | 4 | No. | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| A | 100mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed | 14 | LM | | |
| B | Extra; swanneck bend with 1135mm projection | 4 | No. | | |
| C | Extra; horse shoe bend | 4 | No. | | |
| | Painting and Decorations | | | | |
| | On Woodwork | | | | |
| | Prepare and apply one zinc plumbate primer and three coats of premium quality super gloss oil paint to:- | | | | |
| D | Fascias; 200 to 300mm girth; external | 56 | LM | | |
| | On Metal work | | | | |
| E | Gutters | 14 | SM | | |
| F | Down pipes: 100mm diameter | 14 | LM | | |
| | Tongue & Grooved timber surfaces | | | | |
| | Prepare and apply three coats of premium quality polyurethane varnish to:- | | | | |
| G | Surfaces of eaves; over 300mm girth external | 50 | SM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION<br>From page TS / 08<br>From page TS/ 09 | | | | |
| | TOTAL FOR ROOF CONSTRUCTION. | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | DOORS | | | | |
| | 50mm thick mahogany panelled door in , comprising 150 x 50mm top and bottom rails infilled with 50mm thick solid moulded timber panels with moulded beading around panels; edges bevelled and grooved into 100x50mm frames; all framed, clamped and grooved together to Architects details | | | | |
| A | Single door overall size 900 x 2400mm | 5 | NO. | | |
| | 45mm thick solid cored flush door,to BS 459:part 2,overall faced both sides with scratch proof laminate to approval with rounded and post-formed edges to approval | | | | |
| B | Single door overall size 800 x 2400mm | 8 | NO. | | |
| | Supply and Fix purpose made mild steel panel door : comprising of 50 x 50mm RHS frame fixed to wall jambs : 50 x 50mm RHS stile, bottom, mid and top rail : infilled with solid sheet panel on each face : compete with all necessary iron mongery ; apply primer and two coats 2 pack epoxy enamel paint; all to approval | | | | |
| C | Double door overall size 1800 x 2400mm | 1 | NO. | | |
| | Wrot Hardwood framed frames and framings | | | | |
| D | 150 x 50 mm; 2 No. labours; plugged door frame | 95 | LM | | |
| E | 40 x 35 mm moulded architrave | 95 | LM | | |
| F | 25 x 25mm moulded quadrants | 95 | LM | | |
| | Iron mongery | | | | |
| | Supply and fix the following to UNION catalogue or other equal and approved | | | | |
| | *To softwood, hardwood or the like fixing with screws* | | | | |
| G | Three lever mortice lock complete with set lever aluminium handle furniture | 14 | No. | | |
| H | Indicator bolt | 4 | No. | | |
| I | 100mm steel butt hinges | 21 | PRS | | |
| | *To concrete or blockwork; fixing with bolts; plugging* | | | | |
| J | Rubber door stop complete with 38 mm rawl bolt | 14 | No. | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| A | Backs of frame, board, etc over 100mm but not exceeding 200mm girth | 95 | LM | | |
| | Knot, prime and stop; prepare and apply one undercoat and two coats of gloss oil paint | | | | |
| B | General surfaces of timber doors over 300mm girth; | 65 | SM | | |
| C | Frames; over 100mm but not exceeding 200mm girth; | 95 | LM | | |
| D | Frames not exceeding 100mm girth; internal | 190 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION<br>From page TS / 11<br>From above | | | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 7 | | | | |
| | WINDOWS | | | | |
| | Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar | | | | |
| A | 150 x 25mm thick clay window sill | 35 | LM | | |
| | Wrot Cypress | | | | |
| B | 150 x 25 mm thick window boards including bull-nosed edges and 25 x 25 mm bearer; plugged, counter sinking and flush pelleting. | 35 | LM | | |
| C | 15 x 15mm quadrant bead | 35 | LM | | |
| | Curtain Tracks; | | | | |
| D | Curtain holder comprising of 2No Wrought iron curtain rods; complete with metal runners; decorative end cap fittings : to approval | 35 | LM | | |
| | METAL WORK | | | | |
| | PURPOSE - MADE UNITS | | | | |
| | Supply, assemble and fix the following purpose made mild steel windows, comprising 40 x 20 x 3mm RHS frame all round : 2 No 20 x 50 x 3mm RHS horizontal rails;: 2 No 20 x 50 x 3mm RHS vertical rails; 20 x 20 x3 mm RHS vertical and horizontal frames at 100mm centres; including all necessary cutting and welding ; all joints ground smooth; one coat red lead primer ; three coats gloss oil paint finish To Architects detail | | | | |
| E | Window, overall size 3800 x 1500 mm high | 4 | No | | |
| G | Window, overall size 1800 x 900mm high | 4 | No | | |
| | Glazing | | | | |
| H | 4mm Thick one way sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with putty | 30 | SM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| | Prepare and apply three coats approved gloss oil paint to metal work | | | | |
| A | General window surfaces | 60 | SM | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| B | Backs of board, over 200mm but not exceeding 300mm girth | 35 | LM | | |
| | Prepare and apply three coats polyurethane clear varnish on woodwork internally | | | | |
| C | Frames; 200 to 300mm girth | 35 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION | | | | |
| | From page TS / 11 | | | | |
| | From above | | | | |
| | TOTAL FOR WINDOWS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 8 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| B | 12mm deep horizontal keying on natural stone wall surfaces. | 142 | SM | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base generally to: - | | | | |
| C | Walls, beams and columns; internal | 254 | SM | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| D | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to walls internal | 77 | SM | | |
| E | Plastic edging (provisional) | 14 | LM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| F | 14mm thick one coat backings; wood floated to receive ceramic tiles (m/s) to concrete or blockwork base; to walls internal | 77 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl paint to:- | | | | |
| H | To walls and gypsum surfaces ; internal | 254 | SM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Floor finishes | | | | |
| | Approved 400x400mm non slip ceramic tiles to B.S. 1281; local; white glazed floor tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| A | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to floor | 120 | SM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| B | 34mm thick backings; wood floated to receive ceramic tiles (m/s) ; to floor | 120 | SM | | |
| | Ceiling finishes | | | | |
| | Chip board | | | | |
| C | 12mm thick patterned chip-board ceiling board nailed to timber brandering (m/s); nails punched and puttied | 120 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply premium quality gloss oil paint to: | | | | |
| D | Chip-board ceiling boards | 120 | SM | | |
| E | Moulded cornice not exceeding 100mm girth | 52 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION<br>From page TS / 15<br>From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 9 | | | | |
| | FITTINGS | | | | |
| | Insitu reinforced concrete: grade 25 : vibrated in:- | | | | |
| | Worktops tops | | | | |
| A | -75mm thick | 5 | SM | | |
| B | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 5 | SM | | |
| | Sawn timber formwork: to | | | | |
| C | Soffits and sides: Work tops. | 5 | SM | | |
| | Polished terazzo to vanity tops to approved colour, including plastic division strip, terazzo average thickness; | | | | |
| D | -40 mm | 5 | SM | | |
| | Render; 18mm thick, 1 No. coatwork of cement and sand (1:3); wood floated to concrete or blockwork base generally to: - | | | | |
| E | Soffits of worktops | 5 | SM | | |
| | Painting & Decoration | | | | |
| | Prepare and apply three coats of first grade plastic emulsion paint to:- | | | | |
| F | Soffits of worktops | 5 | SM | | |
| | TOTAL FOR FITTINGS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | | K.SHS. |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | TS/ 3 | | |
| 2 | REINFORCED CONCRETE SUPERSTRUCTURE | | / 4 | | |
| 3 | EXTERNAL WALLING | | / 5 | | |
| 4 | INTERNAL WALLING | | / 6 | | |
| 5 | ROOF CONSTRUCTION. | | / 8 | | |
| 6 | DOORS | | TS/ 10 | | |
| 7 | WINDOWS | | TS/ 12 | | |
| 8 | FINISHES | | TS/ 14 | | |
| 9 | FITTINGS | | TS/ 15 | | |
| | TOTAL FOR OFFICE BLOCK CARRIED TO SUMMARY | | | | |

# POWER HOUSE

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES (ALL PROVISIONAL) | | | | |
| | Site Clearance | | | | |
| A | Clear site of all shrubs, bushes and small trees and grub up roots, cart away to spoil heaps away from site | 43 | SM | | |
| | Oversite excavation | | | | |
| B | Excavate oversite to remove top soil average 200mm deep and keep on site for later re-use for landscaping | 43 | SM | | |
| | Excavation | | | | |
| C | Bulk soil excavation to levels not exceeding 1.50m deep starting from ground level | 43 | CM | | |
| D | Excavation for column bases depth not exceeding 1.50m from reduced level | 2 | CM | | |
| E | Ditto but for strip foundations | 5 | CM | | |
| F | Extra over excavation in rock | 2 | CM | | |
| | Filling and Carting away | | | | |
| G | Return, fill and ram with selected and approved excavated material around excavations | 4 | CM | | |
| H | Load and cart away excavated materials from site | 50 | CM | | |
| | Disposal of water | | | | |
| I | Keeping all excavations free from all water including spring or running water | | ITEM | | |
| A | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 43 | SM | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Carried to Collection | | | | |
| | Planking and strutting | | | | |
| A | Uphold the sides of all excavations | | ITEM | | |
| B | Imported murram bacfill beneath hardcore, watered and machine - compacted in layers not execeeding 100mm | 43 | CM | | |
| | Antitermite treatment | | | | |
| C | Premise 200 CC' or other equal and approved anti-termite insecticide treatment with ten years guarantee, applied strictly in accordance with manufacturer's instructions, to tops of fill and foundation walls | 43 | SM | | |
| | 50mm thick mass concrete class Q(1:3:6) in:- | | | | |
| D | 50mm Thick blinding to strip foundation | 18 | SM | | |
| E | 50mm Thick blinding to column bases | 6 | SM | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| F | Strip footing | 4 | CM | | |
| G | Column bases | 2 | CM | | |
| H | Foundation columns | 1 | CM | | |
| I | Ground beams | 1 | CM | | |
| J | 150mm thick ground slab | 43 | SM | | |
| | Reinforcement<br>Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| K | Assorted bars | 772 | KG | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Sawn formwork to insitu concrete as described to :- | | | | |
| A | Sides of strip footing | 12 | SM | | |
| B | Sides of column bases | 10 | SM | | |
| C | Sides; vertical or battering of foundation columns | 8 | SM | | |
| D | Sides and soffits of ground beams | 12 | SM | | |
| E | Edges of ground floor slab; 225 to 300mm wide | 30 | LM | | |
| | Natural stone walling in cement and sand (1:3) mortar and including reinforcing with 20 x 3mm thick hoop iron in every alternate course. | | | | |
| F | 200mm Thick walling | 30 | SM | | |
| | Insitu Finishings | | | | |
| G | 14mm thick 2No. coatwork cement sand(1:3) render; wood floated to concrete or blockwork base to walls; external | 9 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| H | Wood floated rendered plinths over 300mm girth | 9 | SM | | |
| | Carried to Collection | | | | |
| | COLLECTION<br>From page gen/1<br>From page gen/2<br>From page above | | | | |
| | TOTAL FOR SUBSTRUCTURES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 2 | | | | |
| | REINFORCED CONCRETE FRAMING | | | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| A | Beams | 1 | CM | | |
| B | Columns | 1 | CM | | |
| | Reinforcement | | | | |
| | Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| C | Assorted bars | 228 | KG | | |
| | Sawn formwork to insitu concrete as described to :- | | | | |
| D | To sides and soffits of beams. | 24 | SM | | |
| E | Vertical sides of columns | 22 | SM | | |
| | TOTAL FOR RC FRAME CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 3 | | | | |
| | WALLING | | | | |
| | Hessian based bituminous felt damp proof course laid on cement and sand (1:4) mortar under:- | | | | |
| A | 200mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar | 31 | LM | | |
| | EXTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| B | Walls 200 mm thick | 84 | SM | | |
| C | Metal grilled louvres | 9 | SM | | |
| D | Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand (1:3) mortar; one coat of bituminous paint. | 84 | SM | | |
| | Trench | | | | |
| | TOTAL FOR WALLING CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 4<br><br>DOORS<br><br>40mm thick galvanised steel double door, complete with steel framing, with and including louvred vents and all necessary iron mongery to Architects details | | | | |
| A | Door overall size 2000 x 2700mm | 1 | NO. | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base | | | | |
| A | Walls, beams and columns; internal | 84 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl emulsion paint as approved to:- | | | | |
| B | Walls; internal | 84 | SM | | |
| | Floor finishes | | | | |
| | Cement and sand screed mix (1:3) | | | | |
| C | 40mm thick to floors steel trowelled smooth | 39 | SM | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | ROOFING CONSTRUCTION, COVERING AND RAIN WATER DISPOSAL | | | | |
| | Galvanized steel IT5 box profile sheets; 28 gauge; prepainted | | | | |
| A | Roof covering; 150mm laps on one end and one and a half corrugation side lap; and nailing to 75 x 50mm celcured sawn cypress purlins (m/s) to receive interlocking tiles (m/s) | 50 | SM | | |
| | Truss Type 1 | | | | |
| | The following 8 No. timber trusses spanning at 6.4m and placed 2000mmc/c and 3400mm from ground level | | | | |
| B | 100x50 mm rafters | 48 | LM | | |
| C | 100x50 mm hip rafters | 12 | LM | | |
| D | 150x50 mm kingpost | 16 | LM | | |
| E | 100x50 mm collar piece | 11 | LM | | |
| F | 100x50 mm struts & ties | 128 | LM | | |
| G | 150x50mm tie beam | 16 | LM | | |
| | End of trusses | | | | |
| H | 75X50mm purlins | 53 | LM | | |
| I | 100x50mm wall plate | 18 | LM | | |
| | Wrot cypress as described | | | | |
| J | 250X25mm fascia board | 18 | LM | | |
| K | 100x20mm T&G in eaves boarding | 18 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On Woodwork | | | | |
| | Prepare and apply one zinc plumbate primer and three coats of approved premium quality super gloss oil paint to:- | | | | |
| A | Fascias; 200 to 300mm girth; external | 18 | LM | | |
| | Tongue & Grooved timber surfaces | | | | |
| | Prepare and apply three coats of premium quality polyurethane varnish to:- | | | | |
| B | Surfaces of eaves; over 300mm girth external | 18 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION | | | | |
| | From page gen/8 | | | | |
| | From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | | AMOUNT KSh |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | gen/3 | | |
| 2 | R.C FRAME | | gen/4 | | |
| 3 | WALLING | | gen/5 | | |
| 4 | DOORS | | gen/6 | | |
| 5 | FINISHES | | gen/7 | | |
| 6 | ROOF | | gen/9 | | |
| | TOTAL FOR POWER HOUSE BUILDER'S WORK | | | | |

# PUMP HOUSE

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES (ALL PROVISIONAL) | | | | |
| | Site Clearance | | | | |
| A | Clear site of all shrubs, bushes and small trees and grub up roots, cart away to spoil heaps away from site | 25 | SM | | |
| | Oversite excavation | | | | |
| B | Excavate oversite to remove top soil average 200mm deep and keep on site for later re-use for landscaping | 25 | SM | | |
| | Excavation | | | | |
| C | Bulk soil excavation to levels not exceeding 1.50m deep starting from ground level | 25 | CM | | |
| D | Excavation for column bases depth not exceeding 1.50m from reduced level | 2 | CM | | |
| E | Ditto but for strip foundations | 3 | CM | | |
| F | Extra over excavation in rock | 2 | CM | | |
| | Filling and Carting away | | | | |
| G | Return, fill and ram with selected and approved excavated material around excavations | 3 | CM | | |
| H | Load and cart away excavated materials from site | 30 | CM | | |
| | Disposal of water | | | | |
| I | Keeping all excavations free from all water including spring or running water | | ITEM | | |
| A | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 25 | SM | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Planking and strutting | | | | |
| A | Uphold the sides of all excavations | | ITEM | | |
| B | Imported murram bacfill beneath hardcore, watered and machine - compacted in layers not execeeding 100mm | 25 | CM | | |
| | Antitermite treatment | | | | |
| C | Premise 200 CC' or other equal and approved anti-termite insecticide treatment with ten years guarantee, applied strictly in accordance with manufacturer's instructions, to tops of fill and foundation walls | 25 | SM | | |
| | 50mm thick mass concrete class Q(1:3:6) in:- | | | | |
| D | 50mm Thick blinding to strip foundation | 12 | SM | | |
| E | 50mm Thick blinding to column bases | 5 | SM | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| F | Strip footing | 2 | CM | | |
| G | Column bases | 2 | CM | | |
| H | Foundation columns | 1 | CM | | |
| I | Ground beams | 1 | CM | | |
| J | 150mm thick ground slab | 25 | SM | | |
| | Reinforcement<br>Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| K | Assorted bars | 574 | KG | | |
| | Carried to Collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Sawn formwork to insitu concrete as described to :- | | | | |
| A | Sides of strip footing | 8 | SM | | |
| B | Sides of column bases | 8 | SM | | |
| C | Sides; vertical or battering of foundation columns | 6 | SM | | |
| D | Sides and soffits of ground beams | 8 | SM | | |
| E | Edges of ground floor slab; 225 to 300mm wide | 20 | LM | | |
| | Natural stone walling in cement and sand (1:3) mortar and including reinforcing with 20 x 3mm thick hoop iron in every alternate course. | | | | |
| F | 200mm Thick walling | 20 | SM | | |
| | Insitu Finishings | | | | |
| G | 14mm thick 2No. coatwork cement sand(1:3) render; wood floated to concrete or blockwork base to walls; external | 6 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| H | Wood floated rendered plinths over 300mm girth | 6 | SM | | |
| | Carried to Collection | | | | |
| | COLLECTION<br>From page gen/1<br>From page gen/2<br>From page above | | | | |
| | TOTAL FOR SUBSTRUCTURES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 2 | | | | |
| | REINFORCED CONCRETE FRAMING | | | | |
| | Reinforced concrete; class 25/(20mm) mix (1:1.5:3); vibrated | | | | |
| A | Beams | 1 | CM | | |
| B | Columns | 1 | CM | | |
| | Reinforcement | | | | |
| | Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks | | | | |
| C | Assorted bars | 166 | KG | | |
| | Sawn formwork to insitu concrete as described to :- | | | | |
| D | To sides and soffits of beams. | 16 | SM | | |
| E | Vertical sides of columns | 17 | SM | | |
| | TOTAL FOR RC FRAME CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 3 | | | | |
| | WALLING | | | | |
| | Hessian based bituminous felt damp proof course laid on cement and sand (1:4) mortar under:- | | | | |
| A | 200mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar | 20 | LM | | |
| | EXTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| B | Walls 200 mm thick | 54 | SM | | |
| C | Metal grilled louvres | 16 | SM | | |
| D | Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand (1:3) mortar; one coat of bituminous paint. | 54 | SM | | |
| | TOTAL FOR WALLING CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 4<br><br>DOORS<br><br>40mm thick galvanised steel double door, complete with steel framing, with and including louvred vents and all necessary iron mongery to Architects details | | | | |
| A | Door overall size 900 x 2400mm | 1 | NO. | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base | | | | |
| A | Walls, beams and columns; internal | 54 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl emulsion paint as approved to:- | | | | |
| B | Walls; internal | 54 | SM | | |
| | Floor finishes | | | | |
| | Cement and sand screed mix (1:3) | | | | |
| C | 40mm thick to floors steel trowelled smooth | 25 | SM | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | ROOFING CONSTRUCTION, COVERING AND RAIN WATER DISPOSAL | | | | |
| | Galvanized steel IT5 box profile sheets; 28 gauge; prepainted | | | | |
| A | Roof covering; 150mm laps on one end and one and a half corrugation side lap; and nailing to 75 x 50mm celcured sawn cypress purlins (m/s) to receive interlocking tiles (m/s) | 35 | SM | | |
| | Truss Type 1 | | | | |
| | The following 8 No. timber trusses spanning at 6.4m and placed 2000mmc/c and 3400mm from ground level | | | | |
| B | 100x50 mm rafters | 35 | LM | | |
| C | 100x50 mm hip rafters | 12 | LM | | |
| D | 150x50 mm kingpost | 14 | LM | | |
| E | 100x50 mm collar piece | 11 | LM | | |
| F | 100x50 mm struts & ties | 112 | LM | | |
| G | 150x50mm tie beam | 14 | LM | | |
| | End of trusses | | | | |
| H | 75X50mm purlins | 24 | LM | | |
| I | 100x50mm wall plate | 12 | LM | | |
| | Wrot cypress as described | | | | |
| J | 250X25mm fascia board | 12 | LM | | |
| K | 100x20mm T&G in eaves boarding | 12 | SM | | |
| | Carried to collection | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On Woodwork | | | | |
| | Prepare and apply one zinc plumbate primer and three coats of approved premium quality super gloss oil paint to:- | | | | |
| A | Fascias; 200 to 300mm girth; external | 12 | LM | | |
| | Tongue & Grooved timber surfaces | | | | |
| | Prepare and apply three coats of premium quality polyurethane varnish to:- | | | | |
| B | Surfaces of eaves; over 300mm girth external | 12 | SM | | |
| | Carried to collection | | | | |
| | COLLECTION | | | | |
| | From page gen/8 | | | | |
| | From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| Item | Description | Qty | Unit | Rate | Amount KSh |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | | |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | gen/3 | | |
| 2 | R.C FRAME | | gen/4 | | |
| 3 | WALLING | | gen/5 | | |
| 4 | DOORS | | gen/6 | | |
| 5 | FINISHES | | gen/7 | | |
| 6 | ROOF | | gen/9 | | |
| | TOTAL FOR PUMP HOUSE BUILDER'S WORK | | | | |

# ABLUTION BLOCK

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ABLUTION BLOCK | | | | |
| | ELEMENT NO. 1 | | | | |
| | SUBSTRUCTURES | | | | |
| | (All provisional) | | | | |
| | Site Preparation | | | | |
| A | Clear site of all bushes, shrubs and grub up roots and remove from site | 103 | SM | | |
| | Excavations & Earthworks | | | | |
| B | Bulk excavation for black cotton soil to reduced levels depth not exceeding 1.5 M from the ground level | 103 | CM | | |
| C | Excavation for strip foundation commencing at reduced bulk excavation levels depth not exceeding 1.5M deep | 10 | CM | | |
| C | Excavation for bases commencing at reduced bulk excavation levels depth not exceeding 1.5M deep | 5 | CM | | |
| D | Extra over all descriptions of excavations and removal from site for excavating in rock | 4 | CM | | |
| | Disposal of excavated material | | | | |
| E | Fillings aroundfdn: backfill and compact in 150 mm layers: selected excavated materials | 9 | CM | | |
| F | Remove surplus spoil from site to an authorized dumping site | 109 | CM | | |
| | Planking and strutting | | | | |
| G | Planking and strutting to sides of all excavations: keep excavations free from all falling materials | | ITEM | | |
| | Disposal of Water | | | | |
| H | Keep excavations free from all water including spring, underground and running water. | | ITEM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Hardcore Filling | | | | |
| A | 300mm thick fillings in making up levels: levelled and compacted in 150 mm layers | 103 | SM | | |
| | Murram | | | | |
| B | 50mm Thick murram blinding to surfaces of hardcore | 103 | SM | | |
| | Selected imported material | | | | |
| C | Filling in making up levels under floors, spread levelled, well rammed and consolidated in 150mm layers. | 103 | CM | | |
| | Insecticide treatment | | | | |
| | 'Premise 200CC" insecticide treatment on top of hardcore filling and over foundation walls applied as per manufacturer's instruction with a 10 year guarantee | | | | |
| D | To murram surface | 103 | SM | | |
| | Concrete Work | | | | |
| | Insitu concrete mix (1:4:8): in | | | | |
| E | 50 mm thick blinding under foundations and bases | 55 | SM | | |
| | Insitu reinforced concrete: CLASS 25 vibrated in:- | | | | |
| F | Strip footing | 8 | CM | | |
| G | Bases | 5 | CM | | |
| H | Ground beams | 4 | CM | | |
| I | Columns | 1 | CM | | |
| J | Floor bed 150 mm thick | 103 | SM | | |
| | Reinforcement ( Provisional ) | | | | |
| | Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting, spacers and supporting all in position | | | | |
| | High tension square twisted mild steel bars reinforcement to BS 4449 in structural concrete work (Provisional) | | | | |
| K | Assorted bars | 1714 | KG | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| A | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 103 | SM | | |
| | Marine board formwork: to | | | | |
| B | Edges: slab not exceeding 150 mm girth | 45 | LM | | |
| C | Sides of foundation | 26 | SM | | |
| D | Sides and soffits of ground beams | 26 | SM | | |
| E | Sides of columns | 22 | SM | | |
| | Damp proof membrane | | | | |
| F | 1000 gauge polythene laid under surface beds | 103 | SM | | |
| | Walling | | | | |
| | Natural stone walling in cement and sand (1:3) mortar and including reinforcing with 20 x 3mm thick hoop iron in every alternate course. | | | | |
| G | 200mm Thick walling | 65 | SM | | |
| | Insitu Finishings | | | | |
| H | 14mm thick 2 No. coatwork cement sand (1:3) render; wood floated to concrete or blockwork base to walls; | 14 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply three coats bituminous paint to: | | | | |
| I | Wood floated rendered plinths over 300mm girth | 14 | SM | | |
| | CARRIED TO COLLECTION | | | | |
| | SUBSTRUCTURES | | | | |
| | Brought Forward From Page TS/1 | | | | |
| | Brought Forward From Page TS/2 | | | | |
| | Brought Forward From Page TS /3 | | | | |
| | TOTAL SUBSTRUCTURE CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO.2 | | | | |
| | REINFORCED CONCRETE SUPERSTRUCTURES | | | | |
| | Insitu reinforced concrete: grade 25 : vibrated in:- | | | | |
| A | Beams | 4 | CM | | |
| B | Columns | 2 | CM | | |
| | Reinforcement ( Provisional ) | | | | |
| | Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting, spacers and supporting all in position | | | | |
| | High tension square twisted mild steel bars reinforcement to BS 4449 in structural concrete work (Provisional) | | | | |
| D | Assorted bars | 598 | KG | | |
| | Sawn timber formwork: to | | | | |
| H | Sides and soffits of beams | 26 | SM | | |
| I | Sides of columns | 31 | SM | | |
| | TOTAL REINFORCED CONCRETE SUPERSTRUCTURES CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 3 | | | | |
| | EXTERNAL WALLING | | | | |
| | Precast concrete grade 20(12mm aggregate) including formwork, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in cement and sand (1:3) mortar | | | | |
| A | 200 x 200 mm Lintel reinforced with and including two 12mm diameter mild steel rods hooked at ends (in 5 No.) | 6 | LM | | |
| | EXTERNAL WALLING | | | | |
| | Approved local stone of the approved colour; squared ; hand dressed one side to Zero joint; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| B | Walls 200 mm thick | 107 | SM | | |
| C | Ditto gable ends | 16 | SM | | |
| | Damp Proof Course | | | | |
| | Damp proof course : bituminous felt : bedded in cement and sand mortar (1:3) : 300 mm laps ( measured net-no allowance for laps) | | | | |
| D | Horizontal: 200 mm wide | 44 | LM | | |
| E | 200 mm eaves filling, 200mm high including dressing between rafters | 44 | LM | | |
| | TOTAL EXTERNAL WALLING CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 4 | | | | |
| | INTERNAL WALLING | | | | |
| | Approved local stone; squared ; machine dressed one side; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course | | | | |
| A | Walls 200 mm thick | 51 | SM | | |
| | Damp Proof Course | | | | |
| | Damp proof course : bituminous felt : bedded in cement and sand mortar (1:3) : 300 mm laps ( measured net-no allowance for laps) | | | | |
| B | Horizontal: 200 mm wide | 63 | LM | | |
| C | Walls 100 mm thick | 132 | SM | | |
| | TOTAL INTERNAL WALLING CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 5 | | | | |
| | ROOFING CONSTRUCTION, COVERING AND RAIN WATER DISPOSAL | | | | |
| | Stone coated steel roofing sheets; 28 gauge | | | | |
| A | Roof covering; 150mm laps on one end and one and a half corrugation side lap; and nailing to 75 x 50mm celcured sawn cypress purlins (m/s) to receive roofing sheets (m/s) | 110 | SM | | |
| | Truss Type 1 | | | | |
| | The following 9 No. timber trusses spanning at 9m and placed 2000c/c and 3m from ground level | | | | |
| B | 100x50 mm rafters | 79 | LM | | |
| C | 150x50 mm kingpost | 14 | LM | | |
| D | 100x50 mm struts & ties | 50 | LM | | |
| E | 150x50mm tie beam | 75 | LM | | |
| | End of trusses | | | | |
| F | 75X50mm purlins | 172 | LM | | |
| G | 100x50mm wall plate | 48 | LM | | |
| | Wrot cypress as described | | | | |
| H | 250X25mm fascia board & Burge board | 20 | LM | | |
| I | 100x20mm T&G in eaves boarding | 20 | SM | | |
| | RAINWATER DISPOSAL | | | | |
| | 24g Galvanised mild steel sheeting; all welds ground smooth | | | | |
| J | 150 x 100mm box gutter including soldered joints in the running length fixed to fascia board with and including brackets at approved centers | 20 | LM | | |
| K | Extra; for 900 corners. | 4 | No. | | |
| L | Extra; 100mm dia.outlet 100mm long | 4 | No. | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| A | 100mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed | 14 | LM | | |
| B | Extra; swanneck bend with 1135mm projection | 4 | No. | | |
| C | Extra; horse shoe bend | 4 | No. | | |
| | Painting and Decorations | | | | |
| | On Woodwork | | | | |
| | Prepare and apply one zinc plumbate primer and three coats of premium quality super gloss oil paint to:- | | | | |
| D | Fascias; 200 to 300mm girth; external | 20 | LM | | |
| | On Metal work | | | | |
| E | Gutters | 14 | SM | | |
| F | Down pipes: 100mm diameter | 14 | LM | | |
| | Tongue & Grooved timber surfaces | | | | |
| | Prepare and apply three coats of premium quality polyurethane varnish to:- | | | | |
| G | Surfaces of eaves; over 300mm girth external | 20 | SM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION<br>From page TS / 08<br>From page TS/ 09 | | | | |
| | TOTAL FOR ROOF CONSTRUCTION. | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 6 | | | | |
| | DOORS | | | | |
| | 45mm thick solid cored flush door,to BS 459:part 2,overall faced both sides with scratch proof laminate to approval with rounded and post-formed edges to approval | | | | |
| A | Single door overall size 800 x 2400mm | 15 | NO. | | |
| | Ditto but; | | | | |
| B | Double doorswinging both sides overall size 1800 x 2400mm | 2 | NO. | | |
| | Wrot Hardwood framed frames and framings | | | | |
| C | 150 x 50 mm; 2 No. labours; plugged door frame | 118 | LM | | |
| D | 40 x 35 mm moulded architrave | 118 | LM | | |
| E | 25 x 25mm moulded quadrants | 118 | LM | | |
| | Iron mongery | | | | |
| | Supply and fix the following to UNION catalogue or other equal and approved | | | | |
| | *To softwood, hardwood or the like fixing with screws* | | | | |
| F | Three lever mortice lock complete with set lever aluminium handle furniture | 17 | No. | | |
| G | Indicator bolt | 13 | No. | | |
| H | 100mm steel butt hinges | 26 | PRS | | |
| | *To concrete or blockwork; fixing with bolts; plugging* | | | | |
| I | Rubber door stop complete with 38 mm rawl bolt | 17 | No. | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| A | Backs of frame, board, etc over 100mm but not exceeding 200mm girth | 118 | LM | | |
| | Knot, prime and stop; prepare and apply one undercoat and two coats of gloss oil paint | | | | |
| B | General surfaces of timber doors over 300mm girth; | 73 | SM | | |
| C | Frames; over 100mm but not exceeding 200mm girth; | 118 | LM | | |
| D | Frames not exceeding 100mm girth; internal | 236 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION | | | | |
| | From page TS / 11 | | | | |
| | From above | | | | |
| | TOTAL FOR DOORS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 7 | | | | |
| | WINDOWS | | | | |
| | Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar | | | | |
| A | 150 x 25mm thick clay window sill | 14 | LM | | |
| | Wrot Cypress | | | | |
| B | 150 x 25 mm thick window boards including bull-nosed edges and 25 x 25 mm bearer; plugged, counter sinking and flush pelleting. | 14 | LM | | |
| C | 15 x 15mm quadrant bead | 14 | LM | | |
| | METAL WORK | | | | |
| | PURPOSE - MADE UNITS | | | | |
| | Supply, assemble and fix the following purpose made mild steel windows, comprising 40 x 20 x 3mm RHS frame all round : 2 No 20 x 50 x 3mm RHS horizontal rails;: 2 No 20 x 50 x 3mm RHS vertical rails; 20 x 20 x3 mm RHS vertical and horizontal frames at 100mm centres; including all necessary cutting and welding ; all joints ground smooth; one coat red lead primer ; three coats gloss oil paint finish To Architects detail | | | | |
| D | Window, overall size 1350 x 1200 mm high | 1 | No | | |
| E | Window, overall size 1600 x 1200 mm high | 1 | No | | |
| F | Window, overall size 1200 x 1200 mm high | 1 | No | | |
| G | Window, overall size 900 x 900mm high | 11 | No | | |
| | Glazing | | | | |
| H | 4mm Thick one way sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with putty | 14 | SM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Painting and Decorations | | | | |
| | On Metal work | | | | |
| | Prepare and apply three coats approved gloss oil paint to metal work | | | | |
| A | General window surfaces | 28 | SM | | |
| | On wood | | | | |
| | Aluminium primer or other equal and approved wood primer before fixing: - | | | | |
| B | Backs of board, over 200mm but not exceeding 300mm girth | 14 | LM | | |
| | Prepare and apply three coats polyurethane clear varnish on woodwork internally | | | | |
| C | Frames; 200 to 300mm girth | 14 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION | | | | |
| | From page TS / 11 | | | | |
| | From above | | | | |
| | TOTAL FOR WINDOWS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 8 | | | | |
| | FINISHES | | | | |
| | Wall finishes | | | | |
| | Insitu finishes | | | | |
| A | 12mm deep horizontal keying on natural stone wall surfaces. | 123 | SM | | |
| | Plaster; 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base generally to: - | | | | |
| B | Walls, beams and columns; internal | 513 | SM | | |
| | Tile, Slab or Block Finishings | | | | |
| | Approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| C | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to walls internal | 210 | SM | | |
| D | Plastic edging (provisional) | 100 | LM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| E | 14mm thick one coat backings; wood floated to receive ceramic tiles (m/s) to concrete or blockwork base; to walls internal | 210 | SM | | |
| | Prepare and apply three coats of premium quality silk vinyl paint to:- | | | | |
| F | To wall surfaces ; internal | 513 | SM | | |
| | CARRIED TO COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | Floor finishes | | | | |
| | Approved 400x400mm non slip ceramic tiles to B.S. 1281; local; white glazed floor tiles to regular or approved other pattern; bedding and jointing in cement sand (1:4) mortar, grouting with white cement | | | | |
| A | 6mm thick; butt joints straight both ways; to cement sand base (m/s) to floor | 103 | SM | | |
| | Beds or Backings | | | | |
| | Render; cement and sand (1:3) | | | | |
| B | 34mm thick backings; wood floated to receive ceramic tiles (m/s) ; to floor | 103 | SM | | |
| | Ceiling finishes | | | | |
| | Chip board | | | | |
| C | 12mm thick patterned chip-board ceiling board nailed to timber brandering (m/s); nails punched and puttied | 103 | SM | | |
| | Painting and Decorations | | | | |
| | Prepare and apply premium quality gloss oil paint to: | | | | |
| D | Chip-board ceiling boards | 103 | SM | | |
| E | Moulded cornice not exceeding 100mm girth | 44 | LM | | |
| | CARRIED TO COLLECTION | | | | |
| | COLLECTION<br>From page TS / 15<br>From above | | | | |
| | TOTAL FOR FINISHES CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | ELEMENT NO. 9 | | | | |
| | FITTINGS | | | | |
| | Insitu reinforced concrete: grade 25 : vibrated in:- | | | | |
| | Worktops tops | | | | |
| A | -75mm thick | 5 | SM | | |
| B | BRC Fabric mesh reinforcement Ref. A193 with 200 mm laps (measured net ; no allowances made for laps) to basement floor bed | 5 | SM | | |
| | Sawn timber formwork: to | | | | |
| C | Soffits and sides: Work tops. | 5 | SM | | |
| | Polished terazzo to vanity tops to approved colour, including plastic division strip, terazzo average thickness; | | | | |
| D | -40 mm | 5 | SM | | |
| | Render; 18mm thick, 1 No. coatwork of cement and sand (1:3); wood floated to concrete or blockwork base generally to: - | | | | |
| E | Soffits of worktops | 5 | SM | | |
| | Painting & Decoration | | | | |
| | Prepare and apply three coats of first grade plastic emulsion paint to:- | | | | |
| F | Soffits of worktops | 5 | SM | | |
| | TOTAL FOR FITTINGS CARRIED TO SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | KSHS CTS |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| ELEMENT NO. | TITLE | | PAGE NO. | | K.SHS. |
| 1 | SUBSTRUCTURE (ALL PROVISIONAL) | | TS/ 3 | | |
| 2 | REINFORCED CONCRETE SUPERSTRUCTURE | | TS/ 4 | | |
| 3 | EXTERNAL WALLING | | TS/ 5 | | |
| 4 | INTERNAL WALLING | | TS/ 6 | | |
| 5 | ROOF CONSTRUCTION. | | TS/ 8 | | |
| 6 | DOORS | | TS/ 10 | | |
| 7 | WINDOWS | | TS/ 12 | | |
| 8 | FINISHES | | TS/ 14 | | |
| 9 | FITTINGS | | TS/ 15 | | |
| | TOTAL FOR ABLUTION BLOCK CARRIED TO SUMMARY | | | | |

# CIVIL WORKS

**BILL NO. 01 FOUL DRAINAGE SYSTEM**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **GENERAL ITEMS** | | | | |
| | **Provisional Sums** | | | | |
| A | Allow a Provisional Sum for testing of the whole foul drainage system in the presence of the Engineer/Project Manager and make good any defects, retest as necessary and leave the whole foul drainage system perfect and to the satisfaction of the Engineer/Project Manager. | SUM | 1 | | |
| | **SITE CLEARANCE** | | | | |
| | **General Site Clearance** | | | | |
| B | Clear 1.5m either side of centre line of the proposed sewerline of grass,bushes,small trees and obstructions and dispose as directed by the Project Manager. | SM | 750 | | |
| | **MANHOLES** | | | | |
| | **Manhole Excavation** | | | | |
| C | Excavate pit in normal soil for Rectangular Manhole type 'A' as per drawing detail No. (50) 5300. Depth to invert max. 0.6m | CM | 2 | | |
| D | Excavate pit in normal soil for Rectangular Manhole type 'B' as per drawing detail No. (50) 5301. Depth to invert max. 1.0m | CM | 10 | | |
| E | Excavate pit in normal soil for Rectangular Manhole type 'C' as per drawing detail No. (50) 5302. Depth to invert max. 1.0m | CM | 20 | | |
| F | Ditto n.l.t 1.0m but n.e 1.5m | CM | 10 | | |
| G | Excavate pit in normal soil for Rectangular Manhole type 'D' as per drawing detail No. (50) 5303. Depth to invert max. 1m. | CM | 25 | | |
| H | Ditto n.l.t 1.0m but n.e 1.5m | CM | 13 | | |
| I | Ditto n.l.t 1.5m but n.e 2.0m | CM | 12 | | |
| J | Extra over excavation for excavation in Rock class II | CM | 7 | | |
| | **Manhole Construction** | | | | |
| K | Provide, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8 ) as blinding for manholes. Cement to BS 12, 14mm aggregate to BS 882. | CM | 3 | | |
| L | Provide, mix and place 150mm thick Concrete grade C20 (Mix Ratio 1:2:4) to construct 150mm thick manholes' bases. Cement to BS 12, 20mm aggregate to BS 882. | CM | 8 | | |
| M | Provide, mix and place 150mm thick concrete grade C20 (Mix Ratio 1:2:4) as cover slab for manholes. Cement to BS 12, 20mm aggregate to BS 882. | CM | 5 | | |
| N | Provide all materials, mix and place conc. grade C15 (Mix Ratio 1:3:6) as benching for 160 mm, 200mm and 225mm diameter pipes. Include for forming as well as finishing benching to falls and building in pipes as per drawings. Cement to BS 12, 20mm aggregate to BS 882. | CM | 4 | | |
| O | Provide materials for and erect 200mm thick masonry for manholes type 'A', 'B',Ç' and D as per drawing details | SM | 175 | | |
| | **TOTAL CARRIED TO COLLECTION PAGE 3** | | | | |

**BILL NO. 01 FOUL DRAINAGE SYSTEM**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **Manhole Construction Cont.** | | | | |
| A | Sawn formwork to vertical sides of base and cover slab of Rectangular Manholes A, B, C and D | SM | 72 | | |
| B | Provide 8mm diameter steel bars for cover slab of Rectangular Manhole Type 'B', C and D as per Drawing Detail | KG | 150 | | |
| C | Provide and fix bitumen coated cast iron steps to B.S 1247 to detail 50 (5309) to both Rectangular and Circular Manholes Types 'A' and 'B' as per Drawing Detail No. 50 (5300) , 50(5301),50 (5314) and 50(5315) respectively. | No. | 125 | | |
| D | Provide 12mm thick cement and sand (mix 1:1) sulphate resisting rendering to the walls of the manholes. | SM | 200 | | |
| E | Ditto but to cover slab | SM | 30 | | |
| F | Ditto but to surface of benching. | SM | 36 | | |
| G | Allow for keeping excavations free from both surface and underground water. | SUM | 1 | | |
| | **C.I MH Cover and Frame To B.S 497 & B.S 556** | | | | |
| H | Provide and fix 600 x 450mm Medium duty C.I manhole cover & frame and grease to detail 50 (5313) | No. | 25 | | |
| | **SEWERLINE** | | | | |
| I | Excavate trench in normal soil for 160mmØ, 200mmØ UPVC pipe (ISO class 41) and 225mmØ Concrete Ogee Pipe and cart away surplus material as directed by the Engineer. Excavation measured from ground level to a depth n.e. 1.0m. | CM | 100 | | |
| J | Ditto n.l.t 1.0m but n.e 1.5m | CM | 150 | | |
| K | Ditto n.l.t 1.5m but n.e 2.0m | CM | 150 | | |
| | | | | | |
| | **TOTAL CARRIED TO COLLECTION PAGE 3** | | | | |

**BILL NO:1 FOUL DRAINAGE SYSTEM**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **SEWERLINE Cont.** | | | | |
| A | Extra over excavation for excavation in Rock class 1 | CM | 20 | | |
| B | Allow for maintaining sides of all excavations vertical by planking and strutting using 25mm sawn timber | SM | 1,200 | | |
| | **PIPE LAYING** | | | | |
| C | Provide, lay and joint 160mm diameter uPVC pipes (ISO class 41) to BS 4660 on gravel bedding and surround | LM | 75 | | |
| D | Provide, lay and joint 200mm diameter uPVC pipes (ISO class 41) to BS 4660 on gravel bedding and surround | LM | 75 | | |
| E | Provide, lay and joint 225mm diameter Pre-Cast Concrete Ogee pipes on gravel bedding and surround | LM | 50 | | |
| F | Provide and compact 100mm approved quarrry dust or sand as bedding and surround for uPVC pipes as per Drawing detail (50) 5310'E' | SM | 300 | | |
| G | Ditto Concrete grade C20 (Mix Ratio 1:2:4) as surround around pipes as per Drawing detail (50) 5310'F' | CM | 8 | | |
| H | Backfill and compact selected material in layers of 150mm thick | CM | 350 | | |
| I | Load and cart away all surplus excavated material as instructed by the Engineer/Project Manager | CM | 50 | | |
| J | Allow a provisional sum of Kshs. 500,000 for any other additional Foul Drainage Works | SUM | 1 | | |
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| | **Carried to Collection……..** | | | | |
| | **COLLECTION** | | | | |
| | **Brought Forward from Page.....1** | | | | |
| | **Brought Forward from Page.....2** | | | | |
| | **Brought Forward from Above…….** | | | | |
| | **TOTAL CARRIED TO GRAND SUMMARY PAGE** | | | | |

**BILL NO:2 SEPTIC TANK**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **90,000 LITRES CAPACITY SEPTIC TANK** | | | | |
| | **Site Clearance** | | | | |
| A | Clear site of all bushes, scrub, undergrowth, scattered small trees and grub up roots including removing from site as directed by Engineer. | SM | 100 | | |
| | **Excavation** | | | | |
| | **Excavate in pit for septic tank starting from ground level and backfill around septic after construction and cart away surplus material as directed by Engineer.** | | | | |
| B | Depth not exceeding (n.e) 1.5m. | CM | 150 | | |
| C | Ditto, depth not limited to (n. l. t.) 1.5m but n.e 3.0m | CM | 150 | | |
| D | Ditto, depth not limited to 3.0m but n.e 4.5m. | CM | 130 | | |
| E | Ditto, depth not limited to 4.5m but n.e 6.0m. | CM | 5 | | |
| F | Trim bottom of excavated surface. | SM | 60 | | |
| G | Extra over for excavation in rock class I. | CM | 20 | | |
| | **Concrete class 15 (mix 1:3:6)** | | | | |
| H | Mix and place 50mm concrete blinding. | CM | 5 | | |
| | **Vibrated reinforced concrete class 20/20 (mix 1:2:4)** | | | | |
| I | Mix and place 200mm thick concrete in base slab. | CM | 16 | | |
| | **Walling** | | | | |
| J | Ditto, but in 250mm thick wall. | CM | 40 | | |
| K | Ditto, but in 200mm thick wall. | CM | 10 | | |
| L | Ditto, but in 150mm thick scum baffle wall | CM | 12 | | |
| M | Ditto, but in 200mm thick suspended cover slab | CM | 15 | | |
| | **Mild steel reinforcement to B.S 4449 Include for cutting,bending,tying wire and spacer blocks.** | | | | |
| N | 8mm diameter bars. | KG | 270 | | |
| | **High yield square twisted reinforcement steel to B.S 4461** | | | | |
| O | 10mm diameter bars. | KG | 300 | | |
| P | 12mm diameter bars. | KG | 3,500 | | |
| Q | 16mm diameter bars | KG | 3,600 | | |
| | **BRC Mesh reinforcement to B.S 1483** | | | | |
| R | BRC mesh No. 65/66. | SM | 15 | | |
| | **Formwork** | | | | |
| | Sawn formwork to:- | | | | |
| S | Interior sides of vertical walls. | SM | 175 | | |
| T | External sides of vertical walls. | SM | 180 | | |
| U | Soffit of suspended slab. | SM | 70 | | |
| V | Sides of suspended slab, 75mm-150mm wide. | SM | 20 | | |
| W | Ditto, 150-225mm. | SM | 4 | | |
| X | Ditto, 225-300mm. | SM | 4 | | |

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|---|---|---|---|
| | **TOTAL CARRIED TO COLLECTION PAGE 6** | | |

**BILL NO:2 SEPTIC TANK**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **SOAKPITS ( 14 No.)** | | | | |
| | **Excavate pits for circular soak pit as per detailed drawing No. (50)5345, partly backfill after construction and cart away surplus material from site, plank and strut sides of excavations including removing fallen maetrials and keep excavations free from surface and underground water** | | | | |
| A | Depth n.e. 6.0 m from the existing ground level | CM | 80 | | |
| B | Extra over for excavation in rock class I | CM | 20 | | |
| | ***Concrete class 10 (mix 1:4:8)*** | | | | |
| C | Mix and place 50mm thick concrete blinding in strip footing. | CM | 1 | | |
| D | Ditto but 100mm thick strip footing, mix 1:3:6. | CM | 1 | | |
| | ***Walling.*** | | | | |
| E | 150mm thick dressed natural stone to detail **50 (5345)**. | SM | 35 | | |
| F | 12mm thick water proof cement rendering to vertical walls. | SM | 40 | | |
| G | Approved 150mm thick natural stone as handpacked hardcore fill | CM | 100 | | |
| | ***Vibrated reinforced concrete class 20/20 (mix 1:2:4)*** | | | | |
| H | Mix and place concrete class 20/20 in 150mm thick suspended slab. | CM | 4 | | |
| | ***High tensile steel reinforcement bars to B.S 4449*** | | | | |
| I | 8 mm diameter round bars. | Kg | 500 | | |
| J | Provide 200mm diameter stone blocks or hardcore in soak pits. | CM | 90 | | |
| K | Provide and fix 600 x 450mm medium duty C.I manhole cover and frame to **B.S 497.** | No. | 14 | | |
| | **The following in Distribution Manholes (7 No.)** | | | | |
| | **Excavations** | | | | |
| | Excavate pit for rectangular distribution manholes as per detailed drawing no. (50) 5351, partly backfill after construction and cart away the surplus material from site as directed. | | | | |
| L | Depth n.e 1.5m starting from the existing ground level | CM | 10 | | |
| M | Extra over for excavation in Rock Class I | CM | 2 | | |
| | **Blinding** | | | | |
| N | Provide, mix and place 50mm thick concrete grade C10 (MixRatio1:4:8) as blinding for manholes base slab. Cement to | SM | 10 | | |
| | **Manhole Base slab** | | | | |
| O | Provide all materials, mix and place 150mm thick concrete grade C15 (Mix Ratio 1:3:6) as base slab for manholes. Cement to BS | SM | 2 | | |
| | **TOTAL CARRIED TO COLLECTION PAGE 6** | | | | |

**BILL NO:2 SEPTIC TANK**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **Sawn Formwork to:** | | | | |
| A | Soffit of cover slab | SM | 10 | | |
| B | Edge of cover slab between 75-150mm high | LM | 30 | | |
| | **Cover slab** | | | | |
| C | Provide all materials, mix and place 100mm thick classw 20 (mix 1:2:4) cover slab for manholes | CM | 1 | | |
| D | Provide all materials, mix and place 150mm thick concrete grade C15 (Mix Ratio 1:3:6) as benching for 160mm diameter forming the main channel and branch channels as well as finishing benching to falls and built-in pipes as per detailed drawings. Cement to BS 12, 20mm aggregate to BS 882. | SM | 10 | | |
| | **Walling** | | | | |
| E | Provide, lay and joint 150mm thick approved dressed natural stone walling to manholes. | SM | 50 | | |
| F | Supply and fix medium duty, cast iron manhole cover size 600X450 | No. | 7 | | |
| | **Rendering** | | | | |
| G | Provide all materials, mix and place 12mm thick water proof cement and sand (mix1:2) render to walls | SM | 50 | | |
| H | Ditto but to cover slab | SM | 10 | | |
| I | Provide 10mm thick water proof cement and sand (mix1:1) trowelled smooth to surface of benching | SM | 10 | | |
| | **FRENCH DRAINS** | | | | |
| J | Excavate trench for agricultural pipe n.e 200mm in diameter for French drains to detailed drawing No. (50) 5344, backfill after | CM | 30 | | |
| K | Ditto to invert n.e 1.5m | CM | 170 | | |
| L | Ditto, depth not less than 1.5m but n.e 2.0m | CM | 70 | | |
| M | Ditto, depth not less than 1.5m but n.e 2.5m | CM | 70 | | |
| N | Provide and lay 100mm diameter agricultural pipes in French drains. Include for all other materials as per drawing No. (50) 5344 | LM | 250 | | |
| O | Cultivate within soakage area, provide and spread 10mm thick layer of red soil mixed with manure (ratio manure red soil 1:6) | SM | 600 | | |
| P | Provide and plant Kikuyu grass and maintain till well established | SM | 600 | | |
| | **Carried to Collection……..** | | | | |
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| | **COLLECTION** | | | | |
| | **Brought forward from page.....4** | | | | |
| | **Brought forward from page.....5** | | | | |
| | **Brought forward from above….....** | | | | |
| | **TOTAL CARRIED TO GRAND SUMMARY PAGE** | | | | |

**BILL NO:3 ACCESS ROAD AND PARKING**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **ACCESS ROAD & PARKING** | | | | |
| A | Excavate over site to remove vegetation soil average 150mm deep. | SM | 15,000 | | |
| B | Cut down tree and grub up roots for tree with girth not exceeding 500mm | No. | 10 | | |
| C | Ditto n.e 1500mm | No. | 10 | | |
| D | Excavate area of the road average 600 mm to formation level. | CM | 7,500 | | |
| E | Extra over excavation for excavating in Rock class 1 | CM | 20 | | |
| F | Allow for trimming and compacting 300mm below formation level in two 150mm layers to correct levels and crossfalls. Compaction to 100% MDD | SM | 15,000 | | |
| G | Allow a provisional sum for adjusting the Moisture Content of the 300mm below formation by either mixing in water or drying out the material such that the Moisture Content during compaction is between 75-100% OMC . | SUM | 1 | | |
| H | Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of the formation as per the manufacturer's specifications. | SM | 15,000 | | |
| I | Provide, lay and compact murram or approved equivalent as road sub-base to 98% M.D.D | CM | 6,000 | | |
| J | Provide, lay and compact 300mm thick hand packed stones in layers of 150mm thick rolled to the sastisfaction of the Engineer/Project Manager. | CM | 4,500 | | |
| K | Provide lay and compact 50mm thick sand or quarry dust bedding to receive heavy duty precast concrete paving blocks. | SM | 15,000 | | |
| L | Provide, lay and compact 80mm thick Heavy duty Pre-cast Concrete paving blocks (Minimum Strength 45-50 N/mm²) | SM | 15,000 | | |
| | **KERBS AND CHANNELS FOR ACCESS ROADS AND PARKING BAYS** | | | | |
| | **To be manufactured strictly in accordance with BS 340, Concrete grade to be C20/20) (Mix 1:2:4). Cement to BS 12, 20mm aggregate to BS 882** | | | | |
| M | Provide and place 450x100mm concrete bed and haunch in concrete grade C15 (mix 1:3:6) for Pre-Cast Concrete 250x125mm kerbs and125x100mm channels. Include for all necessary formwork as per Drawing detail (50)5332 'B'. Cement to BS 12, 20mm aggregate to BS 882. | CM | 90 | | |
| N | Provide, lay and joint 250x125mm Pre-Cast Concrete kerbs and 125x100mm channel in cement mortar (Mix Ratio 1:2) as per Drawing detail (50)5332 'B'. | LM | 1,500 | | |
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| | **TOTAL CARRIED TO COLLECTION PAGE** | | | | |

**BILL NO:3 ACCESS ROAD AND PARKING**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **KERBS AND CHANNELS FOR ACCESS ROADS AND PARKING BAYS Cont.** | | | | |
| A | Load and cart away all surplus excavated material as instructed by the Engineer/Project Manager. | CM | 6,000 | | |
| | **FOOTHPATHS ADJACENT TO THE ACCESS ROADS AND PARKING BAYS** | | | | |
| C | Excavate over site to remove vegetation soil average 150mm deep. | SM | 480 | | |
| D | Excavate area of the road average 150mm to formation level, trim and compact to correct levels and crossfalls. | SM | 480 | | |
| E | Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of formation as per the manufacturer's specifications. | SM | 480 | | |
| F | Provide, lay and compact 150mm thick approved Murram base rolled to the satisfaction of the Engineer | CM | 72 | | |
| G | Provide, lay and compact 50mm thick approved quarry dust or sand as per drawing detail rolled to the satisfaction of the Engineer. | SM | 480 | | |
| H | Provide, lay and joint 600x600x50mm Pre-Cast Concrete slabs to Footpaths as instructed by the Engineer. | SM | 480 | | |
| I | Provide all materials, mix, place and vibrate 475X200mm thick concrete bed and haunch in Concrete grade C15 (Mix Ratio 1:3:6) as instructed by the Engineer . Cement to BS 12, 20mm aggregate to BS 882. | CM | 20 | | |
| J | Provide, lay and joint in cement mortar (Mix ratio 1:2) pre-cast concrete 125x100 channels as footpath edging to Drawing detail 50(532) 'C'. | NO | 650 | | |
| K | Ditto 125x100 mm radii | NO | 5 | | |
| | **ROAD MARKING** | | | | |
| M | Provide and apply three coats of approved reflective road marking paint white in colour in strips of 100mm wide as directed by the Engineer. | SM | 34 | | |
| N | Ditto but yellow in colour. | SM | 12 | | |
| O | Ditto but black colour. | SM | 30 | | |
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| | **Carried to Collection……..** | | | | |
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| | **COLLECTION** | | | | |
| | **Brought Forward from Page .....7** | | | | |
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| | **Brought Forward from Above…….** | | | | |
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| | **TOTAL CARRIED TO GRAND SUMMARY PAGE** | | | | |

**BILL NO:4 FOOTPATHS AROUND BUILDINGS**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **FOOTPATHS AROUND BUILDINGS AND EXTERNAL WALKWAYS** | | | | |
| A | Excavate over site to remove vegetation soil average 100mm deep. | SM | 300 | | |
| B | Excavate to reduced levels not exceeding 250mm deep starting from the stripped level trim and compact to correct levels and crossfalls. | SM | 300 | | |
| C | Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of formation as per the manufacturer's specifications. | SM | 300 | | |
| D | Provide, lay and compact 200mm thick approved Murram as sub-base as per drawing detail rolled to the satisfaction of the Engineer/Project Manager. | SM | 300 | | |
| E | Provide all materials, mix and place 150mm thick concrete grade C15 (Mix Ratio 1:3:6) as base. Cement to BS 12, 20mm aggregate to BS 882 as instructed by the Engineer. | CM | 42 | | |
| F | Provide all materials, mix and place Cement and Sand screed. Thickness must not exceed 12mm (Mix Ratio1:2) on surface to correct slope as per drawing detail. Cement to BS 12. | SM | 280 | | |
| G | Allow for 12mm Flexcell expansion joint and expansion gaps as instructed by the Engineer/Project Manager. | SM | 1 | | |
| H | Provide 381x381mm approved external floor tile of an approved colour as Eurocon tile Salamanca or equal and approved , soak/wet surface in clean portable water, lay and joint in cement slurry (Cement and Water only) Minimum thickness of cement slurry on surface to be as instructed. Allow for grouting and | SM | 280 | | |
| I | Provide, lay and compact 50mm thick approved quarry dust or sand as per drawing detail rolled to the satisfaction of the Engineer. | SM | 300 | | |
| J | Provide, lay and joint 600x600x50mm Pre-Cast Concrete slabs to Footpaths as instructed by the Engineer. | SM | 300 | | |
| I | Provide all materials, mix, place and vibrate 475x100mm concrete bed and haunch in Concrete Grade C15(mix Ratio 1:3:6) as instructed by the Engineer. Include for all necessary | CM | 17 | | |
| J | Provide, lay and joint in cement mortar (Mix 1:2) pre-cast concrete 125x100 channels as per Drawing detail (50)5332 'C'. | no. | 368 | | |
| K | Allow a provisional sum of Kenya Shillings Two Hundred Thousand for any other additional Footpaths/Paving Works | SUM | 1 | | |
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| | **TOTAL CARRIED TO GRAND SUMMARY PAGE** | | | | |

**BILL NO. 05 STORM WATER DRAINAGE**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **OPEN STORM WATER DEEP INVERT BLOCK DRAIN** | | | | |
| A | Excavate trench for 450x600x225mm external dimensions precast concrete IBD trim sides to slope and cart away excavated material depth not exceeding 1.2m (average depth 1.0m.) | CM | 490 | | |
| B | Extra over for excavation in Rock Class I. | CM | 10 | | |
| C | Provide, lay and compact 100mm thick approved murram at the base and side slopes of the trench as per drawing detail (50)5329 'B' | SM | 892 | | |
| D | Provide, lay and joint 450x225mmx600mm external dimensions precast concrete IBD as per drawing detail (50)5329 'B' | LM | 991 | | |
| E | Provide 200mm thick building stone, lay and joint in cement sand (1:3) mortar as stone pitching as per drawing detail (50)5329 | SM | 90 | | |
| F | Provide, lay and joint two 600x225x75mm side slabs as per drawing detail (50)5329 B | SM | 802 | | |
| | **SHALLOW INVERT BLOCK DRAIN** | | | | |
| G | Excavate trench for 125x390mm;(450mm overall) external dimensions Pre-Cast Concrete shallow IBD trim sides to slope and cart away excavated material depth not exceeding 0.5m (average depth 0.4m.) | CM | 48 | | |
| H | Ditto for 175x800mm; (600mm overall) | CM | 148 | | |
| I | Provide, lay and compact 100mm thick approved Murram as sub-base as per drawing detail (50)5330 rolled to the satisfaction of the Engineer. | SM | 270 | | |
| J | Provide, mix and place 50mm thick concrete grade C15 (Mix Ratio1:3:6 ) as bedding for the shallow IBD. Cement to BS 12, 14mm aggregate to BS 882. | CM | 14 | | |
| K | Provide, lay and joint 125x390mm; (405mm overall) precast concrete shallow IBD as per drawing detail (50) 5330. | LM | 120 | | |
| L | Provide, lay and joint 175x800mm; (600mm overall) precast concrete shallow IBD as per drawing detail (50) 5330. | LM | 370 | | |
| | **KERB EDGING FOR SHALLOW DRAINS** | | | | |
| M | Provide and place 450x100mm concrete bed and haunch in concrete grade C15 (mix 1:3:6) for precast concrete 250x125mm kerbs. Include for all necessary formwork as per Drawing detail (50)5330 'A1'. Cement to BS 12, 20mm aggregate to BS 882. | CM | 6 | | |
| N | Provide, lay and joint 250x125mm precast concrete kerbs in cement mortar (Mix Ratio 1:2) as per Drawing detail (50)5330 'A1'. | LM | 120 | | |
| | **CULVERTS & HEADWALL** | | | | |
| | **HEADWALLS** | | | | |
| O | Excavate trench for 200mm width headwall starting from ground level to depth not exceeding 1.0m | CM | 42 | | |
| P | Provide all materials, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8 ) as blinding for headwall base. Cement to BS 12, 14mm aggregate to BS 882. | CM | 2 | | |
| | **TOTAL CARRIED TO COLLECTION PAGE** | | | | |

**BILL NO. 05 STORM WATER DRAINAGE**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT KSHS. |
|---|---|---|---|---|---|
| | **CULVERTS & HEADWALL** | | | | |
| | **HEADWALLS Cont.** | | | | |
| A | Provide all materials, mix and place 150mm concrete grade C20 (Mix Ratio 1:2:4) as foundation for headwalls. Cement to BS 12, 20mm aggregate to BS 882. | CM | 6 | | |
| B | Provide and fix Fabric Mesh Reinforcent Type A to B.S 1483 B.R.C Mesh No.65 to B.S 1483 | SM | 69 | | |
| C | Provide all materials, mix and place 250mm thick Concrete grade C20/20 (Mix Ratio 1:2:4) as Headwall and Wingwalls as per Drawing Detail (50)5318. Cement to BS 12, 20mm aggregate to BS 882. | CM | 18 | | |
| | **CULVERTS** | | | | |
| | **Excavation** | | | | |
| D | Excavate trench in normal soil for and 450mmØ precast concrete pipe and cart away surplus material as directed by the Engineer. Excavation measured from ground level to a depth n.e. 1.0m. | CM | 68 | | |
| E | Ditto n.l.t 1.0m but n.e 1.5m | CM | 30 | | |
| F | Extra over for excavation in rock class 1 | CM | 1 | | |
| | **Concrete Blinding** | | | | |
| G | Provide, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8 ) as blinding for culvert pipe. Cement to BS 12, 14mm aggregate to BS 882. | CM | 3 | | |
| | **Concrete Bedding** | | | | |
| H | Provide, mix and place concrete grade C20 (Mix Ratio 1:2:4) to construct 150mm thick bed for culvert pipe. Cement to BS 12, 20mm aggregate to BS 882. | CM | 9 | | |
| | **Pre-cast Concrete Piping** | | | | |
| I | Provide, lay and joint 450mm dia. precast concrete pipes on concrete bedding to correct fall. | LM | 52 | | |
| J | Provide, mix and place concrete grade C20 (Mix Ratio 1:2:4) as concrete haunch and surround around pipes. Cement to BS 12, 20mm aggregate to BS 882. Including all the necessary formwork. | CM | 24 | | |
| K | Backfill and compact after laying, jointing and surrounding of the pipes. | CM | 1 | | |
| L | Load and cart away surplus excavated material from site. | CM | 98 | | |
| M | Allow a provisional sum of Kenya Shillings Four Hundred Thousand for any other additional Storm Water drainage Works. | SUM | 1 | | |
| | **Carried to collection……..** | | | | |
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| | **COLLECTION** | | | | |
| | **Brought Forward from page .....10** | | | | |
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| | **Brought Forward from above……** | | | | |
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| | **TOTAL CARRIED TO CIVIL GRAND SUMMARY PAGE** | | |

## CIVIL WORKS GRAND SUMMARY PAGE

| ITEM | DESCRIPTION | AMOUNT (FOR CONTRACTOR'S USE ONLY) | AMOUNT (FOR OFFICIAL USE ONLY) |
|---|---|---|---|
| A | FOUL WATER DRAINAGE | | |
| B | SEPTIC TANK | | |
| C | ACCESS ROAD AND PARKING | | |
| D | FOOTPATHS AROUND BUILDINGS | | |
| E | STORM WATER DRAINAGE | | |
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| F | **TOTAL FOR CIVIL WORKS** | | |

# BUILDERS WORK

# SUMMARY

| ITEM | SECTIONAL SUMMARY-BUILDERS WORKS | AMOUNT (KSHS) |
|---|---|---|
| 1 | AGGREGATION WAREHOUSE & COLD STORAGES | |
| 2 | VALUE ADDITION WAREHOUSES | |
| 3 | BOUNDARY WALL | |
| 4 | OFFICE BLOCK | |
| 5 | POWER HOUSE | |
| 6 | PUMP HOUSE | |
| 7 | ABLUTION BLOCK | |
| 8 | CIVIL WORKS | |
| | BUILDERS WORKS SUMMARY | |

# GRAND SUMMARY

PROPOSED CONSTRUCTION OF COUNTY AGGREGATION & INDUSTRIAL PARKS

| BILL NO. | DESCRIPTION | FOR TENDERER USE ONLY | |
|---|---|---|---|
| | GRAND SUMMARY | KSHS | |
| 1 | PARTICULAR PRELIMINARIES | | |
| 2 | GENERAL PRELIMINARIES | | |
| 3 | VOL 1:MAIN WORKS ( BUILDERS AND CIVIL) | | |
| 4 | VOL 2:MECHANICAL INSTALLATION WORKS | | |
| 5 | VOL 3:ELECTRICAL INSTALLATION WORKS | | |
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| | INCLUSIVE OF VAT | | |
| | TOTAL AMOUNT CARRIED TO FORM OF TENDER | | |

Amount in Words: .....
.....

Official Stamp

Signed: .....

Designation: .....

Date: .....

WITNESSED BY

Name.....

Adress.....

Date.....

# REPUBLIC OF KENYA

## PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARKS

## VOLUME 2 OF 3

TENDER SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

SUPPLY, DELIVERY, TESTING AND COMMISSIONING OF WATER STORAGE, INTERNAL PLUMBING, INTERNAL DRAINAGE, COLD STORAGE AND BOREHOLE DRILLING & EQUIPPING AND INSTALLATION WORKS

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May 2023

TABLE OF CONTENTS


| TITLE | PAGE |
|---|---|
| SECTION A: Tender Evaluation Criteria ..... | 4 - 5 |
| SECTION B: General Mechanical Specifications ..... | 8 - 12 |
| SECTION C: Particular Plumbing and Drainage Specifications ..... | 13 – 21 |
| SECTION D: Particular Specifications for Portable Fire Extinguisher and Hose Reel Installations ..... | 22 - 29 |
| SECTION E: Particular Specifications for Particular Specification for The Design Supply and Erection of Water Storage Tanks and Booster Pumps ..... | 30 - 36 |
| SECTION F: Particular Specifications for Cold Room Installations ..... | 37 – 40 |
| SECTION G: Particular Specifications for Borehole Drilling and Equipping ..... | 37 – 40 |
| SECTION H: Bills of Quantities & Schedule of Unit Rates..... | 41 - 119 |
| SECTION I: Technical Schedule of Items to be supplied..... | 120 |
| SECTION J: Standard Forms..... | 121 - 125 |

# PART1: TENDERING PROCEDURES

TENDER EVALUATION CRITERIA

Note: The tenderer who shall be domestic subcontractor to the Main Contractor upon award of the tender, must comply with the following conditions and instructions failure to which the tender shall be rejected.

After tender opening, the tenders will be evaluated in 2 stages, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

STAGE 1: PRELIMINARY EVALUATION

This stage of evaluation shall involve examination of the mandatory requirements as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions shall include the following:

i) Company Certificate of incorporation/registration;
ii) Valid Tax Compliance Certificate;
iii) Current Certificate of registration with National Construction Authority in Mechanical Engineering Works – Plumbing & Drainage, Cold Storage and Borehole Drilling Works (NCA 3 and above);
iv) Current and Valid NCA contractor's practicing license
v) Duly Filled Form CR12 from the Registrar of Companies not older than 3 months.

Note:
*On compliance with Technical Specifications, bidders shall supply equipment /items which comply with the technical specifications set out in the bid document. In this regard, the bidder will be required to submit relevant technical brochure/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/Model of the proposed items. Such brochure/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:*

(i) Standards of manufacture;
(ii) Performance ratings/characteristics;
(iii) Material of manufacture;
(iv) Electrical power ratings; and
(v) Any other necessary requirements so as to comply with the bid technical specifications.

The bid will then be analyzed, using the information in the technical brochures, to determine compliance with key technical specifications for the works/items as indicated in the tender document. Bidders not complying with any of the key Technical Schedule specifications shall be Non-Responsive while those meeting all the key technical specifications shall be Responsive (evaluation committee may add more key requirements from the bid technical specifications.

The tenderer shall also fill in the Technical Schedule as Specified in the tender document for Equipment's and items indicating the Country of Origin, Model/Make/Manufacturer and catalogue numbers of the Items/ Equipment they propose to supply.
The tenderers who do not satisfy any of the above mandatory requirements shall be considered Non-Responsive and their tenders will not be evaluated further.

STAGE 2 TECHNICAL EVALUATION

At this stage technical evaluation shall be done by comparing each tender to the technical requirements in the tender document

TABLE 1: Assessment for Eligibility

| Item | Description | YES/NO |
|---|---|---|
| 1. | Compliance with Technical Specifications (Vol. 2 of 3 of the Tender Documents)<br>*(Note: Tender Evaluation Committee to carryout analysis showing how decision on this requirement has been arrived at)* | |
| 2. | Qualification and Experience of Key Personnel | |
| | Academic Qualification and Experience (Provide evidence in form copies of Academic Certificates)<br>a) Director of the firm<br>• Holder of at least a diploma with 10 years' experience in a relevant field | |
| | b) Project Manager<br>• Holder of at least a degree with 5 years' experience in a relevant field | |
| | c) At least 3 No artisans<br>• Holder of at least a certificate with 5 years' experience in relevant Engineering field | |
| 3. | Experience of the firm in similar services: (*Water Tanks Plumbing & Drainage*, *Cold Storages and Borehole Drilling Works*)<br>a) Provide Three (3No.) projects of similar nature, complexity or magnitude) between the Period 2018 – 2022: (Provide evidence in form of copies of Award letters, Completion Certificates, LSOs etc.) | |
| 4. | Adequacy of tools and equipment (Provide evidence in form Log Books, Purchase Receipts, Lease Agreements etc.)<br>The tenderer ***must*** show proof of ownership or leasing of the following equipment: -<br>a) Relevant Transport (at least 3No.)<br>• Means of transport<br>b) Relevant Equipment (at least 3No.)<br>• Has relevant equipment for work being tendered | |
| | QUALIFIED YES / NO | |

*Non compliance with the Technical Specifications will render the Tenderer Non responsive and therefore unqualified for further evaluation:*

# PART II - WORKS REQUIREMENTS

# GENERAL MECHANICAL SPECIFICATIONS

## GENERAL MECHANICAL SPECIFICATION

2.01 General

This section specifies the general requirement for plant, equipment and materials forming part of the Sub-contract Works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

2.02 Quality of Materials

All plant, equipment and materials supplied as part of the Sub-contract Works shall be new and of first-class commercial quality, shall be free from defects and imperfections and where indicated shall be of grades and classifications designated herein.

All products or materials not manufactured by the Sub-contractor shall be products of reputable manufacturers and so far as the provisions of the Specification is concerned shall be as if they had been manufactured by the Sub-contractor.

Materials and apparatus required for the complete installation as called for by the Specification and Contract Drawings shall be supplied by the Sub-contractor unless mention is made otherwise.

Materials and apparatus supplied by others for installation and connection by the Sub-contractor shall be carefully examined on receipt. Should any defects be noted, the Sub-contractor shall immediately notify the Engineer.

Defective equipment or that damaged in the course of installation or tests shall be replaced as required to the approval of the Engineer.

2.03 Regulations and Standards

The Sub-contract Works shall comply with the current editions of the following:

a) The Kenya Government Regulations.
a) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.
b) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.
c) British Standard and Codes of Practice as published by the British Standards Institution (BSI)
e) The Local Council By-laws.
f) The Electricity Supply Authority By-laws.
g) Local Authority By-laws.
h) The Kenya Building Code Regulations.
i) The Kenya Bureau of Standards

2.04 Electrical Requirements

Plant and equipment supplied under this Sub-contract shall be complete with all necessary motor starters, control boards, and other control apparatus. Where control panels incorporating several starters are supplied, they shall be complete with a main isolator.

The supply power up to and including local isolators shall be provided and installed by the Electrical Sub-contractor. All other wiring and connections to equipment shall form part of this Sub-contract and be the responsibility of the Sub-contractor.

The Sub-contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval.

The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power and Lighting Company (KPLC) By-laws.

All electrical plant and equipment supplied by the Sub-contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1-phase.

Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

2.05 Transport and Storage

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimize the possibility of damage and to prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

Adequate measures shall be taken by the Sub-contractor to ensure that plant and equipment do not suffer any deterioration during storage.

Prior to installation all piping and equipment shall be thoroughly cleaned.

If, in the opinion of the Engineer any equipment has deteriorated or been damaged to such an extent that it is not suitable for installation, the Sub-contractor shall replace this equipment at his own cost.

2.06 Site Supervision

The Sub-contractor shall ensure that there is an English-speaking supervisor on the site at all times during normal working hours.

2.07 Installation

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern

practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 Testing

2.08.1 General

The Sub-contractor's attention is drawn to Part 'C' Clause 1.38 of the "Preliminaries and General Conditions".

2.08.2 Material Tests

All material for plant and equipment to be installed under this Sub-contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned.

For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

The Sub-contractor shall prepare specimens and performance tests and analyses to demonstrate conformance of the various materials with the applicable standards.

If stock material, which has not been specially manufactured for the plant and equipment specified is used, then the Sub-contractor shall submit satisfactory evidence to the Engineer that such materials conform to the requirements stated herein in which case tests of material may be partially or completely waived.

Certified mill test reports of plates, piping and other materials shall be deemed acceptable.

2.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer.

The Sub-contractor shall give two weeks' notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections.

The cost of such tests and inspections shall be borne by the Sub-contractor.

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

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

Engineer at the Sub-contractor's expense.

2.08.4 Pressure Testing

All pipe work installations shall be pressure tested in accordance with the requirements of the various sections of this Specification. The installations may be tested in sections to suit the progress of the works but all tests must be carried out before the work is buried or concealed behind building finishes. All tests must be witnessed by the Engineer or his representative and the Sub-contractor shall give 48 hours' notice to the Engineer of his intention to carry out such tests.

Any pipe work that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Sub-contractor and the specified tests shall then be applied.

The Sub-contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

2.08.5 Shop drawings

Before manufacture or Fabrication is commenced the contractor shall submit Two copies of detailed drawings of all water tanks, fire hose reel pump, water booster pump and any other equipment 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 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.

2.09 Colour Coding

Unless stated otherwise in the Particular Specification all pipe work shall be color coded in accordance with the latest edition of B.S 1710 and to the approval of the Engineer or Architect.

2.10 Welding

2.10.1 Preparation

Joints to be made by welding shall be accurately cut to size with edges sheared, flame cut or machined to suit the required type of joint. The prepared surface shall be free from all visible defects such as lamination, surface imperfection due to shearing or flame cutting operation, etc., and shall be free from rust scale, grease and other foreign matter.

2.10.2 Method

All welding shall be carried out by the electric arc processing using covered electrodes in accordance with B.S. 639.

Gas welding may be employed in certain circumstances provided that prior approval is obtained from the Engineer.

2.10.3 Welding Code and Construction

All welded joints shall be carried out in accordance with the following Specifications:

a) Pipe Welding

All pipe welds shall be carried out in accordance with the requirements of B.S.806.

b) General Welding

All welding of mild steel components other than pipework shall comply with the general requirements of B.S. 1856.

2.10.4 Welders Qualifications

Any welder employed on this Sub-contractor shall have passed the trade tests as laid down by the Government of Kenya.

The Engineer may require to see the appropriate to see the appropriate certificate obtained by any welder and should it be proved that the welder does not have the necessary qualifications the Engineer may instruct the Sub- contractor to replace him by a qualified welder.

# PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

GENERAL

SITE LOCATION

The site of the proposed works is as *per Tender Advert*

SCOPE OF WORKS

The works to be carried out under this sub-contract comprise Supply, installation, testing and commissioning of the following: -

a. Supply, Delivery, Testing and Commissioning of Water Storage, Internal Plumbing, Internal Drainage, Borehole Drilling, Borehole Equipping and Cold Storage Installation Works

BROCHURES FOR DEVICES

For consideration and qualification tenderers shall, at their own cost, provide colored manufacturer's brochures detailing technical literature and specifications where applicable

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

3.2 MATERIALS AND STANDARDS

3.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

i. Galvanized Steel Pipework

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

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

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

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

ii. Copper Tubing

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

Pipe joints shall be made with soldered capillary fittings and connections to equipment shall be with compression fittings manufactured in accordance with B.S. 864.

iii. CPVC piping

PVC (polyvinyl chloride) that has been chlorinated via a free radical chlorination reaction. CPVC is produced by adding chlorine to PVC in a water slurry or fluidized bed chlorination process. The chlorination reaction is initiated by ultraviolet light. The chlorinated PVC is compounded with ingredients necessary for the desired properties for further processing. The chlorine added to PVC gives CPVC higher temperature performance and improved fire and corrosion resistance.

Should conform to ASTM D2846 standard and ASTM F441 Standard for chlorinated poly vinyl chloride pipes.

Short copper connection tubes between galvanized pipe work and sanitary fitments shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between the galvanized pipe and the copper tube in order to prevent direct contact.

b) P.V.C. (Hard) Pressure Pipes and Fittings

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

Jointing

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

Testing

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

c) A.B.S. Waste System

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

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

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

Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.
Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this impracticable the Sub-contractor shall provide purpose made supports, centers of which shall not exceed one meter.
Expansion joints shall be provided as indicated.
Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) PVC Soil System

The Sub-contractor shall supply and fix PVC soil pipes and fittings as indicated on the Drawings and Schedules.
Pipes and fittings shall be in accordance with relevant British Standards, including B.S. 4514 and fixed to the manufacturer's instructions and B.S. 5572.
The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to.
Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet.
Suitable supporting brackets and pipe clips shall be provided at maximum of one meter centers.
The Sub-contractor shall be responsible for the joint into the Gully Trap on Drain as indicated on the Drawings.

3.2.2 Valves

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

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

b) Gate Valves

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

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

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

c) Globe Valves

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

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

3.2.3 Waste Fitment Traps

a) Standard and Deep Seal P & S Traps

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

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

b) Anti-Syphon Traps

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

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

3.2.4 Pipe Supports

a) General

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

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

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

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

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

b) Steel and Copper Pipes and Tubes

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

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

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

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

C) Expansion Joints and Anchors

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

Where piping anchors are supplied, they shall be fixed to the main structure only. Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.
The Sub-contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.
The Sub-contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

3.2.5 Sanitary Appliances

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

3.2.6 Pipe Sleeves

Main runs of pipework are to be fitted with sleeves where they pass through walls and floors. Generally, the sleeves shall be of P.V.C. except where they pass through the structure, where they shall be mild steel. The sleeves shall have 6mm – 12mm clearance

all around the pipe or for insulated pipework all around the installation. The sleeve will then be packed with slag wool or similar.

## 3.3 INSTALLATION

### 3.3.1 General

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

### 3.3.2 Above Ground Installation

a) Water Services

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

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

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

Valves and other user equipment shall be installed with adequate access for operation and maintenance.

Where valves and other operational equipment are unavoidably installed beyond normal reach or in such

Position as to be difficult to reach from a small step ladder, extension spindles with floor or wall pedestals

shall be provided.

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

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

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

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

Sanitary Services

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

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

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

Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

The vent stacks shall terminate above roof level and where stack passes through roof, a

weather skirt shall be provided. The Sub-contractor shall be responsible for sealing the roof after installation of the stacks.
The open end of each stack shall be fitted with a plastic coated or galvanized steel wire guard.
Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

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

1.1. TESTING AND INSPECTION

3.4.1 Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of ten hours to not less than one and half times to design working pressure.
If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer.
During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.
The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

b) Above Ground Soil Waste and Ventilation System

All soil, waste and ventilating pipe system forming part of the above ground installation, shall be given appropriate test procedures as described in B.S. 5572, 1972.
Smoke tests on above ground soil, waste and ventilating pipe system shall not be permitted.
Pressure tests shall be carried out before any work which is to be concealed is finally enclosed.
In all respects, tests shall comply with the requirements of B.S. 5572.

3.4.2 Site Test – Performance

Following satisfactory pressure test on the pipework system operational tests shall be carried out in accordance with the relevant B. S. Code of practice on the systems as a whole to establish that special valves, gauges, control, fittings, equipment and plant are functioning correctly to the satisfaction of the Engineer.
All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than normal with the result that pipe "sweating", due to condensation will cause nuisance.
All lagged pipes which run in a visible position after erection shall be given a canvas cover and prepared for painting as follows:

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

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

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

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

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

Pressure gauges should be recalibrated before the tests.

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

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

3.5: STERILISATION OF COLD-WATER SYSTEM

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

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

# PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER AND HOSE REEL INSTALLATIONS

PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER AND HOSE REEL INSTALLATIONS

4.1 GENERAL

The particular specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers and Boosted Hose Reel System. The Sub-contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the contract drawings but which are necessary for the completion and satisfactory functioning of the works.

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

4.2 SCOPE OF WORKS

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

4.3 WATER/CO2 EXTINGUISHERS

These shall be 9-litre water filled CO2 cartridge operated portable fire extinguishers and shall comply with B.S. 1382: 1948 and to the requirements of B.S.4523: 1977. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

a) Method of operation.

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

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

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

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

f) The year of manufacture.

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

h) The number of British Standard 'B.S' 1382 or B.S. 5423: 1977.

4.4 PORTABLE CARBON DIOXIDE FIRE EXTINGUISHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with B.S. 3326: 1960 and B.S. 5423: 1977.

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the

following British Standards; B.S. 401 or B.S. 1288.

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

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

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

The following markings shall be applied to the extinguishers:-

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

b) Method of operation.

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

d) Instructions for periodic checking.

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

f) The manufacturers name or identification markings

## 4.5 DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS3465: 1962 and BS 5423. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470: 1972 and shall be suitably protected against corrosion.

The dry powder charge shall be not-toxic and retain it s free flowing properties under normal storage conditions. Any pressurizing agent used as an expellant shall be in dry state; in particular compressed air.

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

The extinguisher shall be clearly marked with the following information

a) The word "Dry Powder Fire Extinguisher"

b) Method of operation in prominent letters.

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

d) Manufacturers name or identification mark

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

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

g) The year of manufacture.

h) The Pressure to which the extinguisher was tested.

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

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

4.6 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. 5423 with the following specifications:-

Cylinder: to B.S. 1449

Necking: to be 76mm outside diameter steel EN 3A $2^3/_4$ X 8TPI female thread.

Head cap: to be plastic moulding acetyl resin.

$CO_2$ Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

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

4.7 FIRE BLANKET

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

4.8 BOOSTED HOSE REEL SYSTEM

4.8.1 General

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

4.8.2 Hose Reel Pumps

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

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

4.8.3 Control Panel

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

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

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

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

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

(d) Duty pump run green indicator light.

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

(f) Duty pump fail red indicator light.

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

(h) Low water condition pump cut-out with red indicator light.

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

4.8.4 Hose Reel

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

The hose reel shall comply with B.S. 5274: 1975 and B.S 3161: 1970 and is to be installed to the requirements of C.P. 5306 Part 1: 1976.

The hose reel shall be supplied and installed complete with a first-aid Non-kinking hose 30 meters long with a nylon spray / jet / shut-off nozzle fitted. A screw down chrome - plated globe valve to B.S 1010 to the inlet to the reel is to be supplied.

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

The hose reels shall be installed complete with electro-galvanised cabinet recessed on the wall.
The hose reels shall be installed at 1.5 metres centre above the finished floor level in locations shown in the contract drawings.

4.8.5 Pipe Work

The pipe work for the hose reel installation shall be galvanised wrought steel tubing heavy grade Class C to B.S 1387: 1967 with pipe threads to B.S 21. The pipe work and all associated fittings shall be in approved colour for fire fittings.

4.8.6 Pipe Fittings

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

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

4.8.7 Non-return Valves

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

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

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

4.8.9 Sleeves

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

4.8.10 Earthing

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

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

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

4.8.13 Instruction Period

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

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

4.8.14 Signage-Fire Instruction /Fire Exit

4.8.14.1 Fire Instruction Notice

Print fire instruction on the Perspex plates with White Colour Background measuring 510mm length x 380mm width x 4mm thick as follows;

FIRE INSTRUCTION NOTICE

In the event of fire;

1. Raise the alarm by actuating the nearest alarm system point, Sound Siren /gong or Shout Fire
2. Attack fire using the nearest available equipment
3. Call nearest fire Brigade or Police 999 and inform your switchboard (PABX) Operator
4. Ensure that all personnel not involved in firefighting evacuation to safety outside the building.
5. Close but DO NOT LOCK doors behind as you leave.
6. Evacuate the building using stairs or fire escapes. Do not use Lifts/Escalators. Walk calmly. Avoid panic. Do not stop or return for personal belongings.
7. Assemble as per floor outside the building for roll call.

4.8.14.2 Fire Exit Sign

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering IN RED COLOUR of not less than 50mm in height.
2. A pendant sign bearing words, FIRE EXIT and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

4.8.14.3 Hose Reel Label

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering IN RED COLOUR of not less than 50mm in height.
2. A pendant sign bearing words, HOSE REEL and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

# PARTICULAR SPECIFICATION FOR THE DESIGN SUPPLY AND ERECTION OF WATER STORAGE TANKS AND BOOSTER PUMPS

PARTICULAR SPECIFICATION FOR THE DESIGN SUPPLY AND ERECTION OF WATER STORAGE TANKS AND BOOSTER PUMPS

## 6.10 DESCRIPTION OF SITE

The contractor is deemed to have visited the site and if unable to locate it or its details apply to the Principal Secretary, State Department of Public Works, Ministry of Lands, Public Works, Housing and Urban Development, Ngong Road, Nairobi.

No claims will be allowed for the traveling or other expenses, which may be incurred by the sub-contractor's works. However, the sub-contractor may allow that he may have to, during contract time, do part of the works and therefore three visits may be catered for.

## 6.11 SCOPE OF CONTRACT

The work to be carried out under, this sub-contract comprises the designs, manufacture, supply, delivery, erection, together with testing and commissioning of Water tanks as here-in specified and shown on the contract drawings.

All work shall be performed in straightforward manner by competent workmen under skilled supervision to the entire satisfaction of the project manager.

## 6.12 COMPLIANCE WITH REGULATIONS.

The sub-contractor shall comply in all respects to the provisional and regulations of the By-laws of the Local Authority, Kenya Building Code, as 449 Part B5 1964. BS 4211, CP2 chapters V part 1 and 2 MOPW Structural steel work specification (1973) code of practice for design and construction of buildings and structures in Relation to Earthquake (1972) wherever applicable to the contract works.

The Ministry of Roads and Public Works are responsible for the design of the foundation subject to giving approval of the sub-contractor's design of the tower and due allowance should be given for this work to be carried out in sub-contractor programmed of works. The main contractor is responsible for the construction of the foundation in accordance to approved designs.

## 6.13 STRUCTURAL DRAWINGS AND CALCULATIONS

2No copies of general arrangement and fabrication drawings properly dimensioned and detailed showing the whole tower and its accessories together with 2No copies of the structural calculations complying with all the relevant BS and CP are to be submitted for approval prior to the commencement of the work.
The calculation is to indicate the maximum downward and upward loads on the foundations for the Ministry of Roads and Public Works Structural Department to design the foundation.

## 6.20 STEEL WATER TANKS

a) The tanks shall be pressed steel sectional tanks complying in all respects to BS 1564 Types 1 or 2. The jointing materials shall be non-toxic and non-soluble to water and the tank cover shall be joined throughout the tank top ensuring that the joint is both water proof and dust proof.

b) Cover framing and members shall be designed to withstand supper-imposed loading complying with the requirement complying with the requirements of CP2 Chapter V part 1 and BS 149 Part 2.

c) All internal stays are to be provided as required by the tank manufacture and the Sub-contractor shall be responsible for ensuring the stays are adequate in number and position and properly tightened. These are to be manufactured from steel to BS 4360, Grade 43 A.

d) All Bolts, nuts and washers used in the construction should comply with BS 4190. The contractor to allow in his pricing, for a complete set of spanners, spare bolts and Washers for maintenance purposes.

e) Access manhole with hinged cover together with a filtered vent outlet shall be installed.

f) The Sub-contractor is to notify the Project Manager of the type of panel he is proposing to use and the manufacturer who is to be approved.

g) The inflow and outflow connection shall be as shown on the drawing.

h) The outflow supply pipe shall be at least 50mm above the tank bottom while the inflow pipe shall be 200mm below the tank rim. The overflow pipe shall be about 1000mm long, away from the tank. The drain pipe shall be at the lowest part of the tank.

6.21 LOW LEVEL TANK

Tank Capacity: 85,590 Litres (18,388 Gal) Galvanised Pressed Sectional Steel

Preferred dimensions:
4.88 metres length

4.88 metres width

3.66 metres height

Plate thickness- 6mm

Tank to be supplied completed with: -

a) 32 mm diameter inflow connection
b) 50 mm diameter outflow connections
c) 50 mm diameter outflow connections
d) 50 mm diameter washout pipe
e) 50 mm diameter overflow pipe
f) Float switch pair fully wired.
g) 1No. water level indicator
h) 1No. cover and manhole
i) 1No. internal ladder
j) 1No. external ladder

The Structural Department will give details of foundations and R.C walls for the low level tank.

The base is to be cast by the Main Contractor unless otherwise instructed by the Project Manager.

6.221 HIGH LEVEL TANK

Tank Capacity: 46,525 Litres (10,234 Gal) Galvanised Pressed Sectional Steel
Preferred Dimensions

3.66 metres length

3.66 metres width

3.66 metres height
plate thickness: 6mm

Height from ground level to the underside of the tank will be 12 metres.
Tank to be supplied with:

1. 320- mm diameter inflow connection
2. 50- mm diameter outflow connection
3. 50- mm diameter washout pipe
4. 50- mm diameter overflow pipe
5. 1No. level regulator
6. 1No. Water level indicator
7. 1No. steel cover and manhole
8. 1No. internal ladder
9. 1No. external ladder to ground level with cage
10. 1No. perimeter walkway and handrail

6.23 Pipework

The sub-contractor shall supply and fix all pipe work and fitting up to ground level as detailed on the drawing or in this specification. All pipe work shall be adequately supported and secured to the tank structure. The washout pipe will have a bend leading to a reasonable place where the drainage will not interfere with the structure.

The inflow outflow and washout pipes shall be fixed against the tower structure so as to facilitate fixing and good support.

The following pipework shall be used depending on the condition: -

(a) Medium Grade Galvanized steel and must conform with BS 1987 1967 class 'B'
(b) PP-R pipe work to be manufactured in accordance with the current European standards i.e DIN 8077 and DIN 8078 for PN 20 tubing, with metallic joints to DIN 8076, joints and fittings for tubing to DIN 16962.
(c) HDPE PN 16

The sub-contractor shall provide high pressure ball valve capable of coping with the maximum area's local water supply pressure.

6.24 Access Ladder

Internal ladder shall be supplied for the tank and shall be fixed adjacent at the manhole but easily removable for cleaning the inside of the tank (i.e hooked connection).

The tanks shall be provided with an external ladder leading to the manhole and complying to BS 4211. The stringers shall be parallel, minimum width 15 inches apart and of flat bar of minimum dimensions 1½" by 2/8 inches. The rugs shall be of round bars not less than ¾ inches diameter and the distance between centers shall be 9 – 10 inches. The external ladder shall be fitted with safety hoofs made to conform with BS 4211.

6.25 Platform

The tower is to have a periphery walkway at tank level having minimum width of 600mm clear between the edge of the tank and the inside of the protective safety handrail. The platform is to be provided with a steel chequered place floor of similar approved and to be completely sealed so as not to allow anybody or items such as bolts and spanners to fall on persons on the ground.

All loading for the design of such platform are to be provided in the structural calculations.

6.26 Painting

The tank shall be painted inside with one coat of bituminous non-toxic paint (or any other equivalent and approved) and on the outside with coat of primer before erection. After erection, the tank inside shall be painted with two coats of aluminium paint. The other structures shall be cleaned and painted one coat lead oxide or red lead before erection and two coats of aluminium paints after erection.

All the painting shall be approved by the Engineer.

6.27 Erection

The sub-contractor shall erect the tank complete, on foundation prepared and designed by others and with all necessary pipes, ladders, tower etc. as listed herein and shown on the drawing.

The main contractor shall prepare the foundation to the sub-contractor's and Public Works Structural Department's details. The main contractor shall also concrete or ground in the HD bolts to the sub-contractor's requirements.

6.30 POLYETHYLENE WATER STORAGE TANKS

(a) The tanks are made of graded polyethylene that has been effectively stabilized against the harmful effects of sunlight. This being achieved by incorporating more than 2% carbon black into the melt.
(b) The tank to manufactured as per the relevant Kenyan Starndard.

6.40 Booster pumps

2 No. electrically operated pumps capable of pumping 10 Litres per second (36.67 gallons per minute) of water against 24 metres static head shall be installed. The pumps to be as 'Grundfos CR 10-5' or equal and approved.

Each pump shall be directly driven by a three phase motor; the pump motor being mounted on a common base.

Pump casing shall be manufactured from good quality cat iron and impellers, shafts and other material in contract with water shall be of corrosion resistant metal. The pumps shall be suitable for pumping filtered water treated for human consumption.

The motor shall be completed protected against possible damage due to entry of water, dust etc. the shall be fitted with glands for the entry of PVC armoured cables with overall PVC sheath. The completed cable connection to the motor terminal box shall be proof against ingress of water or dust.

The pump shall be mounted on concrete plinth which shall be constructed by the main contractor in accordance with specifications form the sub-contractor.

Holes for holding down bolts shall be left in concrete and after the concrete has cured the pumps shall be placed in position and bolts grounded into position. A grout shall be floated under pump motor base to ensure an even surface for the pump to rest upon.

6.50 Electrical works

It shall be the responsibility of the sub-contractor to provide all electrical wiring between all items of his sub-contract works to ensure the correct functioning of his equipment. The sub-contractors electric works shall start from nearest electrical isolator.

6.60 Control panel

The sub-contractor shall provide an electric control panel and shall be responsible for its fixing and satisfactory operation. The panel shall be fabricated from minimum thickness. 1.2mm steel sheet and finished grey stoved enamel.

The panel shall be wall mounted with a removable hinged front access panel. Motor control switch gear shall be of approved type. The panel shall have an integral isolator.

Pump changeover shall be automatic alternating after each duty cycle. A green 'running' red 'trip' lamp shall be provided for each pump. The control system (float switches etc.) shall be energized when a pump is started.

The motor system shall be wired so that they operate only automatically as called for by the switches except that starter push button shall be connected so as to enable the pumps to be started and run and cease to run when the push button is allowed to its normal position.

An emergency stop button shall be located adjacent to each pump.

The level regulator shall be wired and set in such a manner that the duty pumps shall be called to start when the high level tank is full.

The electrode in the low level tank shall override instructions form high level regulator and stop when the water is approximately 600mm high.

Where a three-phase motor is used, a single phasing protector shall be provided if the motor does not have one.

A phase failure relay shall be installed in 3 phase – operated pumps.

6.70 Testing

Testing shall be done by filling the tank with water after erection. The water will be from the local supply and the main contractor shall apply from the Authority for connection.

In cases where water is already on site and being used by the client, the contractor will make necessary arrangements and reimburse the client amount equivalent to volume of water used.

Testing shall be witnessed by the Project Manager or his representative.

6.80 Guarantee

The sub-contractor shall guarantee the tanks against leaks, and the tower for a period of (12) months form the testing date. Any damage incurred due to bad workmanship shall be made good by the contractor.

6.90 SCHEDULES

6.91 Introduction

The tenderer shall complete all schedules. The schedules shall be read in conjunction with the specification. The GRAND TOTAL of prices in the main summary of prices schedule shall be deemed to have been included in another part of section.

Note: -

The list of recommended initial spare parts prices are to be submitted separately on tenderer's own paper. The spares prices are not to be included in the GRAND TOTAL or prices as the spares are an extra item only to be purchased if and when convenient to the Government of Kenya.

All prices shall be in Kenya shillings and shall be inclusive of all taxes and duties current at the time of tendering.

# PARTICULAR SPECIFICATION FOR COLD ROOM INSTALLATIONS

PARTICULAR SPECIFICATION FOR COLD ROOM INSTALLATIONS

1.0 SCOPE OF WORK

The work to be carried out comprises the supply, delivery, installation, testing and commissioning of cold room refrigeration equipment, a cold room door, wall, ceiling and floor insulation and control panel with auxiliary equipment and wall finishes in aluminum sheet. The works shall be at carried out in *as per Tender Advert*.

1.1 DESIGN CONDITIONS

Mean ambient temperature: 27°C DB
Storage temperature: +2° + -1°C
Storage humidity (minimum): 85%
Evaporator Cooling load: 18.5 KW

1.2 THE COLD ROOM

The internal dimensions of the existing cold room are 14.75 x 9.75 x 5.75m high. This shall have mechanically applied vapor barrier & insulation on concrete slab and roof and block walls.

1.3 VAPOUR BARRIER & WATER PROOFING

Before the application of the insulation to the structure a vapour barrier shall be applied to the entire internal surface. This shall consist of an even layer of Flinkote type 3 or equal and approved applied to manufactures instructions. The top surface of the floor insulation shall be water proofed using an asphalt saturated and coated vapour barrier paper of not more than 0.3 perms permeance or other equal and approved, lapped at least 80mm and tacked in place. The vapor seal must be approved by the Engineer before insulation work.

1.4 INSULATION AND FINAL WALL FINISHES

The insulating material shall be 150mm thick sandwich panels made from Polyurethane (or equal and approved) with a conductivity of approximately 0.023 W/M°C and a density of approx. 40Kg/m$^3$ for the walls and ceiling and 40Kgs/m$^3$ for the floor.
Care must be taken to avoid breaking the vapor seal when fixing the insulation. Two more cotes of vapor seal shall then be applied after application of insulation
The panels to have 4mm painted galvanized inner and outer layers and to have interlocking grooved edges with cam lock mechanism for quick assembly and securing. The main contractor shall then finish off the floor with 75 mm reinforced concrete and plaster under supervision of the Project Managers representative.

1.5 INSULATED DOOR

The door and frame shall be fabricated from 150mm thick sandwich panels with poly urethane form sandwiched by 4mm painted galvanized sheet metal sides. It shall have a clear height of 2.0m by 1.0m wide with a slide to the side opening mechanism on rails with dipping provisions for lock and seal operation. The door shall be completed with sufficient gaskets to ensure an air tight seal. The door shall be fitted with automatic plunger type switches for operating the fan motors and interior lights such that when it is open, the light shall go on and the fan shall stop, and when it is closed, the lights shall go off and the fan shall start.

The door shall be such that it can be padlocked from outside but with an inside release such that it can be opened from inside even when padlocked.

1.6 EVAPORATOR

The evaporator shall consist of a cooling coil, air-circulating fan, fan guard, defrost electric heater element and a thermostatic expansion valve. The valve shall be pressure equalized and

manually adjustable. A timer unit shall be mounted in the control panel to control both the de-frosting intervals and defrosting period – both of which shall be variable. The evaporator shall be of cooling load capacity 18.5KW. It shall be ceiling type unit with a drip tray fitted with a drain pipe to the outside of the building. The unit shall be as KUBA or equal and approved.

1.7 CONDENSING UNIT

The condensing unit shall be of capacity to cope with the evaporator-cooling load while using R404A refrigerant under specified conditions. The unit shall be air-cooled semi hermetic with automatic capacity control for evaporator demand.

It shall be provided with suitable anti-vibration mountings and an initial oil change in the compressor. The unit shall be complete with compressor, electric motor, air-cooled condenser of non-ferrous construction, liquid receiver, all mounted on a common base. The unit shall be from an approved manufacturer and shall be mounted in the adjoining compressor room.

1.8 REFRIGERATION PIPEWORK.

Pipework shall be approved copper tubing and fitting and shall be properly fixed in conformity with 'TRANE REFRIGERATION MANUAL'. The suction line shall be insulated with at least 25mm thickness of Arm flex or other approved material, which shall not have insulating properties inferior to those of cork. The condensing unit shall be approximately 20 meters from evaporator unit.

1.9 REFRIGERATION COMPONENTS

The system shall be provided with the following components all similar to or equal to those manufactured by DANFOSS

- Filter drier
- Sight glass with moisture indicator
- Solenoid valve
- HP/LP cut out
- Suction & delivery gauges
- Room thermostat
- 100mm diameter surface mounted dial thermometer in degree Celsius

1.10 CONTROL PANEL

The control panel shall be fabricated from mild steel sheet of minimum SWG18 with a hinged door and then powder coated after manufacture. It shall be provided with an integral lock. It shall be complete with;

1. Isolator fitted on the door
2. Controlling thermostat with temp range from -10$^0$C to 30$^0$C
3. 80mm dial thermometer with temp range from -10$^0$C to 30$^0$C
4. Contactors for defrosting Coils
5. Motor starters &current overload relays
6. MCBs
7. Phase failure relay with over and under voltage protection
8. Timer switch for defrost control
9. Push buttons for start and stop
10. Audible and visual high temperature alarm with manual reset

The panel shall also have green light running indicators, red "door open" light and equipment circuit trip lights.

1.11 ELECTRICAL INSTALLATION

The electrical sub-contractor shall be responsible for providing power to the control panel and for providing a local Isolator and connecting power to it. The cold room sub-contractor shall be responsible for the final connections to the above equipment, all control wiring and for all wiring within the control panel.

1.12 MEAT RAILS AND SHELVES

The sub-contractor shall supply and fix 75 mm class C GMS tubing meat rails. All steel shall be hot dip galvanized. The sub-contractor shall also supply fully fabricated 3 tier stainless steel metal shelves and set them in the cold room as shown on the drawing. Shelf size to be 900 x 500 x 1350mm high.

1.13 TESTING AND COMMISSIONING

Before insulation of the suction pipe the refrigeration system shall be tested for pressure and leaks using the combined pressure and leaks testing method. The refrigeration system shall be charged with R410a refrigerant and entire system raised to test pressure using nitrogen or other inert gas. The test pressure shall be twice the working pressure for the system.

Leaks shall be checked using soap bubble followed by using of electronic leak detector. After system is proved leak proof, it shall be maintained under test pressure for 24 hours. If at the end of this time the gauge pressure has fallen, the complete system shall be re-tested. After the successful completion of the test, the system shall be evacuated using vacuum for 24 hours. If there is loss of vacuum the system shall be dehydrated again and left under vacuum for a further 24 hrs. until the system is effectively dehydrated.

After this the system shall be charged with the correct type and quantity of the refrigerant. The system shall then be set to work and adjusted to ensure that it operates correctly and design conditions are archived. It shall be left to operate for 72 Hrs. and room temperatures recorded for this period using an automatic room temperature sensor/recorder. The compressor shall be provided with identification plates stating the type of refrigerant used and the quantity required for the system

# PARTICULAR SPECIFICATIONS FOR BOREHOLE DRILLING AND EQUIPPING

PARTICULAR SPECIFICATIONS FOR BOREHOLE DRILLING AND EQUIPPING

1. Purpose

The borehole to be drilled, constructed, test pumped and equipped with a submersible pump under this contract will be to provide water intended for stadium use. The maximum ground water abstraction permitted from the borehole shall be 90m3/day with the maximum abstraction period not exceeding 10 hours per day.

The execution of the works shall be in full compliance with relevant provisions of the Water Act.

The proposed drilling site will be in *as per Tender Advert*. The Contractor is deemed to have visited the site, and if unable to locate it or its details apply to the Principal Secretary, State Department for Public Works, Ministry of Lands, Public Works, Housing and Urban Development.

No claims will be allowed for the traveling or other expenses, which may be incurred by the contractor's works.

2. Scope of the Work

The works included in the contract consist of: -

The drilling of one borehole of sufficient diameter to provide for a finished cased and screened borehole of 152mm diameter to the provisional depth of about 300metres.

The provision and installation of steel casings, steel screens, and gravel pack, borehole cap, together with cementation works necessary.

The collection of formation samples at 2-meter interval of drilling progress to the bottom and also water sample at every aquifer struck and at the beginning and at the end of test pumping operation for both chemical and biological analysis.

NOTE: - These depths and any other works can be varied by the Engineer depending on the actual conditions encountered in the process of executing of the works.

The supply and installation of 1No. Submersible borehole pump, complete with the necessary controls.

Connection of the water from the borehole to the water storage tank.

3. Local Conditions

The borehole will be drilled, constructed and test pumped in both unconsolidated and

consolidated formation and the contractor must be prepared to carry out the required work through any type of formation in the project area.

4. Borehole Data

Total depth – 300m of 152mm diameter from surface (Provisional)

Casings to be 152mm diameter and screened depth to be determined after borehole construction.

Static water level – To be determined

Dynamic water level – To be determined

Recommended pumping rate – 10m³/hr (for the purpose of quotation but to be confirmed after testing)

(Pump) setting level – 180m (for the purpose of quotation but to be confirmed after testing)

Total dynamic head to be determined on site

5. Casings

Casings to be used as part of the permanent borehole structure shall be black steel pipe conforming to BS 1387 and having nominal diameter of 152mm.

If any casing other than that to be left permanently in the borehole is required temporarily for execution of work, it shall be supplied by the contractor at the borehole free of charge.

6. Screens

The screens to be furnished and installed shall be of the pipe size variety having a minimum nominal diameter of 152mm and can be fabricated in three-meter lengths. The screens shall be of continuous slot type and constructed entirely of stainless steel. The screen shall have slot size opening of 1.4m.

Grouting

Grouting shall be done by either cement or bentomite to seal off unwanted upper aquifers under direction of the Engineer.

8. Construction Method

The borehole to be constructed shall be drilled by cable-tool percussion method or the combination air/ hydraulic rotary method. The method of drilling shall be left to the discretion of the Contractor. After drilling to the final depth the Contractor shall proceed to insert permanent casings and screens as directed by the Engineer.

9. Gravel Pack

If filter gravel will be necessary, it will consist of durable, naturally rounded quartzitic particles properly washed and cleaned prior to insertion in the borehole. The gravel shall be introduced in the annular space between the wall of the borehole and the 152mm casing from the bottom to about 2 meters below surface.

The final casing and screens must be centralized before gravel back and the Contractor must supply suitable equipment for lowering of gravel pack.

10. Cementation

The space above the gravel pack shall be grouted with a mix of one part of cement to two parts of sand and two parts of ballast, in order of 1:2:2 concrete may be used near the surface to form an annular plug around the casing of dimensions 1.0 x 1.0 x 1.0 meters. There shall be 2000mm diameter concrete plinth on top of the borehole and shall be constructed as shall be directed by the Project Engineer and the Structural Engineer.

Any other cementation works to be done as directed by the Project Engineer.

11. Development

The Contractor shall furnish all necessary pumps, compressor, plungers, bailing or other needed equipment and shall develop the borehole by such approved methods as shall be necessary to give the maximum yield of water per increment of drawdown and extract from the formation of maximum practical quality of such sands as may, during the life of the borehole, be drawn through the screens when the borehole is operating under maximum conditions of draw down.

12. Test Pumping

After the borehole has been completed, constructed and developed, the subcontractor shall make necessary arrangements for conducting a 24-hour continuous test pumping up to a maximum of 30hr and 12-hour recovery test under the supervision of the Engineer. Where the Engineer or his representative cannot be present on such pumping test, the Contractor may continue without him keeping accurate records of the test in terms of discharge and drawn down but must seek permission from the Project Engineer. Should the Contractor fail to keep such records, the Engineer shall order the test to be repeated at no extra cost.

13. Sample Formation

The Contractor shall keep an accurate record of the top and bottom of each stratum penetrated and shall save and deliver to the Engineer a sample of materials taken from each 1m of formation, or at every change of formation and at such other intervals as may be ordered by the Engineer. Those samples shall be placed in approved Contractor supplied containers with labels which indicate the depth at which the sample was obtained.

14. Water Samples

Water samples shall be collected at every water struck while drilling and also shall be collected at the start of every test and toward the end of the test in a three-litre sterilized plastic container for both chemical and bacteriological analysis and submitted in a competent laboratory for analysis.

15. Reports

The contractor shall submit to the Engineer daily progress reports showing: -

The depth each day indicating drilling in meters per hour with comments on degree of hardness of materials being penetrated.

Depth at which each water bearing zone is encountered and the rise and fall of water level in different formations.

The full details of work carried out in respect of operations which are paid for at hourly rate.

The full details of the number of hours worked each day.

16. Cessation of Work

The Engineer reserves the rights to stop drilling operations if in his opinion: -

A sufficient supply of water has been obtained.

The work is not being carried out in a satisfactory manner or

Further drilling is unlikely to be advantageous or for any other reason

In this event, payment shall be made only for the amount of work done up to the date of stoppage.

17. Retention Time

Waiting time shall be such time as the whole of the drilling equipment and staff is on site and is available for use, and all the operation connected with the Contact are at a standstill due to the absence of instructions from the Engineer.

The request for the necessary instructions and/or guidance to the Project Manager by the Contractor shall be within 48 hours, provided that the Project Manager does not delay the said instructions/or guidance to the Contractor unnecessarily.

All claims for waiting time shall be made on the basis of a normal 8-hour day, including Sundays and Public holidays.

18. Supply and Installation of Pump

The Contractor shall supply and install: -

One electric submersible pump which will conform to the specification stated, for operation on 415 volts, 3-phase.

All necessary electrical equipment for the pump such as control panel with starter, ammeter, single phasing cut-out, low voltage cut-out and all necessary cables for connection.

Suitable diameter Galvanized Steel pipe class 'C' to carry water to the surface/ to water storage tank

Low level cut-out switch

Airline 20mm galvanized steel pipe for water level measurements

Pressure gauge

The gate valves, non-return valves before the master meter

Master meter for measuring the water from the borehole.

In addition, the Contractor shall carry out 24 hours test run at the completion of the works. This test has to be certified by the Project Manager.

Note on Pump Installation

The Contractor shall make the necessary electrical connections and include in his prices all cable, starter-panel, switches etc. required to put the pump in operation while tendering for this part of the document and return it will full description literature and performance curves for the proposed equipment together with the tender for drilling works.

The installation of the submersible pump into the borehole shall be done immediately the borehole drilling is completed, test pumped and water analysed for suitability for human consumption.

The final production pump to be installed in the newly drilled borehole shall be determined and installed as per the actual conditions encountered on completion of the drilling works. Hence the specifications given under the section of 'borehole data' are only for the purpose of quotation. After establishing the actual conditions of the drilled borehole, only the engineer's approved submersible pump shall be installed.

19. Electrical works

It shall be the responsibility of the Contractor to provide all electrical wiring between all items of his Contract to ensure the correct function of his equipment. The Contractor's electrical works shall start from the nearest electrical isolator which will be supplied by others within five metres.

# BILLS OF QUANTITIES

## STATEMENT OF COMPLIANCE

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

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

Signed ……*for and on behalf of the Tenderer*

Date: ……...

Official Rubber Stamp: ……

A. Notes and Sample Items for Preparing a Bill of Quantities

1. These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Tender Documents. Priced Bills of Quantities shall be part and parcel of the Contract Documents.

2. The objectives and purpose of the Bills of Quantities are to provide sufficient information on the specifications, descriptions and quantities of Works to be performed to enable tenders to be prepared efficiently and accurately and when a contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed. In order to attain these objectives, Works should be itemized in the Bill of Quantities insufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and clear as possible.

3. NOTES TO PREPARING PREAMBLES

4.1 The Preambles should include only those items that constitute the cost of the works but would not be priced separately as they are expected to be included in the unit prices. Care should be taken to ensure that these items are not are petition of the conditions of contract. The Preambles should indicate the inclusiveness of the unit prices and should state the methods of measurement that have been adopted in the preparation of the Bill of Quantities, that are to be used for the measurement of any part of the Works. The units of measurement and abbreviations should be defined and any mandatory national units defined and described. The methods of and procedure for re- measurement should be described in the Preambles.

4.4. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.

4.5. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.

4.6. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.

4.7. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documents shall be made before entering prices against each item in the priced Bills of Quantities.

4.9 Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of

the Architect in accordance with Sub-Clause13.5 and Clause 13.6 of the General Conditions of contract.

4.10 In preparing the Bills of Quantities, notes should be removed as they are intended to guide the person preparing the Tender Documents. The Contractor must allow in his rates for any costs associated with and complying with the requirements in the Preambles.

4.11 Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the item or items will be executed without any additional costs or without being treated like variations.

## 4. NOTES ON PREPARING BILLS OF QUANTITIES

5.1 The Preliminary Items should be limited to tangible items that should be priced by the tenderer, are identifiable and can be priced separately and included in the interim valuations precisely. Such items may include such items as site office, notice boards, and other temporary works, otherwise items such as security for the Works which are primarily part of the Contractor's obligations should be included in the Contractor's rates.

5.2 The work items in the Bills of Quantities should be grouped into sections to distinguish between those parts of the Works which by nature, location, access, timing, or any other special characteristics may give rise to different methods of construction, or phasing of the Works, or considerations of cost. Such groups could be ground excavations, structures, external works, services, etc. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.

5.3 Quantities should be computed net from the Drawings, unless directed otherwise in the Contract, and no allowance should be made for bulking, shrinkage or waste. Quantities should be rounded up where appropriate.

5.4 Where the measured items a redeemed not to be exact because of the likelihood that the scope can change during the execution of the works, such items could be subject to re-measurement, the word "provisional" should be used to identify such cases. Where whole sections of the work items fall in this class, for example foundations, they should be labelled "Provisional Quantities" or "Provisional Items" so that the Tenderer/Contractor is advised up front that such items are subject to re-measurement to done before such work is cover-up.

5.5 All items that have not been measured and therefore not subject to tenders pricing should be listed in the Bills of Quantities as Provisional Sums for particular item or class of Work, which may be subject to a nominated subcontract or separate measurements at a later date during the execution of the works. For example, if it is deemed not possible to measure electrical works before going to tender because detail designs are not ready, a provisional sum can be allowed in the Bills of Quantities for "Installation of Electrical Works" to be executed later when actual design details are completed. To the extent not covered above, there should be in the Bills of Quantities a general provision for physical and financial contingenciesmade as a "Provisional Sum for Contingencies" and "Provisional Sum for Fluctuations".

PREAMBLES

1. The method of measurement of completed work for payment shall be in accordance with *The Standard Method of Measurements for Building Works and Associated Civil Works for Eastern Africa (2nd edition) of 2008 prepared by The Architectural Association of Kenya (Quantity Surveyors Chapter)*

2. The Site is situated at *as per Tender Advert*. It is approximately *as per Tender Advert*. Access to the site shall be through *as per Tender Advert*. Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.

3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.

4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entity or Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.

5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.

6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.

7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub-Contractor involve.

8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.

9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the

above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.

10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progress on all important items of each section or portion of the Works.

11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer. The Photographs shall provide a record of the Site and adjacent are as prior to the commencement of the Works and shall coversuch portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.

12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub- Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.

13. Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes or other services in the area and he shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfactionat the Contractor's expense. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging, if necessary, to locate precisely the position and details of the services which are likely to affect his operations.

14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.

15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundaryof the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.

16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.

17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub–contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.

18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection there with.

19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of theEngineer.

20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard–rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.

21. They are as available to the Contractor for work yards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractor shall source then at own cost.

22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.

23. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existing and adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.

24. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.

25. The Contractors attention is drawn to the standards levy order which was amended on 15$^{th}$October 1998.Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up his rates.

26. The Contractor shall provide temporary sheds, offices mess rooms, sanitary,

accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.

27. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.

28. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.

29. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.

30. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.

31. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.

32. The Contractor shall take all necessary precautions such as temporary fencing, hoarding fans, planked footways, guard–rails gantries screen, etc., for the safe custodyof the Works, materials and public protection and adjacent properties.

33. Cover up all and protect from damage, including damage from inclement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.

34. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and tore move all paint and cement all rubbish and dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.

35. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.

36. The Contractors shall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer. The

Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.

37. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments exceeding Kshs……. for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.

38. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.

39. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to oversee the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6thJune 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.

40. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT 1.19 as instructed elsewhere.

41. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

BILL NO. 1.0 - PRELIMINARY ITEMS

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 1 | Discrepancies: The Contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.<br>Should the drawing and the specification appear to conflict, the Sub-contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded. | | | | |
| 2 | Conditions of sub-contract Agreement: The Contractor shall be required to enter into a Sub-contract with the Main Contractor. | | | | |
| 3 | Payments: Payment will be made through certificates to the Main Contractor, All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site. | | | | |
| 4 | Site location: The site of the Contract Works is situated in *as per Tender Advert* . The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the sub-contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect. | | | | |
| | Sub-total carried forward to page……67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 5 | Scope of Contract Works: The contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.<br>The contractor shall supply all accessories, whether of items or equipment supplied by the Sub-Contractor but to be fixed and commissioned under this contract. | | | | |
| 6 | Extent of the Contractor's Duties: At the commencement of the works, the contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. | | | | |
| 7 | Firm price contract: Unless specifically stated in the documents or the invitation to tender, this is a firm-price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. | | | | |
| 8 | Variation: No alteration to the Contract Works shall be carried out until receipt by the Contractor of written instructions from the Project Manager. | | | | |
| 9 | Prime cost and provisional sum: A specialist Sub-contractor may be nominated by the Project Manager to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Contract documents (insert profit and attendance which is a percentage of expended PC or provisional sum.) | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 10 | Bond: The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 5 % of the Contract amount | | | | |
| 11 | Government Legislation and Regulations: The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable. The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc. | | | | |
| 12 | Import Duty and Value Added Tax: The Sub-contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes. (Note this clause applies for materials supplied only. VAT will also be paid by the sub-contractor as allowed in the summary page) | | | | |
| 13 | Insurance company Fees: Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection. | | | | |
| 14 | Provision of services by the Main contractor: In accordance with Clause 1.08 of this Specification the Contractor shall make the following facilities available to the Sub-contractor:<br>a) Attendance on the Sub-Contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, | | | | |
| | Sub-total carried forward to page……67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise.<br>b) The provision of temporary water, lighting and power: the Contractor pay for all these services utilized.<br>c) Fixing of anchorage and pipe supports in the shuttering, shall be supplied by the Contractor who shall also supply the Project Manager with fully dimensioned drawings detailing the exact locations.<br>d) i) Provision of scaffolding, cranes, etc. It shall be the Contractor's responsibility to liaise with the Project Manager to ensure that there is maximum co-operation with other nominated Sub-contractors in the use of scaffolding, cranes, etc.<br>ii) Any specialist scaffolding, cranes, etc. bythe Contractor for his own exclusive use shall be paid for by the Sub-contractor. | | | | |
| 15 | Samples and Materials Generally: The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated. | | | | |
| 16 | Supplies: The Contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval.<br>Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question. | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 17 | Bills of Quantities: The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Contractor but the value thereof shall be deducted from the Contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Contract. | | | | |
| 18 | Contractor's Office in Kenya: The Contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Contract Works. | | | | |
| 19 | Builder's Work: All chasing, cutting away and making good will be done by the Contractor. The Contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.<br>The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.<br>Any purpose made fixing brackets shall be provided and installed by the Contractor. | | | | |
| 20 | Setting to work and Regulating system: The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary. | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted).<br>It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part<br>of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place. | | | | |
| 21 | Identification of plant components: The Contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment.<br>Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture. | | | | |
| 22 | Working Drawings: The Contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works. | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | If the Contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected. | | | | |
| 23 | Record Drawings (As Installed) and Instructions: During the execution of the Contract Works the Contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking. Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Contractor as a correct record of the installation of the Contract Works. | | | | |
| 24 | Maintenance Manual: Upon Practical Completion of the Contract Works, the Contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works. The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index. There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Contract Works. | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 25 | The manual is to be specially prepared for the Contract Works and manufacturer's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the Engineer. The Contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the Engineer. | | | | |
| 26 | Hand over: The Contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer. | | | | |
| 27 | Painting: It will be deemed that the Contractor allowed for all protective and finish painting in the Contract Sum for the Contract Works, including colour coding of service pipework to the approval of the Engineer. Any special requirements are described in the text of the Specifications | | | | |
| 28 | Testing and Inspection – manufactured plant: The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer. The Contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections. | | | | |
| 29 | Testing and Inspection – Installation: Allow for testing each section of the Contract Works installation as described hereinafter to the satisfaction of the Engineer. | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| 30 | Storage of Materials: The Contractor shall provide storerooms and workshop where required. He shall also provide space for storage to nominated sub-contractors who shall be responsible for these lock-up shades or stores provided.<br>Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Project manager | | | | |
| 31 | Initial Maintenance: The Contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer. | | | | |
| 32 | The Contractor shall also provide a 24 -hour break-down service to attend to faults on or malfunctioning of the installation between the routine visits of inspection. | | | | |
| 33 | Attendance Upon Tradesmen, The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this contract every facility for carrying out their work and also for the use of ordinary scaffolding. The contractor however, shall not be required to erect any special scaffolding for them. | | | | |
| 34 | Temporary Works Where temporal works shall be deemed necessary, such as Temporary lighting, the contractor shall take precaution to prevent damage to such works.<br>The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. For temporary lighting, electricity shall be metered and paid for by the contract | | | | |
| 35 | | | | | |
| | Sub-total carried forward to page .....67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | his programme and schedule of work. He shall ensure equipment.<br>optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and | | | | |
| 36 | Extended Preliminaries: Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the total Contractor works. | | | | |
| 37 | Supervision by Engineer and Site: A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.<br>The project engineer and (or) the Engineer shall attend management meetings arranged by the Project Manager and for which the Contractor or his representative shall also attend. For the purpose of supervising the project, provisional sums are provided to cover for transport and allowances. The Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the contractor | | | | |
| 38 | Allow for profit and Attendance for the above | | | | |
| 39 | Amendment to Scope of Sub-contract Works No amendment to scope of sub-contract works is expected and in case of amendment or modification to scope of work, these shall be communicated to all tenderers in | | | | |
| | Sub-total carried forward to page…… 67 | | | | |

| ITEM No. | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | sufficient time before the deadline of the tender submission. However, during the contract period and as the works progress the Project Manager may vary the works as per conditions of contract by issuing site instructions | | | | |
| 40 | Contractor Obligation and Employers Obligation: The sub-contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. The contractor shall, where called upon, insert his price to compensate for any of the occurrence stated here (premature termination, reduction or increase of works), as a percentage of the contract sum. | | | | |
| 41 | Any other preliminaries; | | | | |
| | Sub-total above | | | | |
| | Sub-total brought forward from page .....57 | | | | |
| | Sub-total brought forward from page .....58 | | | | |
| | Sub-total brought forward from page .....59 | | | | |
| | Sub-total brought forward from page .....60 | | | | |
| | Sub-total brought forward from page.....61 | | | | |
| | Sub-total brought forward from page .....62 | | | | |
| | Sub-total brought forward from page .....63 | | | | |
| | Sub-total brought forward from page .....64 | | | | |
| | Sub-total brought forward from page .....65 | | | | |
| | Sub-total brought forward from page .....66 | | | | |
| | TOTAL FOR BILL NO. 1- PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE .....118 | | | | |

Bill No. 2: Water Storage and Reticulation

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | HIGH AND LOW LEVEL WATER TANKS<br>Low Level Water Tank<br>Hot dipped galvanised low level water storage tank made from 6mm thick cold pressed mild steel sectional plates of size 1220mm x 1220mm. Capacity of tank to be 83,590 Litres with preferred dimensions 4,880 x 4,880 by 3,660mm high.<br>The tank to be Hot Dipped Galvanised to approval<br>All nozzles/pipe connections to be threaded.<br>The tank to come complete with:<br>- 1 No. Highly visible Water Level Indicator<br>- 1 No. Lockable, hinged Steel Cover Manhole<br>- 1 No. internal ladder<br>- Appropriate float valve chamber<br>- 1 No. external cat ladder to ground Level with a hooped safety cage<br>- Pitched dustproof and weatherproof tank cover made of flat 4mm thick steel sheets capable of withstanding loading imposed by the maintenance personnel.<br>- All necessary cleats, stays, braces, rafters and reinforcements<br>- All necessary stainless steel bolts, nuts, washers, none toxic strip sealant to make all joints leak proof.<br>The tank to come accompanied by 5 No., 6mm thick, 50mm wide flate plate 4,900mm long for laying above the concrete piers before tank placement.<br>Tank connections include 32mm inlet, 50mm outlet, 50mm overflow, 50mm washout, | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | <u>High Level Water Tank</u><br>Hot dipped galvanised high level water storage tank made from 6mm thick cold pressed mild steel sectional plates of size 1220mm x 1220mm. Capacity of tank to be 46,525 Litres of preferred dimensions 3,660 x 3,660 by 3,660mm high.<br>The entire tank and accessories to be Hot Dipped Galvanised to approval<br>All nozzles/pipe connections to be threaded.<br><br>The tank to come complete with:<br>- 1 No. Highly visible Water Level Indicator<br>- 1 No. Lockable, hinged Steel Manhole Cover<br>- 1 No. internal Ladder<br>- Appropriate float valve chamber<br>- 1 No. External Ladder to platform level with safety cage<br>- Pitched dustproof and weatherproof tank cover made of flat 4mm thick galvanised steel sheets.<br>- All necessary galvanised steel cleats, stays, braces, rafters and reinforcements<br>- All necessary high tensile stainless steel bolts, nuts, washers, none toxic strip sealant to make all joints leak proof.<br>Tank connections include 50mm inlet, 75mm outlet, 100mm overflow and 100mm washout<br>The tank to come accompanied by 4 No. 6mm thick, 50mm wide flate plate 3,700mm long for laying below tank flanges. | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | 12 Meter Steel Tower<br>Hot Dipped Galvanised Steel tower 12 metres high from Ground to the Bottom of the High Level Tank.<br>The tower to fit and carry the 46,525 Litres high level water tank above of dimensions 3,660 x 3,660 by 3,660mm.<br>The tower structure to comprise of:<br>- Reinforced concrete stub columns to carry tower stancheons complete with fixing bolts<br>- Mild steel structure comprising SHS stancheons bolted to stub columns, diagonal angle-line bracings, I-beams, SHS platform bedding and chequered plate<br>- Ballustrading made of SHS ballusters, CHS top railing welded and hot dipped galvanised to approval.<br>- All to the approval of the Chief Engineer Structural | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Water Tanks Associated Pipework<br>*Supply and installation of Galvanised mild steel piping and fittings with flanged & socketed joint to medium grade class "B" to BS. 1387* | | | | |
| | GMS Pipework Class B | | | | |
| A | 50mm diameter pipe | 36 | LM | | |
| B | 32mm ditto | 28 | LM | | |
| | Extra over Pipework | | | | |
| C | 50mm diameter elbow | 15 | No | | |
| D | 32mm -ditto- | 12 | No | | |
| E | 50mm equal tee | 8 | No | | |
| F | 320mm equal tee | 5 | No | | |
| | Valves | | | | |
| G | 50mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as 'PEGLER' or approved equivalent. | 3 | No. | | |
| H | 32mm ditto | 4 | No. | | |
| I | Valve Chamber<br>Standard precast concrete valve chamber of size 450 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal. | 2 | No | | |
| J | Water Connection<br>Allow for connection from the County Government Water Company to the ground water tank above | 1 | Item | | |
| K | Water Meter<br>Water Meter for water connection including unions, nipples and necessary fitments | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Water Transfer Pumpset<br>Supply and install a water transfer pumpset comprising the following components:<br>- Two identical centrifugal pumps, one duty, the other standby mounted on a common base frame together with the other components. Each pump shall have a duty of $10m^3/hr$ against a 24m head. Tank to also comprise.<br>- 60 L diaphragm tank (pressure vessel).<br>- Pressure switch and pressure gauge<br>- GMS Pipe work connections including tank connections, 50mm foot valve with strainer, suction & discharge manifold, isolating valves, non-return valves<br>Control shall be effected via a pressure switch through a pre-wired control panel which shall give automatic change-over from duty to standby pump within 5 seconds should the duty pump fail to deliver for any reason.<br>- Control panel mounted on the same base frame as pumpset and presure vessel with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer. All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet in oven baked 'white' powder coated colour c/w with indicator lights. It should include a change-over switch to enable the pumps to work alternately. | 1 | Set | | |
| B | Electrical Works<br>Allow for electrical works incuding wiring and fitting to all pumps, control panel and float switches, from isolator provided by others within 5 metres distance. | 1 | Item | | |
| C | Sterilization<br>Allow for flushing out and sterilizing the whole system with chlorine to approval | 1 | Item | | |
| D | Testing and commissioning<br>Allow for testing and commissioning of the Tanks and associated pipework installations | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Water Reticulation<br>*Supply of HDPE materials- All Polyethylene material shall be PN. 10 suitable for butt fusion and* /or compression coupling *jointing and the rate shall include for supply and delivery to the work site of all pipes, fittings & specials including all other associated accessories such as gaskets, backing rings (to suite PN 16 flange), bolts and nuts, etc. required for complete installation.* | | | | |
| | HDPE Pipework | | | | |
| A | 50mm OD diameter HDPE pipe work | 1350 | Lm | | |
| B | 32mm ditto | 112 | Lm | | |
| | Compression Fittings extra over HDPE Pipework for the following: | | | | |
| | Elbow | | | | |
| C | 50mm diameter bend/elbow | 34 | No | | |
| D | 32mm ditto | 25 | No | | |
| | Tees | | | | |
| E | 50mm diameter tees | 23 | No | | |
| F | 32mm ditto | 34 | No | | |
| | HDPE Valve Adapters | | | | |
| G | 50mm x 2" HDPE valve adapter | 36 | No. | | |
| H | 32mm x 11/4" HDPE valve adapter | 22 | No. | | |
| | Valves | | | | |
| I | 50mm diameter Gate valve as 'Pegler'. | 8 | No. | | |
| J | 32mm-ditto- | 18 | No. | | |
| K | Valve/ Water Meter Chamber<br>Standard precast concrete valve chamber of size 450 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal. | 18 | No | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Excavations<br>Excavate trench in hard soil/murram 400mm wide and depth not exceeding 750mm deep and average 500mm deep, prepare bed with red soil/murram of particle size not more than 20 mm to a depth of 250mm. Bed shall be approved by Engineer before laying of pipes. Fill with same material as above and compact in layers of 75 mm. Cart away surplus soil. | 800 | LM | | |
| B | Pipe Sleeves<br>100mm diameter heavy duty PVC Class 41 pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm concrete sorround. | 54 | Lm | | |
| C | Sluice Valve/Gate Indicator Plates<br>Standard precast concrete Sluice valve marker post marked 'SV'/ 'GV' set in concrete (1:3:6) base, including formwork, excavations backfilling and disposal. The plate to be painted with blue gloss oil paint. | 8 | No | | |
| D | Water Line Markers<br>Standard precast concrete water line marker, post marked 'WL' set in concrete (1:3:6) base, including formwork, excavations backfilling and disposal. The plate to be painted with blue gloss oil paint. | 6 | No | | |
| E | Stand Pipes - Water Point<br>20mm diameter water points/ Standpipe complete with 20mm rising pipe, 'Cobra' bib tap. Stand pipes base to be anchored to the ground on a 450 x 600mm cement splash slab. | 8 | No | | |
| F | Testing and commissioning<br>Allow for testing and commissioning of the Reticulation pipework installations | 1 | Item | | |
| Sub-total c/f to the Water Storage and Reticulation Collection Page…… 75 | | | | | |

Bill No. 2: Water Storage and Reticulation Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 68 | |
| B | Sub-total b/f from Page ..... 69 | |
| C | Sub-total b/f from Page .....70 | |
| D | Sub-total b/f from Page .....71 | |
| E | Sub-total b/f from Page .....72 | |
| F | Sub-total b/f from Page .....73 | |
| G | Sub-total b/f from Page ..... 74 | |
| Total for Water Storage and Reticulation C/F to the Plumbing and Drainage Summary Page ..... 103 | | |

WAREHOUSE MODULES INTERNAL PLUMBING AND DRAINAGE WORKS

Bill No. 3: Sanitary Fittings

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | SANITARY FITTINGS<br>*Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors.*<br>*Note: (i) All sanitary fittings shall be in approved colour.* | | | | |
| A | Squating Water Closet Pan<br>Stainles steel Water Closet pan with non-slip treads. Prefered water closet pan dimensions to be 455mm x 625mm by 215mm deep. The pan to come complete with, inlet gaskets, water seal trap and all drainage fitments. | 5 | No. | | |
| B | Flush Valve - Manual Press Action<br>Manual Press action,concealed, low pressure back inlet water closet with a 11/2" chrome plated connections with synthetic diaphragm, magnetic/stainless steel spring return c/w adjustable tailpipe to squating water closet pan above. | 5 | No. | | |
| C | Jumbo Toilet Roll Holder<br>Jumbo toilet roll holder in translucent black thermoplastic material of 300mm diameter x 125mm wide. | 2 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page…….. 80 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Wall Bib Tap - Press action Delay (Metering)<br>Press action delay chrome plated metering wall bib faucet complete with aerator cartridge. | 10 | No. | | |
| B | Mirror<br>6mm thick polished plate glass silver backed mirror with decorativeborders and beveled edges, size 610 x 610mm, plugged and screwed to wall with 4 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam. | 10 | No. | | |
| C | Soap Dispenser<br>1.1 litre press action soap dispenser made out of black transucent thermoplastic material. Top filling lid and press button dispenser of preferred dimension 107mm x 108mm x 204mm. | 6 | No | | |
| D | Shower Fixture<br>Concealed shower fixture mounted under the tiles comprising:<br>- chrome plated Star handles shower stop cocks colour coded and c/w chrome wall flanges,<br>- adjustable shower head with adjustable water spray settings complete with a chrome extension pipe and wall flange<br>- chrome plated star handles downspout<br>- concealed cold water pipe work and interconnections all to be chrome plated. | 4 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page……. 80 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Sponge Soap & Holder<br>Recessed white ceramic soap and sponge holder that is wall mounted. | 4 | No. | | |
| B | Urinal Bowl<br>White ceramic wall hung urinal bowl consisting of:<br>- urinal bowl with top inlet complete with mounting braces and stainless steel fasteners<br>- spreader nozzle complete with concealed spreader pipes all in stainless steel<br>- white plastic drain grating, 40mm drain siphon, pipe connetction and wall flange. | 3 | No | | |
| C | Press Button Urinal Flushing System<br>Press Button urinal flushing system comprising:<br>- Top inlet chrome 11/4" urinal flush valve complete with chrome pipe to urinal<br>- chrome plated press action actuator complete with chrome pipe. | 3 | No | | |
| D | Urinal Bowl Divisions<br>White ceramic urinal division separating the above described urinal bowls fixed firmly on the wall with stainless steel fasteners. | 3 | No | | |
| | Kitchen | | | | |
| E | Undersink Water Heater<br>10 Litres Instanteneous Undersink Heater. The Heater to be suitable for under the counter installations and to serve both the hand basin and the shower. | 1 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page..... 80 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Kitchen sink<br>Double Bowl Single Drainer sink size 1450 x 520mm with bowl size 420 x 355 x 150mm deep made out of 18/8 stainless steel complete with sink waste with 70mm diameter flange 40mm shanks with brackets, plug and chain including bottle traps and all other drainage fitments.<br>The sink to come complete with a chrome plated kitchen mixer with over arm long neck swivel spout. | 1 | No. | | |
| B | 300 Litre Solar Water Heater - Pressurised Evacuated tubes<br>300 litre solar pressurised split water heating system comprising of evacuated heating glass tubes, insulated storage cyllinder.<br>To have the following features:<br>- Evacuated borosilicate glass tubes with absorber coating<br>- Copper heat pipes with heater fluid<br>- Light frame anodised aluminium support structure<br>- Insulated 300 l hot water storage cylinder c/w sacrificial anode, thermostat and cabling<br>- Safety relief and islolating valves<br>- Electric booster heating element for back up<br>- Electronic controller with LCD panel and inclusive of all cabling<br>- Automatic voltage stabiliser | 5 | Item | | |
| C | Electrical Connections<br>Allow electrical works for the above solar water heating systems electric booster element works comprising cabling from the isolator provided by others, to controller, recirculation pumps and any other items necessary for optimum functioning of the system. | 5 | Item | | |
| D | Ventilation<br>Roof Ventilators<br>900mm diameter x 885mm high stainless Steel roof ventilators complete with necessary plates, flanges, adjustable safety frame and anchorages, | 9 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page……..<br>80 | | | | | |

Bill No. 3: Sanitary Fittings Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 76 | |
| B | Sub-total b/f from Page ..... 77 | |
| C | Sub-total b/f from Page ..... 78 | |
| D | Sub-total b/f from Page ..... 79 | |
| Total for Sanitary Fittings c/f to the Internal Plumbing and Drainage Works Collection Page..... 86 | | |

Bill No. 4: Internal Plumbing

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | INTERNAL PLUMBING<br>*Supply and Install the following Plumbing installation as described and shown on the drawing.All pipework and fittings in this installation to be to Polypropylene (PPR) to PN. 10 jointed by manufacturer approved fusion welding. Tenderers must allow for jointings, couplings, plugging, clampings, reducers, mortices, hangers, clippings etc necessary for the proper functioning of the installation when pricing* | | | | |
| | PPR Pipework - PN 10 | | | | |
| A | 25mm diameter pipework | 85 | Lm | | |
| B | 32mm -ditto- | 74 | Lm | | |
| C | 40mm -ditto- | 48 | Lm | | |
| D | 50mm -ditto- | 58 | Lm | | |
| | Extra-over CPVC pipework for the following:- | | | | |
| | Bends | | | | |
| E | 25mm diameter bend | 24 | No. | | |
| F | 32mm -ditto- | 21 | No. | | |
| G | 40mm -ditto- | 12 | No. | | |
| H | 50mm -ditto- | 10 | No. | | |
| | Tees | | | | |
| I | 25mm equal tee | 24 | No. | | |
| J | 32mm -ditto- | 18 | No. | | |
| K | 40mm -ditto- | 13 | No. | | |
| L | 50mm -ditto- | 8 | No. | | |
| | Reducers | | | | |
| M | 32 x 25mm diameter reducer | 12 | No. | | |
| N | 40 x 32mm -ditto- | 11 | No. | | |
| O | 50 x 32mm -ditto- | 8 | No. | | |
| P | 50 x 40mm -ditto- | 4 | No. | | |
| | Reducing Tees | | | | |
| Q | 32 x 23 x 25mm diameter reducing tee | 17 | No. | | |
| R | 40 x 40 x 32mm -ditto- | 11 | No. | | |
| S | 50 x 50 x 40mm -ditto- | 8 | No. | | |
| Sub-total carried forward to the Internal Plumbing collection page….. 83 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Valves | | | | |
| A | 25mm diameter high pressure screw down, full way non-rising stem wedge gate valve to BS 5154 standards. | 8 | No. | | |
| B | 32mm -ditto- | 8 | No. | | |
| C | 50mm -ditto- | 4 | No. | | |
| | Unions | | | | |
| D | 32mm diameter pipe union | 18 | No. | | |
| E | 50mm -ditto- | 13 | No. | | |
| | CPVC to Brass Threaded Fittings | | | | |
| F | 25mm x 1/2" BSP brass threaded male adapter | 18 | No. | | |
| G | 25mm x 1/2" BSP brass threaded female adapter | 16 | No. | | |
| H | 25mm x 1/2" BSP brass threaded male elbow | 14 | No. | | |
| I | 25mm x 1/2" BSP brass threaded female | 18 | No. | | |
| J | 25mm x 1/2" BSP brass threaded male tee | 24 | No. | | |
| K | 25mm x 1/2" BSP brass threaded female tee | 21 | No. | | |
| L | 25mm x 3/4" BSP brass threaded male | 18 | No. | | |
| M | 32mm x 1" BSP brass threaded male adapter | 15 | No. | | |
| N | 40mm x 11/4" BSP brass threaded male adapter | 9 | No. | | |
| O | 40mm x 11/4" BSP brass threaded male tee | 7 | No. | | |
| P | 50mm x 11/2" BSP brass threaded male adapter | 8 | No. | | |
| Q | 50mm x 11/2" BSP brass threaded male tee | 8 | No. | | |
| R | Flexible Tubing + Angle Valve | | | | |
| | 15mm diameter x 450mm long flexible connectors complete with integral chrome plated angle valve. | 12 | No. | | |
| S | Testing and commissioning | | | | |
| | Allow for testing and commissioning of the internal plumbing installations | 1 | Item | | |
| Sub-total carried forward to the Internal Plumbing collection page….. 83 | | | | | |

Bill No. 4: Internal Plumbing Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 81 | |
| B | Sub-total b/f from Page .....82 | |
| Total for Internal Plumbing c/f to the Internal Plumbing and Drainage Works Collection Page.....86 | | |

Bill No. 5: Internal Drainage

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | INTERNAL DRAINAGE<br>*Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC 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 instructions. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. for the proper and satisfactory functioning of the system.* | | | | |
| | MuPVC and uPVC Waste and Soil pipework | | | | |
| A | 100mm diameter heavy gauge grey mUPVC pipe | 35 | Lm | | |
| B | 100mm diameter heavy gauge golden brown mUPVC pipe | 25 | Lm | | |
| C | 50mm ditto | 45 | Lm | | |
| D | 40mm ditto | 43 | Lm | | |
| E | 32mm ditto | 38 | Lm | | |
| | Bends | | | | |
| F | 100mm diameter long radius bend | 4 | No. | | |
| G | 100mm diameter sweep bend | 14 | No. | | |
| H | 50mm ditto | 18 | No. | | |
| I | 40mm ditto | 12 | No. | | |
| J | 32mm ditto | 20 | No. | | |
| | Tees | | | | |
| K | 100mm diameter sweep tee | 2 | No. | | |
| L | 50mm ditto | 17 | No. | | |
| M | 40mm ditto | 6 | No. | | |
| N | 32mm ditto | 8 | No. | | |
| | Access Caps | | | | |
| O | 100mm diameter access cap | 2 | No. | | |
| P | 50mm ditto | 3 | No. | | |
| Q | 40mm ditto | 2 | No. | | |
| R | 32mm ditto | 2 | No. | | |
| Sub-total carried forward to the Internal Drainage collection page…. 86 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Reducers | | | | |
| A | 50 x 32mm diameter reducer | 5 | No. | | |
| B | 50 x 40mm ditto | 5 | No. | | |
| C | 40 x 32mm ditto | 4 | No. | | |
| D | Floor Traps | | | | |
| | Four-way floor trap with 50mm diameter outlet and 100mm white plastic cover grating. | 6 | No. | | |
| E | Gully Traps | | | | |
| | Standard 300 x 300 x 450mm masonry gully trap complete with 125mm thick reinforced concrete cover. | 4 | No. | | |
| F | Inspection Chamber | | | | |
| | Standard 600 x 450 x (600-750)mm deep masonry inspection chamber complete with heavy duty, airtight polysynthetic frame and cover. | 5 | No. | | |
| | Weathering Slates and Vent Cowl | | | | |
| G | 100mm diameter weathering slate and apron. | 2 | No. | | |
| H | 100mm diameter vent cowl | 2 | No. | | |
| I | Excavation | | | | |
| | Excavate trench for 100mm pipe not exceeding 1500mm deep and average 250mm deep, part return in, fill & surplus cart away. | 38 | Lm | | |
| Sub-total carried forward to the Internal Drainage collection page…. 86 | | | | | |

Bill No. 5: Internal Drainage Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 84 | |
| B | Sub-total b/f from Page ..... 85 | |
| Total for Internal Drainage c/f to the Internal Plumbing and Drainage Works Collection Page.....86 | | |

Warehouse Modules Internal Plumbing and Drainage Works Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Total for Sanitary Fittings b/f from Page..... 80 | |
| B | Total for Internal Plumbing b/f from Page..... 83 | |
| C | Total for Internal Drainage b/f from Page..... 86 | |
| Total Amount for the One Warehouse Module Plumbing and Drainage Works | | |
| | | x 8 |
| Total Amount for the 8 Warehouse Modules Plumbing and Drainage Works c/f to the Plumbing and Drainage Works Summary Page.. 103 | | |

OFFICE BLOCK AND ABLUTION BLOCK INTERNAL PLUMBING AND DRAINAGE WORKS

Bill No. 6: Sanitary Fittings

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | SANITARY FITTINGS<br>*Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors.*<br>*Note: (i) All sanitary fittings shall be in approved colour.* | | | | |
| A | Disabled (Ambulant) facility<br>Disabled Facility comprising of:<br>i. Ambulant Water Closet Suite<br>Back to wall floor mounted water closet suite comprising:<br>- a floor mounted back to wall white ceramic WC pan 380mm x 450mm with horizontal outlet and chrome fasteners.<br>- Concealed push action low pressure 11/2" WC Flush Valve.<br>- soft close sturdy white seat and seat cover with stainless steel hinges.<br>- fixings, caps and drain outlets.<br><br>ii. Wash Hand Basin set<br>White wall mounted ceramic wash hand basin with single taphole. Prefered dimension: 450 x 400mm x 145mm.<br>The basin set to come complete with a long lever chrome disabled basin faucet<br>Other accessories to include; white plastic slotted waste, basin siphon, overflow, clip, fixings 32mm bottle trap with 75mm water seal, pipes, gaskets and wall flange.<br>iii. Hinged Support Items<br>2 No. hinged support rail with toilet roll holder made of satin finish stainless steel with stainless steel fasteners for securing to solid wall. | 2 | Item | | |
| Sub-total carried forward to the Sanitary Fittings collection page.. 92 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | iv. Horizontal Grab Rail<br>1 No. 610mm long horizontal grab rails in stainless steel with satin finish<br>v. Vertical Grab Rail<br>2 No. 455mm long vertical grab rails in stainless steel with satin finish. | | | | |
| A | Squating Water Closet Pan<br>Stainles steel Water Closet pan with non-slip treads. Prefered water closet pan dimensions to be 455mm x 625mm by 215mm deep. The pan to come complete with, inlet gaskets, water seal trap and all drainage fitments. | 9 | No. | | |
| B | Back to Wall Floor Water Closet Pan<br>Back to wall floor standing Water Closet pan with S-trap. Prefered water closet pan dimensions to be 415mm x 350mm by 415mm high. The pan to come complete with soft close seat and cover, stainless steel hinges, inlet gaskets, stainless steel fasteners and all drainage fitments. | 5 | No. | | |
| C | Flush Valve - Concealed - Manual Press Action<br>Manual Press action, concealed, low pressure back inlet water closet with a 11/2" chrome plated connections with synthetic diaphragm, magnetic/stainless steel spring return c/w adjustable tailpipe to squating water closet pan above. | 14 | No. | | |
| D | Jumbo Toilet Roll Holder<br>Jumbo toilet roll holder in translucent black thermoplastic material of 300mm diameter x 125mm wide. | 5 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page.. 92 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Pillar Tap - Press-Down Delay (Metering)<br>Press-down delay chrome plated metering basin pillar faucet complete with aerator cartridge. | 5 | No. | | |
| B | Bib (Wall) Tap - Press-Down Delay (Metering)<br>Press-down delay chrome plated metering basin bib faucet complete with aerator cartridge. | 8 | No. | | |
| C | Mirror<br>6mm thick polished plate glass silver backed mirror with decorativeborders and beveled edges, size 610 x 610mm, plugged and screwed to wall with 4 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam. | 13 | No. | | |
| D | Soap Dispenser<br>1.1 litre press action soap dispenser made out of black transucent thermoplastic material. Top filling lid and press button dispenser of preferred dimension 107mm x 108mm x 204mm. | 6 | No | | |
| E | Shower Fixture<br>Concealed shower fixture mounted under the tiles comprising:<br>- chrome plated Star handles shower stop cocks colour coded and c/w chrome wall flanges,<br>- adjustable shower head with adjustable water spray settings complete with a chrome extension pipe and wall flange<br>- chrome plated star handles downspout<br>- concealed cold water pipe work and interconnections all to be chrome plated. | 2 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page.. 92 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Sponge Soap & Holder<br>Recessed white ceramic soap and sponge holder that is wall mounted. | 2 | No. | | |
| B | Urinal Bowl<br>White ceramic wall hung urinal bowl consisting of:<br>- urinal bowl with top inlet complete with mounting braces and stainless steel fasteners<br>- spreader nozzle complete with concealed spreader pipes all in stainless steel<br>- white plastic drain grating, 40mm drain siphon, pipe connetction and wall flange | 3 | No | | |
| C | Press Button Urinal Flushing System<br>Press Button urinal flushing system comprising:<br>- Top inlet chrome 11/4" urinal flush valve complete with chrome pipe to urinal<br>- chrome plated press action actuator complete with chrome pipe. | 3 | No | | |
| D | Urinal Bowl Divisions<br>White ceramic urinal division separating the above described urinal bowls fixed firmly on the wall with stainless steel fasteners.. | 4 | No | | |
| | Kitchen | | | | |
| E | Undersink Water Heater<br>10 Litres Instanteneous Undersink Heater. The Heater to be suitable for under the counter installations and to serve both the hand basin and the shower. | 1 | No. | | |
| Sub-total carried forward to the Sanitary Fittings collection page.. 92 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Kitchen sink<br>Double Bowl Single Drainer sink size 1450 x 520mm with bowl size 420 x 355 x 150mm deep made out of 18/8 stainless steel complete with sink waste with 70mm diameter flange 40mm shanks with brackets, plug and chain including bottle traps and all other drainage fitments..<br><br>The sink to come complete with a chrome plated kitchen mixer with over arm long neck swivel spout. | 1 | No. | | |
| B | 300 Litre Solar Water Heater - Pressurised Evacuated tubes<br>300 litre solar pressurised split water heating system comprising of evacuated heating glass tubes, insulated storage cyllinder.<br>To have the following features:<br>- Evacuated borosilicate glass tubes with absorber coating<br>- Copper heat pipes with heater fluid<br>- Light frame anodised aluminium support structure<br>- Insulated 300 l hot water storage cylinder c/w sacrificial anode, thermostat and cabling<br>- Safety relief and islolating valves<br>- Electric booster heating element for back up<br>- Electronic controller with LCD panel and inclusive of all cabling<br>- Automatic voltage stabiliser | 4 | Item | | |
| C | Electrical Connections<br>Allow electrical works for the above solar water heating systems electric booster element works comprising cabling from the isolator provided by others, to controller, recirculation pumps and any other items necessary for optimum functioning of the system. | 4 | Item | | |
| Sub-total carried forward to the Sanitary Fittings collection page.. 92 | | | | | |

Bill No. 6: Sanitary Fittings Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 87 | |
| B | Sub-total b/f from Page ..... 88 | |
| C | Sub-total b/f from Page ..... 89 | |
| D | Sub-total b/f from Page ..... 90 | |
| E | Sub-total b/f from Page .....91 | |
| Total for Sanitary Fittings c/f to the Internal Plumbing and Drainage Works Collection Page..... 98 | | |

Bill No. 7: Internal Plumbing

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | INTERNAL PLUMBING<br>*Supply and Install the following Plumbing installation as described and shown on the drawing.All pipework and fittings in this installation to be to Polypropylene (PPR) to PN. 10 jointed by manufacturer approved fusion welding. Tenderers must allow for jointings, couplings, plugging, clampings, reducers, mortices, hangers, clippings etc necessary for the proper functioning of the installation when pricing.* | | | | |
| | PPR Pipework - PN 10 | | | | |
| A | 25mm diameter pipework | 68 | Lm | | |
| B | 32mm -ditto- | 60 | Lm | | |
| C | 40mm -ditto- | 48 | Lm | | |
| D | 50mm -ditto- | 54 | Lm | | |
| | Extra-over CPVC pipework for the following:- | | | | |
| | Bends | | | | |
| E | 25mm diameter bend | 19 | No. | | |
| F | 32mm -ditto- | 12 | No. | | |
| G | 40mm -ditto- | 8 | No. | | |
| H | 50mm -ditto- | 8 | No. | | |
| | Tees | | | | |
| I | 25mm equal tee | 15 | No. | | |
| J | 32mm -ditto- | 12 | No. | | |
| K | 40mm -ditto- | 13 | No. | | |
| L | 50mm -ditto- | 12 | No. | | |
| | Reducers | | | | |
| M | 32 x 25mm diameter reducer | 9 | No. | | |
| N | 40 x 32mm -ditto- | 6 | No. | | |
| O | 50 x 32mm -ditto- | 8 | No. | | |
| P | 50 x 40mm -ditto- | 61 | No. | | |
| | Reducing Tees | | | | |
| Q | 32 x 23 x 25mm diameter reducing tee | 10 | No. | | |
| R | 40 x 40 x 32mm -ditto- | 6 | No. | | |
| S | 50 x 50 x 40mm -ditto- | 12 | No. | | |
| Sub-total carried forward to the Internal Plumbing collection page….. 95 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Valves | | | | |
| A | 25mm diameter high pressure screw down, full way non-rising stem wedge gate valve to BS 5154 standards. | 2 | No. | | |
| B | 32mm -ditto- | 4 | No. | | |
| C | 50mm -ditto- | 4 | No. | | |
| | Unions | | | | |
| D | 32mm diameter pipe union | 12 | No. | | |
| E | 50mm -ditto- | 13 | No. | | |
| | CPVC to Brass Threaded Fittings | | | | |
| F | 25mm x 1/2" BSP brass threaded male adapter | 18 | No. | | |
| G | 25mm x 1/2" BSP brass threaded female adapter | 16 | No. | | |
| H | 25mm x 1/2" BSP brass threaded male elbow | 14 | No. | | |
| I | 25mm x 1/2" BSP brass threaded female | 15 | No. | | |
| J | 25mm x 1/2" BSP brass threaded male tee | 24 | No. | | |
| K | 25mm x 1/2" BSP brass threaded female tee | 15 | No. | | |
| L | 25mm x 3/4" BSP brass threaded male | 14 | No. | | |
| M | 32mm x 1" BSP brass threaded male adapter | 10 | No. | | |
| N | 40mm x 11/4" BSP brass threaded male adapter | 9 | No. | | |
| O | 40mm x 11/4" BSP brass threaded male tee | 7 | No. | | |
| P | 50mm x 11/2" BSP brass threaded male adapter | 8 | No. | | |
| Q | 50mm x 11/2" BSP brass threaded male tee | 8 | No. | | |
| R | Flexible Tubing + Angle Valve | | | | |
| | 15mm diameter x 450mm long flexible connectors complete with integral chrome plated angle valve. | 10 | No. | | |
| S | Testing and commissioning | | | | |
| | Allow for testing and commissioning of the internal plumbing installations | 1 | Item | | |
| Sub-total carried forward to the Internal Plumbing collection page….. 95 | | | | | |

Bill No. 7: Internal Plumbing Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page.....96 | |
| B | Sub-total b/f from Page.....97 | |
| Total for Internal Plumbing c/f to the Internal Plumbing and Drainage Works Collection Page.....98 | | |

Bill No. 8: Internal Drainage

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | INTERNAL DRAINAGE<br>*Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC 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 instructions. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. for the proper and satisfactory functioning of the system.* | | | | |
| | MuPVC and uPVC Waste and Soil pipework | | | | |
| A | 100mm diameter heavy gauge grey mUPVC pipe | 43 | Lm | | |
| B | 100mm diameter heavy gauge golden brown mUPVC pipe | 33 | Lm | | |
| C | 50mm ditto | 55 | Lm | | |
| D | 40mm ditto | 46 | Lm | | |
| E | 32mm ditto | 55 | Lm | | |
| | Bends | | | | |
| F | 100mm diameter long radius bend | 4 | No. | | |
| G | 100mm diameter sweep bend | 14 | No. | | |
| H | 50mm ditto | 12 | No. | | |
| I | 40mm ditto | 10 | No. | | |
| J | 32mm ditto | 12 | No. | | |
| | Tees | | | | |
| K | 100mm diameter sweep tee | 2 | No. | | |
| L | 50mm ditto | 14 | No. | | |
| M | 40mm ditto | 6 | No. | | |
| N | 32mm ditto | 8 | No. | | |
| | Access Caps | | | | |
| O | 100mm diameter access cap | 2 | No. | | |
| P | 50mm ditto | 3 | No. | | |
| Q | 40mm ditto | 2 | No. | | |
| R | 32mm ditto | 2 | No. | | |
| Sub-total carried forward to the Internal Drainage collection page... 98 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Reducers | | | | |
| A | 50 x 32mm diameter reducer | 5 | No. | | |
| B | 50 x 40mm ditto | 5 | No. | | |
| C | 40 x 32mm ditto | 4 | No. | | |
| D | Floor Traps | | | | |
| | Four-way floor trap with 50mm diameter outlet and 100mm white plastic cover grating. | 8 | No. | | |
| E | Gully Traps | | | | |
| | Standard 300 x 300 x 450mm masonry gully trap complete with 125mm thick reinforced concrete cover. | 4 | No. | | |
| F | Inspection Chamber | | | | |
| | Standard 600 x 450 x (600-750)mm inspection chamber complete with heavy duty polysynthetic frame and cover to approval. | 5 | No. | | |
| | Weathering Slates and Vent Cowl | | | | |
| G | 100mm diameter weathering slate and apron. | 2 | No. | | |
| H | 100mm diameter vent cowl | 2 | No. | | |
| I | Excavation | | | | |
| | Excavate trench for 100mm pipe not exceeding 1500mm deep and average 250mm deep, part return in, fill & surplus cart away. | 55 | Lm | | |
| Sub-total carried forward to the Internal Drainage collection page... 98 | | | | | |

Bill No. 8: Internal Drainage Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 96 | |
| B | Sub-total b/f from Page ..... 97 | |
| Total for Internal Drainage c/f to the Internal Plumbing and Drainage Works Collection Page.....98 | | |

Office Block and Ablution Block Internal Plumbing and Drainage Works Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Total for Sanitary Fittings b/f from Page..... 92 | |
| B | Total for Internal Plumbing b/f from Page..... 95 | |
| C | Total for Internal Drainage b/f from Page..... 98 | |
| Total Amount for the Office Block and Ablution Block Plumbing and Drainage Works c/f to the Plumbing and Drainage Works Summary Page.....103 | | |

Bill No. 9: Fire Protection Equipment

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | FIRE PROTECTION EQUIPMENT<br>*Supply, deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed on site* | | | | |
| | Hose Reel System | | | | |
| | Hose Reel | | | | |
| A | Swinging type hosereel fitted with 30 Metres Long, 20mm diameter reinforced non-kink rubber hose with 5/6 mm lever operated shut-off nozzle, mild steel feed pipe, isolation valve, guide and all other accessories. | 17 | No. | | |
| | GMS Pipes Class B | | | | |
| B | 25mm diameter pipework | 17 | Lm | | |
| C | 50mm diameter pipework | 52 | Lm | | |
| | Extra Over Pipework | | | | |
| | Bends | | | | |
| D | 25mm diameter bend | 34 | No. | | |
| E | 50mm diameter bend | 32 | No. | | |
| | Tees | | | | |
| F | 50mm diameter equal tee | 28 | No. | | |
| | Reducers | | | | |
| G | 50 x 25 mm diameter reducer | 17 | No. | | |
| | Valves | | | | |
| H | 25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. | 17 | No. | | |
| I | 50mm -ditto- | 8 | No. | | |
| | Unions | | | | |
| J | 25mm diameter pipe union | 17 | No. | | |
| K | 50mm -ditto- | 15 | No. | | |
| Sub-total c/f to the Fire Protection Equipment collection page ……102 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Painting<br>Allow for painting of the entire hose reel pipework to red. | 1 | Item | | |
| B | Hosereel Pumpset<br>Supply and install a hose reel pumpset comprising the following components:<br>- Two identical centrifugal pumps, one duty, the other standby mounted on a common base frame together with the other components. Each pump shall have a duty of $5m^3/hr$ against a 40m head.<br>- 60 L diaphragm tank (pressure vessel).<br>- Pressure switch and pressure gauge<br>- GMS Pipe work connections including tank connections, 50mm foot valve with strainer, suction & discharge manifold, isolating valves, non-return valves<br>Control shall be effected via a pressure switch through a pre-wired control panel which shall give automatic change-over from duty to standby pump within 5 seconds should the duty pump fail to deliver for any reason.<br>- Control panel mounted on the same base frame as pumpset and presure vessel with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet in oven baked 'fire-red' powder coated colour. It should include a change-over switch to enable the pumps to work alternately. | 1 | Set | | |
| E | Electrical Works<br>Allow for electrical works wiring and fitting to all pumps, control panel and float switches, from isolator provided by others with 3 metres distance. | 1 | Item | | |
| Sub-total c/f to the Fire Protection Equipment collection page ……102 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | PORTABLE FIRE EXTINGUISHERS<br>*Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.* | | | | |
| A | Carbon Dioxide Gas Fire Extinguisher<br>5 Kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets. | 18 | No | | |
| B | Dry Chemical Powder Fire Extinguisher<br>6kg dry chemical podwer portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets. | 18 | No | | |
| C | Manual Alarm Bell<br>Supply Deliver and install manual operated alarm bell (Gong) and ensuring proper functioning | 18 | No | | |
| D | Fire Notices<br>Allow for fire signage for the hose reel system, fire exits and fire instructions as | 18 | No | | |
| E | Fire Blanket<br>1200x1800mm fibreglass fire blanket to BS. 6575 | 9 | No. | | |
| Sub-total c/f to the Fire Protection Equipment collection page ……102 | | | | | |

Bill No. 9: Fire Protection Equipment Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 99 | |
| B | Sub-total b/f from Page ..... 100 | |
| C | Sub-total b/f from Page ..... 101 | |
| Total for Fire Protection Equipment c/f to the Plumbing and Drainage Works Summary Page .....103 | | |

Plumbing and Drainage Works Summary Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Total B/F from Water Storage and Reticulation Works Collection page…… 75 | |
| B | Total B/F from Warehouse Modules Internal Plumbing & Drainage Works Collection page……86 | |
| C | Total B/F from Office Block, Ablution Block Internal Plumbing & Drainage Works Collection page……98 | |
| D | Total B/F from Fire Protection Equipment Works Collection page …..... 102 | |
| Total for Plumbing & Drainage Works c/f to the Main Summary Page …..... 118 | | |

BILL No. 10: Cold Storage

| Item | Description | Qty | Unit | Rate (Ksh) | Amount (Ksh) |
|---|---|---|---|---|---|
| | Coldroom Installation | | | | |
| A | Evaporator Unit<br>The evaporator unit with a cooling load of 18.5 kW complete with cooling coil, defrost heater, expansion valve, air circulating fans, guards, drip tray, drainage pipework outlet, supports etc. The unit to be complete with powder coated finish for durability | 4 | No. | | |
| B | Evaporator Unit Support<br>Evaporator ceiling/ high wall mounting support for the above evaporator comprising galvanised steel channels, threaded stud bolts, washers, rubber washers. Rate to cover all preperation and installation works including marking, drilling, mounting, insulating affected areas etc. | 4 | Item | | |
| C | Condensing Unit<br>An air cooled condensing unit complete with semi-hermetic reciprocating compressor capable of a cooling load to match the evaporator unit and to be complete with fan, compressor, condenser, liquid receiver, controls, anti-vibration mountings etc. Unit to use enviromental friendly refrigerant and with all components mounted on a c-channel common base with hoist hooks and painted for durability and harsh environment installation. | 4 | No. | | |
| D | Control Panel<br>The panel shall be complete with contactors, timers and all other accessories necessary for the automatic operation of the cold store. | 4 | No. | | |
| | Sub Total c/f to the Cold Storage Collection Page .....108 | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Controls | | | | |
| A | Thermostatic expansion valve | 4 | No. | | |
| B | Filter drier to match refrigerant capacity that can carry the above cooling load of 30 kW to be as Danfoss or equal. | 4 | No. | | |
| C | Sight glass with colour coding | 4 | No. | | |
| D | Low pressure gauge | 4 | No. | | |
| E | High pressure gauge | 4 | No. | | |
| F | Room thermostat to cut compressor in and out, depending on the room temperature. | 4 | No. | | |
| G | Dial thermometer | 4 | No. | | |
| H | Solenoid valve | 4 | No. | | |
| I | Low and high cut-out switch | 4 | No. | | |
| J | Light Fitting<br>65 watts vapour proof light fitting | 24 | No. | | |
| K | Refrigerant Pipework<br>Refrigeration pipework complete with armflex Insulation for both the liquid line and the suction line to match the evaporator units and condensing units. The pipework to be complete with all the necessary bends, reducers, Y's, joints, distributors, support brackets etc. an average distance of 8 m is taken for between any two units (the evaporator unit and condenser unit) | 4 | Item | | |
| Sub Total c/f to the Cold Storage Collection Page .....108 | | | | | |

| Item | Description | Qty | Unit | Rate (Ksh) | Amount (Ksh) |
|---|---|---|---|---|---|
| A | Refrigerant<br>Allow for the charging of the refrigeration system with necessary amount of refrigerant for initial testing and eventual operation of the cold store. | 4 | Item | | |
| B | Anti-Vibration Mountings<br>Anti-vibration rubber mountings for each of the condensing unit installed. | 4 | Item | | |
| C | 40mm diameter class 41 uPVC condensate pipe complete with bends, tees, and access caps | 120 | LM | | |
| D | CAM Lock PU Sandwich Panels - Walls and Roof<br>150mm thick polyurethane prefabricated sandwich CAM lock panels 960mm wide and 6m high with interlocking grooves.<br>Panels to be cladd in 0.5mm thick pre-painted galvanised steel sheet panels as room insulation and to come complete with corner panels, hole caps and all accessories. | 450 | SM | | |
| E | Vapour Seal/Barrier<br>Two even layers of Flinkote type 3 or equal and approved applied to the floor to manufacturer's instructions before installation of floor insulation and finish. Contractor to ensure all proper coverage of the entire floor area and application to manufacturers instructions and to approval. | 150 | SM | | |
| | Sub Total c/f to the Cold Storage Collection Page .....108 | | | | |

| Item | Description | Qty | Unit | Rate (Ksh) | Amount (Ksh) |
|---|---|---|---|---|---|
| A | <u>CAM Lock PU Sandwich Panels - Floor</u><br>100mm thick polyurethane prefabricated sandwich CAM lock panels 960mm wide and 6m long with interlocking grooves.<br>Panels to come complete all accessories.<br>The floor panels to be suitable for floor packing in readiness for concrete/terrazzo floor finish application above them. | 150 | SM | | |
| B | <u>Cold Room Door - Sliding</u><br>Sliding Cold room door of 1,000mm wide by 2,000mm high made from 150mm prefarbricated polyurethane sandwich panel. Door to have 0.5mm pre-painted galvanised steel sheet, stainless steel hinges, all around rubber gaskets, lockable outer lever door handle with a push unlocking inner safety mechanism. To come c/w rails and guides, rolling bearing fasteners and fixtures. | 1 | Set | | |
| C | <u>Associated Electrical Works</u><br>Allow for electrical works including but not limited to wiring and conduits from the local isolator provided by others within 10 metres in the machine room to the control panel, condenser and evaporator. It shall include a push and turn safety switch near the machines in the machine room for isolation during servicing and maintenance. | 1 | Item | | |
| D | Allow for testing and commissioning of the entire cold storage works to attain set temperatures to Engineers approval | 1 | Item | | |
| | Sub Total c/f to the Cold Storage Collection Page .....108 | | | | |

BILL No. 10: Cold Storage Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-Total b/f from page 104 | |
| B | Sub-Total b/f from page 105 | |
| C | Sub-Total b/f from page 106 | |
| D | Sub-Total b/f from page 107 | |
| Total for One Cold Storage | | |
| | 5 No. Cold Storages | x 5 |
| Total for 5 Cold Storages c/f to the Main Summary Page …. 118 | | |

Bill No. 11: Borehole Drilling

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | NB: All measurements are provisional and are subject to re-measurements on site. | | | | |
| A | Hydrogeological Survey + NEMA Report<br>Allow sum for conduction of Hydrogeological survey, development of report, and submission of the same.<br>The sum to include development, submission of a NEMA report. | 1 | Item | | |
| B | Drilling Permit<br>Allow for application and acquisition of permit for drilling from relevant authorities before commencing the works (Note: No payments to be made before the permit is acquired and submitted to the Client). | 1 | Item | | |
| C | Mobilization/Demobilization<br>Mobilization/demobilization of drilling unit, equipment materials, personnel and all other required supplies.<br>This shall include erecting/dismantling of drilling unit. | 1 | Item | | |
| | Allow for: | | | | |
| D | (a) Supply of water and drilling fluids for drilling operations and field camp | 1 | Item | | |
| E | (b) Allow for site and access route clearance | 1 | Item | | |
| | Drilling | | | | |
| F | Drilling of 254mm diameter borehole from the surface through all types of loose formations until a stable formation is encountered, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified. | 20 | Lm | | |
| Sub-total carried forward to the Borehole Drilling collection page…….112 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Drilling of 225mm diameter borehole from stable formation upto 100m from the surface through all types of stable strata, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified. | 80 | Lm | | |
| B | Ditto but from 101-200m below surface. | 100 | Lm | | |
| C | Ditto but from 201-300m below surface. | 100 | Lm | | |
| | <u>Allow for:</u> | | | | |
| D | (a) Reaming and boring | 10 | Lm | | |
| E | (b) Supply, install and retain 254mm diameter temporary casing | 10 | Lm | | |
| F | <u>Drill Cutting Samples</u><br>Allow for taking of drill cuttings samples at two (2) meters intervals. | 1 | Item | | |
| | <u>Casing</u> | | | | |
| G | Supply and install of 152mm diameter plain steel (class B) casing into the borehole | 200 | Lm | | |
| H | Supply and installation of 152mm diameter slotted steel (class B) casing at appointed intervals of the borehole | 100 | Lm | | |
| I | <u>Case Grouting</u><br>Grout between the casing and the borehole for the top ten (10) meters. | 1 | Item | | |
| J | <u>Gravel Pack</u><br>Supply and install 2-4mm inert quartz gravel pack in the annular space between the borehole and the casing. | 10 | Ton | | |
| Sub-total carried forward to the Borehole Drilling collection page.....112 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Well Development<br>Physical and chemical development of the borehole including inserting and removal of development equipment | 12 | Hrs | | |
| B | Constant Discharge Test<br>Undertake a constant discharge test to ascertain borehole yield for at least 24 hours including installation and withdrawal of pumping unit and recovery measurements. | 1 | Item | | |
| C | Water Level Observation<br>Undertake water level observation and record recovery | 12 | Hrs | | |
| D | Borehole Sterilisation<br>Carry out borehole Sterilisation | 1 | Item | | |
| E | Bacteriological and Chemical Analysis<br>Allow for taking of samples, conduction of bacteriological and chemical analyses of the borehole water and development of the completion report. | 1 | Item | | |
| F | Borehole cap and Plinth<br>Supply and installl a 152mm diameter borehole cap and construction of concrete(1:3:6) plinth size 1.0mx1.0mx1.0m around the well head. | 1 | Item | | |
| G | Making Good<br>Reinstate and make good the area surrounding the borehole on completion of drilling works. | 1 | Item | | |
| Sub-total carried forward to the Borehole Drilling collection page.....112 | | | | | |

Bill No. 2: Borehole Drilling Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 109 | |
| B | Sub-total b/f from Page ..... 110 | |
| C | Sub-total b/f from Page .....111 | |
| Total for Borehole Drilling Works carried forward to the Borehole Works Summary Page..... 117 | | |

Bill No. 3: Borehole Equipping

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Borehole Pump | | | | |
| A | Supply and install centifugal multistage submersible borehole pump, continously rated and capable of pumping $10m^3$/hr of water against a total head of 180m. The entire pump-set body, impellers, shaft etc shall be made of heavy duty stainless steel material and shall be complete with submersible cable, level controls and their cabling. The pump shall have inbuilt non-return valve, tail strainer and cable guard. The pump shall be suitable for 3- phase 415V. and with a maximum assembly diameter of 130mm. | 1 | Item | | |
| B | Supply and install a control panel to be mounted off the wall. The control panel shall allow automatic duty operation of the pump with manual switch override. The panel to have an isolator switch indicator, indicator lights for pump status, ammeter, voltmeter, hour meter and main switch and power available light indication for the panel.<br>The panel to also have, among other items, but not limited to: over and under voltage protection, phase failure, overload relays, connections for tank and borehole level controls, and volt free contacts for remote indication all housed in a stove baked enamel painted cabinet mounted on wall and with a plstic envelope sheathed circuit wiring diagram locked in the cabinet to approval. | 1 | Item | | |
| Sub-total carried forward to the Borehole Equipping collection page… 117 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | Level Control Electrodes | | | | |
| A | Level Control and dry run protection electrodes for the borehole complete with cabling, interconnections and connections to the control panel | 1 | Lot | | |
| B | Float Switch<br>Float switch installed at the high level water tank to automate borehole pump operation. To come complete with cabling to the control panel in the pump room not more than 30m away. | 1 | Set | | |
| | Cabling | | | | |
| C | 16mm² 4-core PVC round hardened PVC submersible electric cable. Waterproof. | 180 | Lm | | |
| D | 16mm² 4-core armoured underground electric cable to control panel | 30 | Lm | | |
| E | 1.5mm² 2-core PVC round hardened PVC electrode cables waterproof. | 180 | Lm | | |
| F | 1.5mm² 2-core armoured underground electrode cables to control panel | 30 | Lm | | |
| G | Termination/Junction Box<br>Supply and install an IP67 rated junction for termination of submersible pump and level control cables from the borehole and the armoured cables from the control panel. | 1 | Item | | |
| H | Ducts<br>100mm diameter heavy duty PVC Class 41 pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm mass concrete surround. | 24 | Lm | | |
| Sub-total carried forward to the Borehole Equipping collection page… 117 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Excavation<br>Excavate trench 300mm wide and 500mm deep to lay cables. The laid cables to be covered with 50mm thick layer of fine soil, covered with tiles as 'Hatari' then back filled, rammed and excess soil carted away. | 30 | Lm | | |
| B | Well Head<br>Supply and install a well head comprising a test tap, pressure gauges, sockets for services well discharge head to approval. | 1 | Item | | |
| C | Borehole Protection Cover<br>Supply and installl a galvanised lockable borehole protection cover size 750 x 750 x 400mm complete with two (2 No.) heavy duty stainless steel padlocks. | 1 | Item | | |
| D | Observation Pipe<br>Supply and install 20mm diameter uPVC presure pipe (observation pipe), | 180 | Lm | | |
| E | Water Meter<br>Supply and install high quality pressure gauge 0-7kgf/cm$^2$ complete with accessories for mounting on galvanised pipe. | 1 | No | | |
| F | Water Pipe<br>Supply and install 63mm diameter rising main GMS water pipe upto the water tank, Class C. | 160 | Lm | | |
| G | 63mm diameter GMS bend | 8 | No | | |
| H | 63mm diameter Black steam sockets. | 36 | No | | |
| Sub-total carried forward to the Borehole Equipping collection page… 117 | | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| A | Excavation<br>Excavate trench 300mm wide and 500mm deep to lay plumbing pipes. The laid pipes to be covered with 50mm thick layers of fine soil, back filled, rammed and excess soil carted away. | 40 | Lm | | |
| B | Valves<br>Supply and install 63mm diameter single orifice air valve, complete with pipe mounting accessories. | 1 | No. | | |
| C | 63mm diameter gate valve | 3 | No | | |
| D | 63mm diameter non-return valve. | 2 | No | | |
| E | Valve Chamber<br>Standard precast concrete valve chamber of size 450 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal. | 2 | No | | |
| F | Allow for 3-phase electric power to conduct the necessary tests for the borehole equipment on site. | 1 | Item | | |
| G | Allow for preparation and submission of operation and mainatenance manuals including all circuit diagrams for the installations to be submitted in 3 copies all to approval. | 1 | Item | | |
| Sub-total carried forward to the Borehole Equipping collection page… 117 | | | | | |

Bill No. 3: Borehole Equipping Collection Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Sub-total b/f from Page ..... 113 | |
| B | Sub-total b/f from Page ..... 114 | |
| C | Sub-total b/f from Page ..... 115 | |
| D | Sub-total b/f from Page ..... 116 | |
| Total for Borehole Equipping Works c/f to the Borehole Works Summary Page .....117 | | |

Borehole Works Summary Page

| Item | Description | Amount (Kshs) |
|---|---|---|
| A | Total for Borehole Equipping Works b/f from the BoreholeDrilling Collection Page .....112 | |
| B | Total for Borehole Equipping Works b/f from the Borehole Equipping Collection Page ..... 117 | |
| Total for Borehole Works carried forward to the Main Summary Page .....118 | | |

MAIN SUMMARY PAGE

| ITEM | DESCRIPTION | AMOUNT (KSHS) |
|---|---|---|
| A | Total for preliminaries brought forward from Collection Page... 67 | |
| B | Total for Water Storage, Internal Plumbing and Drainage Works b/f from the Summary Page ..... 103 | |
| C | Total for Cold Storage Works b/f from the Summary Page.....108 | |
| D | Total for Borehole Drilling and Equipping Works b/f from the Summary Page..... 117 | |
| TOTAL FOR WATER STORAGE, INTERNAL PLUMBING, INTERNAL DRAINAGE, COLD STORAGE AND BOREHOLE DRILLING & EQUIPPING INSTALLATION WORKS CARRIED FORWARD TO VOLUME 1 OF 3 SUMMARY | | |

Amount in Kenya Shillings .....

.....

Period of Execution of the works.....

Tenderers Name & Stamp.....

.....

SIGNATURE..... DATE.....

IN NO..... VAT CERTIFICATE

NO.....
(Provide copy) (Provide copy)

WITNESS' NAME.....

OCCUPATION.....

SIGNATURE.....

DATE.....

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

| ITEM | DESCRIPTION | UNIT | RATE (Kshs) |
|---|---|---|---|
| A | Painted Pressed sectional steel tank of 120m3 and 6mm plate | Item | |
| B | 90mm HDPE pipe, PN 10 | LM | |
| C | 63mm Ditto | LM | |
| D | Grundfos Pump Dual set CR 15-3 - | Item | |
| E | 75mm PPR pipe | LM | |
| F | 63mm –ditto | LM | |
| G | Close Couple Water Closet – Ideal Standard Plan | No. | |
| H | Half Pedestal Wash Hand Basin Ideal Standard Plan | No. | |
| I | uPVC 152mm borehole casing | No. | |
| J | Grundfos Submersible Pump as SP 17-17 | Item | |
| K | Air Cooled Evaporator – 7.5kW | Item | |
| L | Condenser Unit 7.5 kW | Item | |

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

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/Engineer.
2. This schedule shall form part of the technical evaluation criterion, and tenderers aretherefore advised to complete the schedule as they shall be considered non responsive.

NB. The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer MUST SUBMIT LEGIBLE comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule and CLEARLY HIGHLIGHT THE SPECIFIC REQUIRED ITEM ONLY.

| S/NO | DESCRIPTION | MANUFACTURER | COUNTRY OF ORIGIN | REMARKS (Catalogue No. etc.) |
|---|---|---|---|---|
| A | Sectional Steel Tank | | | |
| B | Water Transfer Pump set | | | |
| C | Squatting Water Closet | | | |
| D | WC Flush Valve | | | |
| E | Urinal Bowl | | | |
| F | Solar Water Heater | | | |
| G | Roof ventilation fan | | | |
| H | Borehole Pumpset | | | |
| I | Borehole Casing | | | |
| J | Cold Storage Sandwich Panel | | | |
| K | Evaporator Unit | | | |
| L | Condenser Unit | | | |

Catalogue must be attached for all the items in the schedule of material above

SECTION F:

STANDARD FORMS

*NOTE:*

ALL FORMS IN THIS SECTION MUST BE FILLED AS THEY SHALL BE PART OF THE EVALUATION CRITERIA

## *STANDARD FORMS*

CONTENTS


| FORM | PAGE |
|---|---|
| 1. KEY PERSONNEL…….... | 62 |
| 2. CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS…….. | 63 |
| 3. SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS…….…… | 65 |

1 KEY PERSONNEL

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

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

I certify that the above information is correct.

…….. …….. ……..

Title Signature Date

2 CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature and volume over the last five years.

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

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

…….  …….  …….

Title  Signature  Date

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

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

REPUBLIC OF KENYA

# COUNTY GOVERNMENT OF MERU

## *PROPOSED CONSTRUCTION OF COUNTY AGGREGATION AND INDUSTRIAL PARKS*

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**VOL. 2 OF 3**

**TENDER SPECIFICATIONS & BILLS OF QUANTITIES FOR**

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL INSTALLATION WORKS**

---

**PROJECT MANAGER Chief Officer Public Works**
**P.O.BOX 120-60200 MERU**

**COUNTY ARCHITECT**
**P.O.BOX 120-60200**
**MERU**

**COUNTY QUANTITY SURVEYOR**
**P.O.BOX 120-60200 MERU**

**COUNTY ELECTRICAL ENGINEER**
**P.O.BOX 120 60200**
**MERU**

**COUNTY STRUCTURAL ENGINEER**
**P.O.BOX 120-60200**
**MERU**

**COUNTY MECHANICAL ENGINEER**
**P.O.BOX 120-60200 MERU**

**MAY, 2023**

## TABLE OF CONTENTS


**TITLE** **PAGE**

**Contents** ..... i

**SECTION A:** Instructions to Tenderers..... A/1-A/6

Stage 1: Preliminary Evaluation Criteria ..... A/2

Stage 2: Technical Evaluation Criteria..... A/3-A/6

**SECTION B:** General Specifications of Materials and Works..... B/1-B/19

**SECTION C:** Schedule of Contract Drawings ..... C/1

**SECTION D:** Particular Specifications of Materials and Works..... D/1-D/3

**SECTION E:** Schedule of Unit Rates..... E/1-E/E/3

**SECTION F:** Bills of Quantities..... F/1-F/65

**SECTION G:** Technical Schedule of Items to be supplied..... G/1-G/2

**SECTION H:** Standard Forms..... H/1-H/5

# SECTION A

# INSTRUCTIONS TO TENDERERS

***PRELIMINARY & TECHNICAL EVALUATION CRITERIA***

# INSTRUCTIONS TO TENDERERS

## CONTENTS

1. Table of Contents ..... A/1

2. Tender Evaluation Criteria ..... A/2-A/6

Stage 1: Preliminary Evaluation Criteria..... A/2

Stage 2: Technical Evaluation Criteria ..... A/3-A/6

# TENDER EVALUATION CRITERIA

The opened tenders will be evaluated in **2 stages**, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

**Note:** This criterion shall be used to evaluate Electrical works sub contracts

## STAGE 1: PRELIMINARY EVALUATION

This stage of evaluation shall involve examination of the mandatory requirements as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions shall include the following:

| S/No. | Mandatory Requirement (MR) | Submitted (Y/N) |
|---|---|---|
| MR1 | Valid Copy of Company Certificate of Incorporation/Registration | |
| MR2 | Valid Tax Compliance Certificate from Bidding Company, and if Consortium, from each member of the consortium. | |
| MR3 | Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 12 months) or National Identity Card(s) for Sole Proprietorship / Partnership; | |
| MR4 | Valid copy of NCA Registration Certificate, NCA 4 and above in Electrical Engineering Services | |
| MR5 | Valid Annual Contractors Practicing License from National Construction Authority for Electrical Engineering Services | |
| MR6 | Copy of Valid License in Electrical Installation Works from Energy and Petroleum Regulatory Authority (EPRA) - Class A1 or Class B | |
| MR7 | Domestic Sub-contractors must sign and stamp the Summary Page of their respective specialist works in the tender document. | |

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

## STAGE 2: TECHNICAL EVALUATION

The Sub-contractor shall be evaluated as follows;

a) Assessment for Eligibility

b) Compliance with Technical Specifications

### A) ASSESSMENT FOR ELIGIBILITY

**PARAMETERS**

(i) Key personnel

(ii) Contract Completed in the last Five (5) years

(iii) Schedules of on-going projects

(iv) Schedules of Contractor's equipment

(v) Litigation History

**TABLE 1: Assessment for Eligibility**

| Item | Description | Compliance √ or X |
|---|---|---|
| 1. | **Key Personnel (Attach evidence in form of CVs and certified copies of certificates)** | |
| | **Project Manager**<br>• Be a holder of at least a diploma in relevant Engineering field with experience of at least 5 years | |
| | **Site Supervisor (At least 1No.)**<br>• Be a holder of degree/diploma in relevant field<br>• Has at least 5 year of relevant experience | |
| | **Technician (At least 2No. Technicians)**<br>• Be a holder of certificate in relevant field<br>• Has at least 5 years of relevant experience | |
| | **Artisan (At least 3No. Artisans)**<br>• Be a holder of trade test certificate in relevant field<br>• Artisans with at least 5 years of relevant experience | |
| 2. | **Contracts completed in the last five (5) years (Max of 3No. Projects) - <u>Provide Evidence I.e. Award of Contracts and Completion Certificates</u>**<br>• Projects of similar nature, complexity or magnitude | |
| 3. | **On-going projects - <u>Provide Evidence I.e. Award of Contracts</u>**<br>• Two Projects of similar, nature complexity and magnitude | |
| 4. | **Schedule of contractors equipment and transport (proof or evidence of ownership/Lease)** | |
| | **a) Relevant Transport (at least 2No.)**<br>• Means of transport | |
| | **b) Relevant Equipment (at least 6No.)**<br>The Equipment includes but not limited to the following;<br>1. Motor and Phase Rotation Indicator<br>2. Digital Earth Loop Tester<br>3. Insulation Continuity Tester<br>4. Digital Earth Resistance Tester<br>5. Multimeter and Clamp Meter<br>6. Electrician 's Tool Kit<br>• Has relevant equipment for works being tendered | |
| 5. | **Litigation History**<br>• Duly Filled | |
| | **COMPLIANCE STATUS** | |

## B) COMPLIANCE WITH TECHNICAL SPECIFICATIONS

**Note:**

*On compliance with Technical Specifications, bidders shall supply equipment/items which comply with the technical specifications set out in the bid document. In this regard, the bidder will be required to submit relevant technical brochure/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/model of the proposed items. Such brochures/ catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:*

*(i) Standards of manufacture;*
*(ii) Performance ratings/characteristics;*
*(iii) Material of manufacture;*
*(iv) Electrical power ratings; and*
*(v) All other requirements as indicated in the technical specifications of the bid.*

The bids will then be analyzed, using the information in the technical brochures, to determine compliance with technical specifications for the works/items as indicated in the tender document. Bidders not complying with **any** of the technical specifications shall be adjudged technically non-responsive while those meeting all technical specifications shall be considered technically responsive**.**

The tenderer shall also fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer and catalogue numbers of the Items/Equipments they propose to supply.

***Tender Evaluation Committee to evaluate compliance to all technical specifications (Electrical Installation Works) as detailed in the Section D (Particular specs) of this document***



**TABLE 2: Compliance with Technical Specifications**

| Item | Description | Compliance ✓ or X |
|---|---|---|
| 1. | 600mmx600mm LED Panel Lighting Fittings | |
| 2. | High bay Lighting Fixtures | |
| 3. | LED Circular & Fluorescent Lighting Fittings | |
| 4. | Lighting Switches | |
| 5. | Sockets | |
| 6. | DP Switches | |
| 7. | Copper Cables | |
| 8. | Addressable Smoke Detectors | |
| 9. | Addressable Heat Detectors | |
| 10. | Fire Alarm Control Panel | |
| 11. | Distribution Boards, Consumer Units & LV Switchboards | |
| 12. | 100w, Integrated All in One LED solar street light | |
| 13. | 100w, LED Street lighting Fixture | |
| | | |
| | **COMPLIANCE STATUS** | |

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

# SECTION B

# GENERAL SPECIFICATIONS

# OF

# MATERIALS AND WORKS

# GENERAL SPECIFICATIONS OF MATERIALS AND WORKS – ELECTRICAL INSTALLATION WORKS

1. General
2. Standard of Materials
3. Workmanship
4. Procurement of Materials
5. Shop Drawings
6. Record Drawings
7. Regulations and Standards
8. Setting out Works
9. Position of Electrical Plant and Apparatus
10. M.C.B Distribution Panels and Consumer Units
11. Fused Switchgear and Isolators
12. Conduits and Conduit Runs
13. Conduit Boxes and Accessories
14. Labels
15. Earthing
16. Cables and Flexible Cords
17. Armoured PVC Insulated and Sheathed Cables
18. Cable Supports; Markers and Tiles
19. PVC Insulated Cables
20. Heat Resisting Cables
21. Flexible Cords
22. Cable Ends and phase Colours
23. Cable Insulation Colours
24. Sub-circuit Wiring
25. Space Factor

26. Insulation

27. Lighting Switches

28. Sockets and Switched sockets

29. Fused Spur Boxes

30. Cooker Outlets

31. Connectors

32. Lamp holders

33. Lamps

34. Lighting Fittings Street Lighting Lanterns

35. Position of Points and Switches

36. Street/Security Lighting Columns

37. Timing Control Switch

38. Wiring System for Street Lighting

39. Metal control Pillar

40. Current Operated Earth leakage circuit breaker

41. MV Switchboard

42. Steel Conduits and Steel Trunking

43. Testing on Site

## 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. 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.

## 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.

## 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.

## 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 errorsor the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

## 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.

## 7. REGULATIONS AND STANDARDS

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

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

## 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.

## 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 anywork is carried out.

## 10. MCB DISTRIBUTION PANELS AND CONSUMER UNITS

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

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

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

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

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

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

## 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.

## 12. CONDUITS AND CONDUIT RUNS

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

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

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

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

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

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

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

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

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

## 13. CONDUIT BOXES AND ACCESSORIES

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

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

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

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

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

## 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.

## 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.

## 16. CABLES AND FLEXIBLE CORDS

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

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

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

P.V.C. insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform to the details stated in the "Cable Braid and insulation Colours" Clause.

## 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.

## 18. CABLE SUPPORTS, MARKERS AND TILES

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

Alternatively, fixing shall be by BICC claw type cleating system with die-cast cleats and galvanised mild steel back straps or similar approved equal method. For one or two cables run together the cleats shall be fixed a special channel section supports or backstraps described above which shall in turn be secured to walls or ceilings of ducts by rawbolts.

In excessively damp or corrosive atmospheric conditions special finishes may be required and the Sub-contractor shall apply to the Engineer for further instructions before ordering cleats and channels for such areas.

The above type of hooks and clamps and channels or cleats and blackstraps shall also be used for securing cables in vertical ducts.

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

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

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

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

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

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

## 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.

## 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.

## 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).

## 22. CABLE ENDS AND PHASE COLOURS

All cable ends connected up in switchgear, MCB panels etc, shall have the insulation carefully cut back and the ends sealed with Hellerman rubber slip on cable end markers.

The markers shall be of appropriate phase colour for switch and all other live feeds to the details of the "Cable Insulation Colours" clause. Black cable with black end markers shall only be used for neutral cables.

## 23. CABLE INSULATION COLOURS

Unless otherwise stated in later clauses the insulation colours shall be in accordance with the following table.

Where other systems are installed the cable colours shall be in accordance with the details stated in the appropriate clause.

| SYSTEM | INSULATION COLOUR | CABLE END MARKER |
|---|---|---|
| 1) **Main and Sub-Main** | | |
| a) Phase | Red | Red |
| b) Neutral | Black | Black |
| 2) **Sub-Circuits Single Phase** | | |
| a) Phase | Red | Red |
| b) Neutral | Black | Black |

## 24. SUB-CIRCUIT WIRING

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

Lighting circuits P.V.C. cable.

(i) 1.5mm² for all lighting circuits indicated on the drawing.

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

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

(iii) 2.5mm² for one 15Amp socket.

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

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

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

## 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.

## 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.

## 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

## 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

## 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

## 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

## 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.

## 32. LAMPHOLDERS

Shall be of extra heavy H.O skirted and shall be provided for every specified lighting fitting and shall be B.C;, E.S;, or G.E.S as required. All E.S. and G.E.S. holders shall be heavy brass type (except for plain pendants where the reinforced bakelite type shall be used). The screwed cap of the E.S and G.E.S. holders shall be connected to the neutral.

Where lampholders are supported by flexible cable, the holders shall have "cord grip" arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.

The Sub-Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

## 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.

## 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.

## 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.

## 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.

## 37. TIMING CONTROL SWITCH

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

## 38. WIRING SYSTEM FOR STREET LIGHTING

Cables shall be as indicated on the drawings, and shall be laid in a cable trench 450mm deep along the road sides and 600mm deep across the roads and 900mm away from the road kerb or 1500mm away from the edges of the road. 'Loop-in' and 'Loop-out' arrangement shall be used at every pole. Wiring to the lanterns on each pole shall be with 1.5mm² PVC twin insulated and sheathed cable with earth wire shall be laid at least 600mm below the finished road level on a compact bed of murram at least 50mm thick and covered with a concrete surrounded 150mm thick.

## 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.

## 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 equaland approved.

## 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 tothe 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 suppliedwith 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.

## 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 galvanisedor otherwise as approved by the service engineer.

Metal trunking shall be fabricated from mild steel of not less than 18 swg. All sections of trunking shall be rigidly fixed together and attached to the framework or fabric or the building at intervals of not less than 1.2m. Joint trunking shall not overhang fixing points by more than 0.5m.

All trunking shall be made electrically continuous by means of 25 x 3mm copper links across each joint and where the trunking is galvanised, the links shall be made by galvanised flat iron strips.

All trunking fittings (i.e. Bends, tees, etc) shall leave the main through completely clear of obstructions and continuously open except through walls and floors at which points suitable fire resisting barriers shall be provided as may be necessary. The inner edge of bends and tees shall be chamfered where cables larger than 35mm² are employed.

Where trunking passes through ceilings and walls the cover shall be solidly fixed to 150mm either side of ceilings and floors and 50mm either side of walls.

Screws and bolts securing covers to trunking or sections of covers together shall be arranged so that damage to cables cannot occur either when fixing covers or when installing cables in the trough.

Where trunking is used to connect switchgear of fuseboards, such connections shall be made by trunking fittings manufactured for this purpose and not by multiple conduit couplings.

Where vertical sections of trunking are used which exceed 4.5m in length, staggered tie off points shall be provided at 4.5m intervals to support the weight of cables.

Unless otherwise stated, all trunking systems shall be painted as for conduit.

Where a wiring system incorporates galvanised conduit and trunking, the trunking shall be deemed to be galvanised unless specified otherwise.

The number of cables to be installed in trunking shall be such as to permit easy drawing in without damage to the cables, and shall in no circumstances be such that a space factor of 45% is exceeded.

Conduit and trunking shall be mechanically and electrically continuous. Conduit shall be tightly screwed between the various lengths so that they butt at the socketed joints. The internal edges of conduit and all fittings shall be smooth, free from burrs and other defects.

Oil and any other insulating substance shall be removed from the screw threads; where conduits terminate in fuse-gear, distribution boards, adaptable boxes, non-spouted switchboxes, etc., they shall, unless otherwise stated, be connected thereto by means of smooth bore male brass bushes, compression washers and sockets. All exposed threads and abrasions shall be painted using an oil paint for black enameled tubing and galvanizing paint for galvanised tubing immediately after the conduits are erected. All bends and sets shall be made cold without altering the section of the conduit.

The inner radius of the bed shall not be less than four (4) times the outside diameter of the conduit. Not more than two right angle bends will be permitted without the inter-position of a draw-in-box. Where straight runs of conduit are installed, draw-in-boxes shall be providedat distances not exceeding 15mm. No tees, elbows, sleeves, either of inspection or solid type,will be permitted.

Conduit shall be swabbed out prior to drawing in cables, and they shall be laid so as to drain of all condensed moisture without injury to end connections.

Conduits and trunking shall be run at least 150mm clear of hot water and steam pipes, and at least 75mm clear of cold water and other services unless otherwise approved by the services engineer.

All boxes shall conform to KS 04 – 668: 1986, to be of malleable iron, and black enamelled or galvanised according to the type of conduit specified. All accessory boxes shall have threaded brass inserts.

Box lids where required shall be heavy gauge metal, secured by means of zinc plated or cadmium plated steel screws.

All adaptable boxes and lids of the same size shall be interchangeable.
Boxes used on surface work are to be tapped or drilled to line up with the conduit fixed in distance type saddles allowing clearance between the conduit and wall without the need for setting the conduit.

Where used in conjunction with mineral insulated copper sheathed cable, 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.

## 43. TESTING ON SITE

The Sub-contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specification and the Electric Supply Company's By-Laws.

(a) Tests shall be carried out to prove that all single pole switches are installed in the 'live' conductor.

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

(d) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the 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, testand commission the system to the service engineer's approval.

## APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

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

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

2. All requirements of Kenya Power and Lighting Company Limited, and Communications Authority of Kenya (CA).

# SECTION C

# SCHEDULE OF CONTRACT DRAWINGS

## SCHEDULE OF CONTRACT DRAWINGS

| DRAWING NO. | DRAWING TITLE |
|---|---|
| **As shall be issued by the Engineer** | |

***NOTE:***

Tenderers are advised to inspect the electrical drawings at the office of;

**Chief Engineer (Electrical) ,**
**Department of Lands & Public Works.**
**County Government of Meru**
At the County Government of Meru headquarters along Meru Nanyuki Road road, during normal working hours.

The drawings shall however be availed, on award of the tender, to the sub-contractor.

# SECTION D

# PARTICULAR SPECIFICATIONS

# OF

# MATERIALS AND WORKS

# PARTICULAR SPECIFICATIONS

## 1.00 DESCRIPTION OF THE SITE

The site of the proposed works is at **proposed Count Aggregation & Industrial Park Site.**

## 2.00 DESCRIPTION OF THE SCOPE OF WORKS OF THE PROJECT

The works to be carried out under this sub-contract comprise supply, installation, testing and commissioning of the following: -

a) **Electrical Installation Works**

## 3.00 MATERIALS FOR THE WORKS

Materials shall be as specified in Section B 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 Manager.

## 4.00 BROCHURES AND TECHNICAL LITERATURE FOR ELECTRICAL EQUIPMENT AND FITTINGS

For consideration and qualification, tenderers shall, at their own cost, provide coloured manufacturer's brochures detailing technical literature and specifications where applicable. Tenderers must enclose together with their submitted bids brochures detailing technical Literature and specifications of the electrical equipment & fittings. The brochures shall be used to evaluate the suitability of these items.

***Any bid submitted without the brochures shall be considered technically non-responsive, and may subsequently be disqualified.***

# 1.0 : PARTICULAR SPECIFICATIONS – ELECTRICAL INSTALLATION WORKS

## 1.1: PARTICULAR TECHNICAL SPECIFICATIONS - LED LIGHTING FIXTURES

### 1.11: Minimum Requirements General

| Item No. | Parameters | Minimum Specifications | Proposed Solution |
|---|---|---|---|
| 1. | Brand | State the brand, model and attach Technical Brochure (Mandatory) | |
| 2. | Operation | ➢ Voltage range: 180-260 V ac<br>➢ Frequency range: 50-60Hz<br>➢ Power factor ≥ 0.9 lagging<br>➢ Total Harmonic Distortion (THD)<15%<br>➢ Ambient temperature range -10 to +35°Operating<br>➢ Colour Consistency ≤ 5SDCM | |
| 3. | LED Luminous Flux Efficiency (Lumens/watt) | System efficacy >150 Lumens/Watt | |
| 4. | Colour Rendering | >80% accurate | |
| 5. | Power Factor | >0.9 lagging | |
| 6. | Protection Function | Open Circuit and Short Circuit Protection | |
| 7. | Life Expectancy | At least 50,000 Hours | |
| 8. | Maximum Light Decay | 15% in 5years Linear decay | |
| 9. | Color Temperature | 3000-6500K | |
| 10. | THD | >10% | |
| 11. | Working Humidity | 10 to 90% RH6 | |

## 1.11: Minimum Requirements General ..... Continued

| Item No. | Parameters | Minimum Specifications | Proposed Solution |
|---|---|---|---|
| 12. | Working Temperature | 5 to 50 degree | |
| 13. | Average Lighting Angle (Beam Angle) | >120 Degree | |
| 14. | Make of LED Chip | | |
| 15. | Lamp Starting Time | Instantaneous, Less than 2 Seconds | |
| 16. | System Efficacy (%) | Greater than 90% | |
| 17. | Ingress Protection | IP20, IP44 & IP65 | |
| 18. | Class of Protection | II | |
| 19. | Light Output | Minimum 20 Lux when measured at the periphery of 4 meter diameter from a height of 4 meter. The illumination should be uniform without dark bands or abrupt variations, and soothing to the eye. Higher Light Output will be preferred | |

# SECTION E

# SCHEDULE OF UNIT RATES

## SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.

2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.

3. The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.

4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

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

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

**(To be completed by the Tenderer)**

| NO | DESCRIPTION | QTY | UNIT | UNIT RATE (KSHS) |
|---|---|---|---|---|
| 1 | **Cables:**<br>**a) Single Core PVC Cables**<br>i) 10mm2<br>ii) 25mm2 | <br><br>1<br>1 | <br><br>Lm.<br>Lm. | |
| 2 | **PVC/SWA/PVC Armoured Copper cables per meter**<br>a) 70mm sq. 4 core<br>b) 185mm sq. 4 core | 1<br>1 | Lm.<br>Lm. | |
| 3 | **Consumer Units and Distribution Boards as Schneider Electric or an approved equivalent;**<br>a) 4 Way SPN with integral 100A Isolating Switch<br>b) 12 Way TPN with integral 125A Isolating Switch<br>c) 16 Way SPN with integral 100A Isolating Switch<br>d) 16 Way TPN with integral 250A Isolating Switch | 1<br>1<br>1<br>1 | No.<br>No.<br>No.<br>No. | |
| 4 | **Sensors:**<br>a) Proximity Sensor<br>b) Occupancy/Presence Sensor | 1<br>1 | No.<br>No. | |
| 5 | **16A moulded ivory switch plates as MK, Clipsal, BG, Crabtree or approved equivalent as follows:**<br>a) 1 gang 2 way<br>b) 3 gang 2 way | 1<br>1 | No.<br>No. | |
| 6 | **13A switched white moulded case socket outlet plates as MK Clipsal, BG, Crabtree or an approved equivalent:**<br>a) Single outlet | 1 | No. | |
| 7 | **Cable Tray**<br>Cable Tray manufactured in 14 SWG steel sheet and finished in cream powder coating with the following dims;<br>a) 400x50mm | 1 | No. | |

| NO | DESCRIPTION | QTY | UNIT | UNIT RATE (KSHS) |
|---|---|---|---|---|
| **8.** | **Cable Trunking**<br>Two compartment trunking manufactured in 14 SWG steel sheet and finished in cream powder coating with the following dims;<br>a) 100x50mm<br>b) 200x50mm | <br><br><br>1<br>1 | <br><br><br>Lm.<br>Lm. | |
| **9** | 120w, Integrated All in One LED solar street light as Philips or an approved equivalent | 1 | No. | |
| **10** | 8.0 Meters outdoor/street lighting galvanized steel round column for side entry single arm painted with rust proof aluminum paint in concrete 1:2:4 ratio foundation, glanding plates and with a lockable anti-vandalism door. | 1 | No. | |
| **11.** | 140w, LED Street Lighting Fixture as Philips or an approved equivalent | 1 | No. | |

# SECTION F

# BILLS OF QUANTITIES

## SPECIAL NOTES TO THE BILLS OF QUATITES

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 **Value Added Tax (V.A.T), Withholding tax and all other taxes applicable at the time of tender**).

   In accordance with Government policy, the Value Added Tax (V.A.T) and Withholding Tax **shall be deducted** from all payments made to the tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA).**

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

4. The brief 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 brandsof **equal** and **approved** quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the **Grand Price Summary Page of the Bills of Quantities for Main Works**.

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.

## BILL NO. 1 : SUB-CONTRACT PRELIMINARIES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| 1.00 | Discrepancies clause - Sub-contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone. | 1 | Item | | |
| 2.00 | Payments clause - Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Domestic Sub- contractor. All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site. | 1 | Item | | |
| 3.00 | Scope of contract works clause - The sub-contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing | 1 | Item | | |
| 4.00 | Extent of contractors duties clause - The Sub- contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.Shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer. | 1 | Item | | |
| 5.00 | Firm price contract clause - No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials which may arise as a result of currency fluctuation during the contract period. | 1 | Item | | |
| 6.00 | Variation clause - Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works. | 1 | Item | | |
| 7.00 | Prime cost and provisional sum clause The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Project Manager. The whole or any part of these sums utilized by the Sub-contractor shall be deducted from the value of the Sub-contract price when calculating the final account. | 1 | Item | | |
| 8.00 | Government legislation and regulations clause - Sub- contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements. The Sub-contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc. | 1 | Item | | |
| 9.00 | Import duty and VAT clause - (Note this clause applies for materials supplied only whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes. | 1 | Item | | |
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| | | | | | |
| | **Sub-Total C/F to Next Page** | | | | |

## BILL NO. 1 : SUB-CONTRACT PRELIMINARIES CONTINUED……..

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 10.00 | Insurance company fees clause - Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection. | 1 | Item | | |
| 11.00 | Samples and materials generally clause - The Sub- contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated. | 1 | Item | | |
| 12.00 | Bills of quantities clause - All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub- contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed there under shall be measured and valued by the Engineer in accordance with the contract. All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub- contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense. | 1 | Item | | |
| 13.00 | Contractors office in Kenya clause - It shall be the Sub- contractor's responsibility to procure work permits, entry permits, licences, registration, etc., in respect of all expatriate staff. The Sub-contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the Sub-contractor's Head Office is remote from his office in Nairobi or the site of the Sub- contract Works or otherwise. | 1 | Item | | |
| 14.00 | Builders work clause 1- All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required. | 1 | Item | | |
| 15.00 | Setting to work and regulating system clause- No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted). It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required. | 1 | Item | | |
| 16.00 | Identification of plant components clause - Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment etc with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. | 1 | Item | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to Next Page** | | | | |

## BILL NO. 1 : SUB-CONTRACT PRELIMINARIES CONTINUED……..

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 17.00 | Working drawings clause - Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub-contract Works. | 1 | Item | | |
| 18.00 | Records Drawings (As Installed) and instructions clause - Record Drawings, will be subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works. | 1 | Item | | |
| 19.00 | Maintenance Manual clause - Upon Practical Completion of the Sub-contract Works, the Sub- contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-contract Works. | 1 | Item | | |
| 20.00 | Hand over clause - The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub-contract Works shall be coincident with the handing over of the Main Contract Works. | 1 | Item | | |
| 21.00 | Testing and inspection - manufactured plant clause - The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture. Sub-contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections. | 1 | Item | | |
| 22.00 | Testing and inspection - installation clause - Allow for testing each section of the Sub-contract Works installation. | 1 | Item | | |
| 23.00 | Initial Maintenance Clause - The sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer. Shall allow in the sub-contract Sum of the initial maintenance, inspection and break-down service | 1 | Item | | |
| 24.00 | Local and other authorities notice clause - The contractor shall comply with and give all notices required by any Regulations, Act or by Law of any Local Authority or of any Public Service, Company or Authority who have any jurisdiction with regard to the works or with those systems the same are or will be connected and he shall pay and indemnify the Government against any fees or charges legally demandable under any regulation or by-law in respect of the works; provided that the said fees and charges if not expressly included in the contract sum or stated by way of provisional sum shall be added to the contract sum. | 1 | Item | | |
| 25.00 | Temporary Works clause - The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. | 1 | Item | | |
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| | **Sub-Total C/F to Next Page** | | | | |

## BILL NO. 1 : SUB-CONTRACT PRELIMINARIES CONTINUED……..

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 26.00 | Patent Rights clause - The contractor shall fully indemnify the Government of Kenya; against any action, claim or proceeding relating to infringement of any patent or design rights, and pay any royalties which may be payable in respect of any article or any part thereof, which shall have been supplied by the contractor to the Project Manager. | 1 | Item | | |
| 27.00 | Mobilization and Demobilization clause -No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities. | 1 | Item | | |
| 28.00 | Supervision by Engineer and site meetings clause - A competent Project Engineer appointed by the Chief Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing. The Sub Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the Contractor. | 1 | Item | 300,000.00 | **300,000.00** |
| 29.00 | Allow for Taxes, Profit and Attendance for the above Item | | % | | |
| 30.00 | Contract obligation and employers obligation clause - No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works. | 1 | Item | | |
| 31.00 | Any other preliminaries | 1 | Item | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Bill No. 1: Sub-Contract Preliminaries* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

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

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

……%

(2) Extended Preliminaries **(Insert percentage only)** Clause 1.66 of Section C

……%

**BILL NO. 2 - SCHEDULE NO. 1: VALUE ADDITION (V.A.) WAREHOUSES - 4NO. TYPICAL 1,000M$^2$ WAREHOUSES**

**SCHEDULE NO. 1A: LIGHTING & POWER INSTALLATIONS - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES**

**SCHEDULE NO. 1AA: GROUND FLOOR - LIGHTING & POWER INSTALLATIONS (1NO. V.A. WAREHOUSE)**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 1AA.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated copper cables drawn in concealed 20mm diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 20 | No. | | |
| | (b) Two Way Switching. | 18 | No. | | |
| | (c) Unswitched. | 4 | No. | | |
| | | | | | |
| 1AA.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 4 | No. | | |
| | (b) 1 gang 2 way | 2 | No. | | |
| | (c) 2 gang 2 way | 2 | No. | | |
| | (d) 3 gang 1 way | 2 | No. | | |
| | (e) Intermediate Switch | 1 | No. | | |
| | | | | | |
| 1AA.03 | High bay luminaire's Lighting point comprising wiring in 3x2.5mm$^2$ Single Core PVC insulated Copper Cables drawn in 25mm diameter HG PVC conduits concealed in walls and along trusses complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 21 | No. | | |
| | | | | | |
| 1AA.04 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 3 | No. | | |
| 1AA.05 | A metallic grid switch panel with an enclosure and capacity of 6No. 20A DP switches to be mounted on wall | 1 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 1AA.06 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 18W, 200mm diameter, surface mounted, LED circular ceiling light, IP65, with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 14 | No. | | |
| | **(b)** 120W, autobalanced single point suspension mounting, LED high bay luminaire of high pressure die cast aluminium housing and tempered glass cover, IP65 rated with system efficacy of at least 100lm/w, life hours of above 50,000hrs and high P.F of at least 0.9 as Philips, Thorn or an approved equivalent. | 21 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **(c)** 1200mm, IP66 rated, single, LED fitting, 21W, 4000K, tough exterior, moist proof and average lifetime of 50,000hrs for mirror lighting as Philips, Thorn or approved equivalent | 4 | No. | | |
| | **(d)** 1200mm, 3120 lm, single 28W, 4000K LED Batten Luminaire as Thorn Poppack LED Batten | 2 | No. | | |
| | **(e)** 18W, 200mm diameter, surface mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 10 | No. | | |
| | **(f)** LED floodlight of 100W, 6500K daylight white, 10000lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE Floodlight or approved equivalent | 8 | No. | | |
| | **(g)** Self-contained double sided EXIT sign with 8W fluorescent lamp for non-maintained emergency lighting for 3 hour duration as Sapphire or approved equivalent. | 4 | No. | | |
| | | | | | |
| | **DUCTING** | | | | |
| 1AA.07 | Lay HG/PVC conduiting of size 2x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for telecommunication services. | 20 | Lm. | | |
| 1AA.08 | Lay HG/PVC conduiting of size 2x50mm diameter HG/PVC ducts from the electrical service duct to the trunking for internal power reticulation and inter-connecting electrical service ducts. | 20 | Lm. | | |
| 1AA.09 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 1AA.10 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 14 | No. | | |
| 1AA.11 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 14 | No. | | |
| 1AA.12 | **Extract Fan's Power Point,** comprising wiring in 3 x 2.5mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 2 | No. | | |
| 1AA.13 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| 1AA.14 | **Hand Drier's Power Point**, wired in 3x 2.5sq mm PVC SC copper cables drawn in concealed 25mm Dia. HG PVC conduits complete with all accessories but excluding the D.P switch. | 2 | No. | | |
| 1AA.15 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 1AA.16 | **Instanteneous Shower Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 4 | No. | | |
| 1AA.17 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 4 | No. | | |
| | | | | | |
| | **CCTV SYSTEM POINTS** | | | | |
| 1AA.18 | CCTV System Points done in 25mm Dia. HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories (N/B: conduit length for each point running from the communication room is approximately 20m). | 4 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 1AA.19 | 8 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| | | | | | |
| 1AA.20 | MCBs for item above | | | | |
| | **(i)** 10A SP | 4 | No. | | |
| | **(ii)** 20A SP | 8 | No. | | |
| | **(iii)** 32A SP | 2 | No. | | |
| | **(iv)** SP Spareway | 4 | No. | | |
| | **(v)** TP Spareway | 2 | No. | | |
| | | | | | |
| 1AA.21 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 1AA.22 | 4x16mm2 + 1x10mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 40 | Lm. | | |
| | | | | | |
| 1AA.23 | 6 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 1AA.24 | MCBs for item above | | | | |
| | **(i)** 10A SP | 4 | No. | | |
| | | | | | |
| | **(ii)** 32A SP | 2 | No. | | |
| | | | | | |
| | **(iii)** 20A TP | 2 | No. | | |
| | | | | | |
| | **(iv)** SP Spareway | 6 | No. | | |
| | | | | | |
| | **(v)** TP Spareway | 6 | No. | | |
| | | | | | |
| 1AA.25 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 1AA.26 | 16mm$^2$ 4Core PVC/SWA/PVC Copper cables running on cable tray complete with appropriate cable glands and any other necessary accessory (to supply DB supplying fork lift chargers). | 60 | Lm. | | |
| | | | | | |
| 1AA.27 | Supply and install a 4 core 4.0 sq. mm PVC/SWA/PVC- insulated cu cables from the Distribution board to the isolator at fork lift charger's point complete with necessary cable glands, cable lugs and any other termination accessory. | 15 | Lm. | | |
| | | | | | |
| 1AA.28 | Supply and instal 20A, TP metal clad isolator as Schneider Electric, Crabtree or approved equivalent. | 2 | No. | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 1AA: Ground Floor - Lighting & Power Installations (1No. V.A. Warehouse)* C/F to *Price Collection Page - Schedule No. 1A: Lighting & Power Installations (4No. Typical 1,000m2 Value Addition Warehouses)*** | | | | |

## SCHEDULE NO. 1AB: FIRST FLOOR - LIGHTING & POWER INSTALLATIONS (1NO. V.A. WAREHOUSE)

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 1AB.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 16 | No. | | |
| | (b) Two Way Switching. | 8 | No. | | |
| | (c) Unswitched. | 1 | No. | | |
| 1AB.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 4 | No. | | |
| | (b) 1 gang 2 way | 4 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 1AB.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 600x600mm, Ceiling LED Panel Lighting Fitting, Surface Mountable, 40W, 4000K, with High efficiency LED panel delivering 100lm/W and an average lifetime of 50,000 hrs as Philips, Osram LEDvance or approved equivalent | 12 | No. | | |
| | **(b)** 1200mm, IP65 rated single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 2 | No. | | |
| | **(c)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 8 | No. | | |
| | **(d)** 1200mm, 3120 lm, single 28W, 4000K LED Batten Luminaire as Thorn Poppack LED Batten | 2 | No. | | |
| | **(e)** Self-contained double sided EXIT sign with 8W fluorescent lamp for non-maintained emergency lighting for 3 hour duration as Sapphire or approved equivalent. | 1 | No. | | |
| | | | | | |
| 1AB.04 | **TRUNKING & DUCTING** | | | | |
| | **i)** 150x50mm two (2) compartment powder coated trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers and all fixing accessories. Allow for colour change to Architect's detail. | 35 | Lm. | | |
| | **ii)** Factory made powder coated corner bends for the above trunking. | 8 | No. | | |
| | **iii)** Powder coated twin punched outlet plate for fixing twin socket outlets. | 8 | No. | | |
| | **iv)** Ditto but for data/telephone/single switched socket outlets. | 4 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **v)** Carry out bonding throughout the entire length of the above trunking and connect to earthing. | 1 | Item | | |
| | | | | | |
| 1AB.05 | 300mm x 50mm deep perfotrated GI cable tray complete with all accessories inside ceiling as manufactured by Schneider Electric Kenya or an approved equivalent. | 50 | Lm. | | |
| | | | | | |
| 1AB.06 | Lay HG/PVC conduiting of size 2x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for telecommunication services. | 20 | Lm. | | |
| 1AB.07 | Lay HG/PVC conduiting of size 2x50mm diameter HG/PVC ducts from the electrical service duct to the trunking for internal power reticulation and inter-connecting electrical service ducts. | 20 | Lm. | | |
| 1AB.08 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 1AB.09 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 5 | No. | | |
| 1AB.10 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in trunking complete with all the necessary accessories. | 8 | No. | | |
| 1AB.11 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 13 | No. | | |
| | | | | | |
| 1AB.12 | **Air Conditioner's Power Point,** comprising wiring drawn in 3x2.5mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits complete with all accessories but excluding the D.P switch . | 3 | No. | | |
| 1AB.13 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 3 | No. | | |
| 1AB.14 | **Undersink Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 1 | No. | | |
| 1AB.15 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 1 | No. | | |
| 1AB.16 | **Cooker (1-Φ) Power Point,** comprising of 3x6mm$^2$ PVC SC Copper cables drawn in concealed 25mm dia. HG PVC conduits complete with all accessories. | 1 | No. | | |
| 1AB.17 | 45A DP Cooker Control Unit with 13A integral Socket Outlet and Pilot Lamp marked 'As Per Application' for item above as MK, MEM or approved equivalent. | 1 | No. | | |
| 1AB.18 | Cooker Connection Unit for flush mounting and wired from Cooker Control Unit. | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 1AB.19 | **TELEVISION POINTS** | | | | |
| | a) TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed 20mm diameter HG/PVC conduits and linked to the outside through the roof space (to the amplifier) via telephone draw in boxes. | 2 | No. | | |
| | b) Moulded ivory TV outlet plate as MK, Clipsal, Crabtree or approved equivalent. | 2 | No | | |
| | c) Supply and Install draw box 300mmx250mmx150mm made in 16SWG steel sheets finished in cream powder coating to Engineer's approval. | 1 | No | | |
| | | | | | |
| | **DATA&TELEPHONE POINTS** | | | | |
| 1AB.20 | Data/Telephone outlet point done in 25mm dia. HG PVC conduits concealed in building fabric/ trunking complete with all necessary accessories. | 4 | No. | | |
| | | | | | |
| | **CCTV SYSTEM POINTS** | | | | |
| 1AB.21 | CCTV System Points done in 25mm dia. HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories (N/B: conduit length for each point running from the communication room is approximately 20m). | 4 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 1AB.22 | 6 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| 1AB.23 | MCBs for item above | | | | |
| | **(i)** 10A SP | 2 | No. | | |
| | **(ii)** 20A SP | 4 | No. | | |
| | **(iii)** 32A SP | 2 | No. | | |
| | **(iv)** 45A SP | 1 | No. | | |
| | **(v)** SP Spareway | 6 | No. | | |
| | **(vi)** TP Spareway | 1 | No. | | |
| 1AB.24 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 1AB.25 | 4x16mm2 + 1x10mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 50 | Lm. | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 1AB: First Floor - Lighting & Power Installations (1No. V.A. Warehouse)* C/F to *Price Collection Page - Schedule No. 1A: Lighting & Power Installations (4No. Typical 1,000m2 Value Addition Warehouses)*** | | | | |

**PRICE COLLECTION PAGE**

***SCHEDULE NO. 1A: LIGHTING & POWER INSTALLATIONS - 4NO. TYPICAL 1,000M $^2$ VALUE ADDITION WAREHOUSES***

| Item | Description | Amount (Kshs) |
|---|---|---|
| | | |
| | | |
| **1.00** | **Total for Schedule No. 1AA: Ground Floor - Lighting & Power Installations (1No. 1,000m $^2$ Value Addition Warehouse)** | |
| | | |
| | | |
| **2.00** | **Total for Schedule No. 1AB: First Floor - Lighting & Power Installations (1No. 1,000m $^2$ Value Addition Warehouse)** | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 1AA & Schedule No. 1AB = [A]** | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 1A: Lighting & Power Installations - 4No. Typical 1,000m2 Value Addition Warehouses = 4x[A]** | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 1A: Lighting & Power Installations - 4No. Typical 1,000m2 Value Addition Warehouses C/F to *Price Collection Page for Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | |

## SCHEDULE NO. 1B: FIRE ALARM & DETECTION SYSTEM - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **FIRE DETECTION AND ALARM SYSTEM** | | | | |
| | | | | | |
| | **Supply, deliver, install and commission a complete Fire Detection and Alarm system, addressable type and in accordance with BS 5839 :2000, P2 and L2** | | | | |
| | | | | | |
| 1B. 01 | Outlet for Fire Alarm Panel's concealed 25mm HG PVC conduit, wiring in 3 x 2.5mm2 SC-PVC-CU fire rated cables and all accessories, including 5A fused unswitched connection unit with neon light. | 2 | No. | | |
| | | | | | |
| 1B.02 | Outlet for fire alarm manual call point/smoke/heat detector comprising box, concealed 20mm HG PVC conduit, wiring in 3 x 1.5mm2 fire rated cables and all accessories. | 48 | No. | | |
| | | | | | |
| 1B.03 | Addressable Manual Fire break glass call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover to be installed recessed in building fabric. | 8 | No. | | |
| | | | | | |
| 1B.04 | Addressable **Electronic Fire Alarm Sounder** complete with **Red Flashing Beacon Light** as Menvier or approved equivalent. | 8 | No. | | |
| | | | | | |
| 1B.05 | Addressable **Photometric Smoke Detector** as Menvier or equal and approved. | 28 | No. | | |
| | | | | | |
| 1B.06 | Addressable **Rate of Heat Rise Detector** as Menvier MENVIER or equal and approved. | 4 | No. | | |
| | | | | | |
| 1B.07 | Addressable fire alarm repeater panel Menvier DF6100 or equal and approved | 1 | No. | | |
| | | | | | |
| 1B.08 | 1 - Loop zone addressable fire alarm control panel complete with 2X12AH autonomous time emergency batteries as Menvier DF60001 or equal and approved. | 1 | No. | | |
| | | | | | |
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| | | | | | |
| | **Total for <u>Schedule No. 1B: Fire Alarm & Detection System - 4No. Typical 1,000m2 Value Addition Warehouses</u> C/F to <u>*Price Collection Page for Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses*</u>** | | | | |

## SCHEDULE NO. 1C: CENTRALIZED ANTENNA SYSTEM - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, Test & Commission the following: -** | | | | |
| | | | | | |
| | **CENTRALIZED ANTENNA SYSTEM** | | | | |
| | | | | | |
| 1C.01 | Rustproof Satellite Receiver Dish with 4 way Low Noise Block (LNB) downconverter for DSTV complete with mounting brackets and installation | 1 | No. | | |
| | | | | | |
| 1C.02 | UHF aerials. | 1 | No. | | |
| | | | | | |
| 1C.03 | VHF aerials. | 1 | No. | | |
| | | | | | |
| 1C.04 | Mast head High gain amplifier units. | 1 | No. | | |
| | | | | | |
| 1C.05 | Combiner unit for DSTV receiver and the UHF / VLF/VHF TV receivers as Ellies or approved equivalent | 1 | No. | | |
| | | | | | |
| 1C.06 | DSTV satellite decoder complete with 1 year premium subscription | 1 | No. | | |
| | | | | | |
| 1C.07 | 16 SWG, (300 x 300 x 300) mm$^3$ galvanised steel draw box for TV works. | 2 | No. | | |
| | | | | | |
| 1C.08 | High resolution RG TV cables for interwiring the antenna, combiner units, splitter units and amplifier. | 300 | Lm. | | |
| | | | | | |
| 1C.09 | Four way splitters as Ellies or approved equivalent | 2 | No. | | |
| | | | | | |
| 1C.10 | 13 Amp High voltage guard AVS 13 for the booster as Sollatec or approved equivalent | 1 | No. | | |
| | | | | | |
| 1C.11 | 12U, IP55 wall mounted cabinet accessories, lock, key and extractor fan and 4 Way extension socket with USB Charger | 1 | No. | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | **Total for <u>Schedule No. 1C: Centralized Antenna System - 4No. Typical 1,000m2 Value Addition Warehouses</u> C/F to *<u>Price Collection Page for Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses</u>*** | | | | |

## 1D: LIGHTNING PROTECTION, EARTHING AND BONDING SYSTEM - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test & commission the lightning protection system comprising the following:** | | | | |
| | | | | | |
| | **AIR TERMINATION** | | | | |
| 1D.01 | Supply and lay along the ridge cap 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 150 | Lm. | | |
| 1D.02 | State Holdfast to fix the above tape at 1000mm intervals at the roof ridge for air termination system complete with tape jointing clamps and all the necessary accessories all as Furse Cat. No. HF015 or approved equivalent. | 150 | No. | | |
| 1D.03 | Air Termination Spike (lightning arrestors) comprising 2000mm by 15mm diameter copper rod as Furse P.No. RA240 complete with; Copper Multiple Point as Furse P. No. RA 600 and Copper Ridge Saddle as Furse P. No. SD115 or approved equivalent. | 4 | No. | | |
| | | | | | |
| | **DOWNWARD CONDUCTOR** | | | | |
| 1D.04 | Downward Conductor comprising 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 60 | Lm. | | |
| 1D.05 | Copper Square Tape Clamp for making crossing tape joints as Furse CT 105 - FU or approved equivalent. | 12 | No. | | |
| 1D.06 | DC Tape Clips for Fixing the Down Conductors to the wall as Furse CT 105-FU or approved equivalent. | 60 | No. | | |
| 1D.07 | Copper Oblong Test/Junction Clamp complete with phosphor bronze nuts, washers and screws mounted 1800mm above finished ground level as Furse P. No. CN 105 or approved equivalent. | 5 | No. | | |
| 1D.08 | 32 mm diameter galvanised steel conduit recessed in wall between test clamp and ground and through the ring beam for sleeving at roof level for securing the down conductors. | 12 | Lm. | | |
| 1D.09 | Copper Saddles fixed at 1000mm intervals at the surface on wall for the down conductor system complete with all the necessary accessories all as FURSE or approved equivalent. | 60 | No. | | |
| | | | | | |
| | **EARTHING** | | | | |
| 1D.10 | Earth Inspection Concrete Chamber 300mm x 300mm x 300mm with an air tight inspection cover to approval. | 4 | No. | | |
| 1D.11 | Earthing with 16mm nominal diameter by 1500mm long threaded copper bond earth rods, complete with driving head and clamp. | 4 | No. | | |
| 1D.12 | Driving Stud for the Item above as Furse ST 300 or approved equivalent. | 4 | No. | | |
| 1D.13 | Earth Electrode Rod-to-Downward Conductor Copper Tape Clamps as Furse CR 105 or approved equivalent. | 4 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**1D: LIGHTNING PROTECTION, EARTHING AND BONDING SYSTEM - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES CONTINUED……..**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 1D.14 | 1500mm x 1500mm copper earth mat/grid (pure copper electrode) made from 25mm x 3mm thick bare copper tape (as Furse P. No. TC030 or approved equivalent). Copper tape to be spaced at 200mm interval, gas welded joints to Engineer's approval and 6m long 25mm x 3mm insulated copper tape clamped to the down conductors. Include burrying the assembled grid to a minimum depth of 750mm below ground finish level (at permanent moisture level) and improving the earth to Engineer's approval. The measured earth resistance to be less than one (1) ohm. | 4 | No. | | |
| | | | | | |
| | **BONDING** | | | | |
| | | | | | |
| 1D.15 | Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning uits, window frames, cladding, metal roof etc and the main earth for the building. | 1 | Item | | |
| | | | | | |
| 1D.16 | Testing and Commissioning the entire earthing and lightning protection system. | 1 | Item | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | **Total for Schedule No. 1D: Lightning Protection, Earthing and Bonding System - 4No. Typical 1,000m2 Value Addition Warehouses C/F to *Price Collection Page for Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | | | | |

## 1E: SUB-SWITCHBOARD NO. 1 - 4NO. TYPICAL 1,000M$^2$ VALUE ADDITION WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test & commission the lightning protection system comprising the following:** | | | | |
| | | | | | |
| **1E.01** | **SUB-SWITCHBOARD NO. 1** | | | | |
| | | | | | |
| | Supply, install, test and commission a Free-standing, dustproof & weatherproof (i.e. IP66 rated), purpose made front access, lockable, 6mm perspex viewing window for each section, Sealable studs for all cover plate screws and all necessary accessories, cubicle type, ***Low Voltage (LV) Sub-switchboard*** manufactured in 12SWG galvanised mild steel sheet and finished in cream (or approved colour) powder coating as described below, shown on the schematic and other details as per Particular Specification.<br>This ***LV Sub-switcboard shall to be 3-phase, 415V with 1No. 300A TP+N+E Bus-bars and bus-bar connections consisting of high conductivity copper to BS 158 and BS 159, in Bus-Bars Chamber*** .<br>To be manufactured by either Schneider Electric Kenya or Specialised Power Systems or an approved manufacturer. It shall also fabricated complete with the following details:- | 1 | Item | | |
| | | | | | |
| | **a) Incoming** | | | | |
| | i) 1No. 200A TPN Main Incomer MCCB as ABB or approved equivalent | | | | |
| | ii) Digital multimeter capable of measuring voltage in the range 0 – 500V, 3-phase & 1-phase and current in the range 0-400A, 3-phase and 1-phase. | | | | |
| | iii) 3No. Phase indicating lights | | | | |
| | iv) All power system parameters (KW, KVA, KWHr, KVArs, Frequency, P.F., harmonics etc.). The digital multimeter should be complete with selector switches for viewing/displaying the various parameters. | | | | |
| | | | | | |
| | **b) Outgoing** | | | | |
| | i) 10No. 100A TPN MCCB feeder to the 4No. Distribution Boards at Ground Floor as ABB or approved equivalent. | | | | |
| | ii) 4No. 100A TPN MCCB feeder to the 1No. Distribution Board at First Floor Floor as ABB or approved equivalent. | | | | |
| | iii) 1No. 50A DP MCB feeder to street lighting control pillar as ABB or approved equivalent. | | | | |
| | iv) A suitably rated 415V three-phase surge diverter as Furse ESP 415, fully wired, complete with enclosure with viewing window. | | | | |
| | ***Sufficient TP & SP spare capacity for future development i.e. at least;*** | | | | |
| | v) Space for 3No. TPN MCCBs | | | | |
| | vi) Space for 3No. SPN MCCBs | | | | |
| | | | | | |
| | **c)** Carry out comprehensive labeling of all the bus bars, circuit breakers etc. of item above, indicating the areas served, outgoing cable sizes etc. | | | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **d)** Carry out concise load balancing to achieve a maximum imbalance not greater than ± 10% between any two phases, measured at the Main LV switchboard | 1 | Lot | | |
| | | | | | |
| | **COMPREHENSIVE PROTECTIVE MULTIPLE EARTHING** | | | | |
| | | | | | |
| 1E.02 | Earthing of the subboard in accordance with KP&L company requirements, IET regulations,the government Electrical Installations regulations and other statutory requirements comprising but not limited to the following | | | | |
| | a) Establish 450x450x700mm deep earthing chamber, complete with internal plastering, and heavy duty EAFW steel cover clearly marked "EARTH". | 1 | No. | | |
| | b) 25mm X 3mm pure copper tape as Furse | 10 | Lm. | | |
| | c) Pure copper earth rod (1500mm x 16mm) | 4 | No. | | |
| | d) Driving head for earth rod | 4 | No. | | |
| | e) Tape to earth rod clamp as Furse | 4 | No. | | |
| | f) 16mm2 single core green PVC insulated copper earth lead | 20 | Lm. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for Schedule No. 1E: Sub-Switchboard No. 1 - 4No. Typical 1,000m2 Value Addition Warehouses C/F to *Price Collection Page for Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | | | | |

## PRICE COLLECTION PAGE

### *SCHEDULE NO. 1: VALUE ADDITION (V.A.) WAREHOUSES - 4NO. TYPICAL 1,000M$^2$ WAREHOUSES*

| Item | Description | Amount (Kshs) |
|---|---|---|
| | | |
| | | |
| **1.00** | **Total for Schedule No. 1A: Lighting & Power Installations - 4No. Typical 1,000m$^2$ Value Addition Warehouses** | |
| | | |
| | | |
| **2.00** | **Total for Schedule No. 1B: Fire Alarm & Detection System - 4No. Typical 1,000m2 Value Addition Warehouses** | |
| | | |
| | | |
| **3.00** | **Total for Schedule No. 1C: Centralized Antenna System - 4No. Typical 1,000m2 Value Addition Warehouses** | |
| | | |
| | | |
| **4.00** | **Total for Schedule No. 1D: Lightning Protection, Earthing & Bonding System - 4No. Typical 1,000m2 Value Addition Warehouses** | |
| | | |
| | | |
| **5.00** | **Total for Schedule No. 1E: Sub-Switchboard No. 1 - 4No. Typical 1,000m2 Value Addition Warehouses** | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | **Total for *Schedule No. 1: Value Addition (V.A.) Warehouses - 4No. Typical 1,000m2 Warehouses* C/F to *Price Summary Page for Electrical Installation Works*** | |

## BILL NO. 2 - SCHEDULE NO. 2: AGGREGATION & COLD STORAGE (A.C.S.) WAREHOUSES - 4NO. TYPICAL 1,000M$^2$ WAREHOUSES

### SCHEDULE NO. 2A: LIGHTING & POWER INSTALLATIONS - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES

### SCHEDULE NO. 2AA: GROUND FLOOR - LIGHTING & POWER INSTALLATIONS (1NO. A.C.S. WAREHOUSE)

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 2AA.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated copper cables drawn in concealed 20mm diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 20 | No. | | |
| | (b) Two Way Switching. | 18 | No. | | |
| | (c) Unswitched. | 4 | No. | | |
| | | | | | |
| 2AA.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 4 | No. | | |
| | (b) 1 gang 2 way | 2 | No. | | |
| | (c) 2 gang 2 way | 2 | No. | | |
| | (d) 3 gang 1 way | 2 | No. | | |
| | (e) Intermediate Switch | 1 | No. | | |
| | | | | | |
| 2AA.03 | High bay luminaire's Lighting point comprising wiring in 3x2.5mm$^2$ Single Core PVC insulated Copper Cables drawn in 25mm diameter HG PVC conduits concealed in walls and along trusses complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 21 | No. | | |
| | | | | | |
| 2AA.04 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 3 | No. | | |
| 2AA.05 | A metallic grid switch panel with an enclosure and capacity of 6No. 20A DP switches to be mounted on wall | 1 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 2AA.06 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 18W, 200mm diameter, surface mounted, LED circular ceiling light, IP65, with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 14 | No. | | |
| | **(b)** 120W, autobalanced single point suspension mounting, LED high bay luminaire of high pressure die cast aluminium housing and tempered glass cover, IP65 rated with system efficacy of at least 100lm/w, life hours of above 50,000hrs and high P.F of at least 0.9 as Philips, Thorn or an approved equivalent. | 21 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **(c)** 1200mm, IP66 rated, single, LED fitting, 21W, 4000K, tough exterior, moist proof and average lifetime of 50,000hrs for mirror lighting as Philips, Thorn or approved equivalent | 4 | No. | | |
| | **(d)** 1200mm, 3120 lm, single 28W, 4000K LED Batten Luminaire as Thorn Poppack LED Batten | 2 | No. | | |
| | **(e)** 18W, 200mm diameter, surface mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 10 | No. | | |
| | **(f)** LED floodlight of 100W, 6500K daylight white, 10000lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE Floodlight or approved equivalent | 8 | No. | | |
| | **(g)** Self-contained double sided EXIT sign with 8W fluorescent lamp for non-maintained emergency lighting for 3 hour duration as Sapphire or approved equivalent. | 4 | No. | | |
| | | | | | |
| | **DUCTING** | | | | |
| 2AA.07 | Lay HG/PVC conduiting of size 2x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for telecommunication services. | 20 | Lm. | | |
| 2AA.08 | Lay HG/PVC conduiting of size 2x50mm diameter HG/PVC ducts from the electrical service duct to the trunking for internal power reticulation and inter-connecting electrical service ducts. | 20 | Lm. | | |
| 2AA.09 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 2AA.10 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 14 | No. | | |
| 2AA.11 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 14 | No. | | |
| 2AA.12 | **Extract Fan's Power Point,** comprising wiring in 3 x 2.5mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 2 | No. | | |
| 2AA.13 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| 2AA.14 | **Hand Drier's Power Point**, wired in 3x 2.5sq mm PVC SC copper cables drawn in concealed 25mm Dia. HG PVC conduits complete with all accessories but excluding the D.P switch. | 2 | No. | | |
| 2AA.15 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 2AA.16 | **Instanteneous Shower Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 4 | No. | | |
| 2AA.17 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 4 | No. | | |
| | | | | | |
| | **CCTV SYSTEM POINTS** | | | | |
| 2AA.18 | CCTV System Points done in 25mm Dia. HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories (N/B: conduit length for each point running from the communication room is approximately 20m). | 4 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 2AA.19 | 8 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| | | | | | |
| 2AA.20 | MCBs for item above | | | | |
| | **(i)** 10A SP | 4 | No. | | |
| | **(ii)** 20A SP | 8 | No. | | |
| | **(iii)** 32A SP | 2 | No. | | |
| | **(iv)** SP Spareway | 4 | No. | | |
| | **(v)** TP Spareway | 2 | No. | | |
| | | | | | |
| 2AA.21 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 2AA.22 | 4x16mm2 + 1x10mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 40 | Lm. | | |
| | | | | | |
| 2AA.23 | 6 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 2AA.24 | MCBs for item above | | | | |
| | **(i)** 10A SP | 4 | No. | | |
| | | | | | |
| | **(ii)** 32A SP | 2 | No. | | |
| | | | | | |
| | **(iii)** 20A TP | 2 | No. | | |
| | | | | | |
| | **(iv)** SP Spareway | 6 | No. | | |
| | | | | | |
| | **(v)** TP Spareway | 6 | No. | | |
| | | | | | |
| 2AA.25 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 2AA.26 | 16mm$^2$ 4Core PVC/SWA/PVC Copper cables running on cable tray complete with appropriate cable glands and any other necessary accessory (to supply DB supplying fork lift chargers). | 60 | Lm. | | |
| | | | | | |
| 2AA.27 | Supply and install a 4 core 4.0 sq. mm PVC/SWA/PVC- insulated cu cables from the Distribution board to the isolator at fork lift charger's point complete with necessary cable glands, cable lugs and any other termination accessory. | 15 | Lm. | | |
| | | | | | |
| 2AA.28 | Supply and instal 20A, TP metal clad isolator as Schneider Electric, Crabtree or approved equivalent. | 2 | No. | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 2AA: Ground Floor - Lighting & Power Installations (1No. A.C.S. Warehouse)* C/F to *Price Collection Page - Schedule No. 2A: Lighting & Power Installations - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses*** | | | | |

## SCHEDULE NO. 2AB: FIRST FLOOR - LIGHTING & POWER INSTALLATIONS (1NO. A.C.S. WAREHOUSE)

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 2AB.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 16 | No. | | |
| | (b) Two Way Switching. | 8 | No. | | |
| | (c) Unswitched. | 1 | No. | | |
| 2AB.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 4 | No. | | |
| | (b) 1 gang 2 way | 4 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 2AB.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 600x600mm, Ceiling LED Panel Lighting Fitting, Surface Mountable, 40W, 4000K, with High efficiency LED panel delivering 100lm/W and an average lifetime of 50,000 hrs as Philips, Osram LEDvance or approved equivalent | 12 | No. | | |
| | **(b)** 1200mm, IP65 rated single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 2 | No. | | |
| | **(c)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 8 | No. | | |
| | **(d)** 1200mm, 3120 lm, single 28W, 4000K LED Batten Luminaire as Thorn Poppack LED Batten | 2 | No. | | |
| | **(e)** Self-contained double sided EXIT sign with 8W fluorescent lamp for non-maintained emergency lighting for 3 hour duration as Sapphire or approved equivalent. | 1 | No. | | |
| | | | | | |
| 2AB.04 | **TRUNKING & DUCTING** | | | | |
| | **i)** 150x50mm two (2) compartment powder coated trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers and all fixing accessories. Allow for colour change to Architect's detail. | 35 | Lm. | | |
| | **ii)** Factory made powder coated corner bends for the above trunking. | 8 | No. | | |
| | **iii)** Powder coated twin punched outlet plate for fixing twin socket outlets. | 8 | No. | | |
| | **iv)** Ditto but for data/telephone/single switched socket outlets. | 4 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **v)** Carry out bonding throughout the entire length of the above trunking and connect to earthing. | 1 | Item | | |
| | | | | | |
| 2AB.05 | 300mm x 50mm deep perfotrated GI cable tray complete with all accessories inside ceiling as manufactured by Schneider Electric Kenya or an approved equivalent. | 50 | Lm. | | |
| | | | | | |
| 2AB.06 | Lay HG/PVC conduiting of size 2x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for telecommunication services. | 20 | Lm. | | |
| 2AB.07 | Lay HG/PVC conduiting of size 2x50mm diameter HG/PVC ducts from the electrical service duct to the trunking for internal power reticulation and inter-connecting electrical service ducts. | 20 | Lm. | | |
| 2AB.08 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 2AB.09 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 5 | No. | | |
| 2AB.10 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in trunking complete with all the necessary accessories. | 8 | No. | | |
| 2AB.11 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 13 | No. | | |
| | | | | | |
| 2AB.12 | **Air Conditioner's Power Point,** comprising wiring drawn in 3x2.5mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits complete with all accessories but excluding the D.P switch . | 3 | No. | | |
| 2AB.13 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 3 | No. | | |
| 2AB.14 | **Undersink Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 1 | No. | | |
| 2AB.15 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 1 | No. | | |
| 2AB.16 | **Cooker (1-Φ) Power Point,** comprising of 3x6mm$^2$ PVC SC Copper cables drawn in concealed 25mm dia. HG PVC conduits complete with all accessories. | 1 | No. | | |
| 2AB.17 | 45A DP Cooker Control Unit with 13A integral Socket Outlet and Pilot Lamp marked 'As Per Application' for item above as MK, MEM or approved equivalent. | 1 | No. | | |
| 2AB.18 | Cooker Connection Unit for flush mounting and wired from Cooker Control Unit. | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 2AB.19 | **TELEVISION POINTS** | | | | |
| | a) TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed 20mm diameter HG/PVC conduits and linked to the outside through the roof space (to the amplifier) via telephone draw in boxes. | 2 | No. | | |
| | b) Moulded ivory TV outlet plate as MK, Clipsal, Crabtree or approved equivalent. | 2 | No | | |
| | c) Supply and Install draw box 300mmx250mmx150mm made in 16SWG steel sheets finished in cream powder coating to Engineer's approval. | 1 | No | | |
| | | | | | |
| | **DATA&TELEPHONE POINTS** | | | | |
| 2AB.20 | Data/Telephone outlet point done in 25mm dia. HG PVC conduits concealed in building fabric/ trunking complete with all necessary accessories. | 4 | No. | | |
| | | | | | |
| | **CCTV SYSTEM POINTS** | | | | |
| 2AB.21 | CCTV System Points done in 25mm dia. HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories (N/B: conduit length for each point running from the communication room is approximately 20m). | 4 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 2AB.22 | 6 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Acti 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| 2AB.23 | MCBs for item above | | | | |
| | **(i)** 10A SP | 2 | No. | | |
| | **(ii)** 20A SP | 4 | No. | | |
| | **(iii)** 32A SP | 2 | No. | | |
| | **(iv)** 45A SP | 1 | No. | | |
| | **(v)** SP Spareway | 6 | No. | | |
| | **(vi)** TP Spareway | 1 | No. | | |
| 2AB.24 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 2AB.25 | 4x16mm2 + 1x10mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 50 | Lm. | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 2AB: First Floor - Lighting & Power Installations (1No. A.C.S. Warehouse)* C/F to *Price Collection Page - Schedule No. 2A: Lighting & Power Installations - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses*** | | | | |

**PRICE COLLECTION PAGE**

***SCHEDULE NO. 2A: LIGHTING & POWER INSTALLATIONS - 4NO. TYPICAL 1,000M $^2$ AGGREGATION & COLD STORAGE WAREHOUSES***

| Item | Description | Amount (Kshs) |
|---|---|---|
| | | |
| | | |
| **1.00** | **Total for Schedule No. 2AA: Ground Floor - Lighting & Power Installations (1No. 1,000m $^2$ Aggregation & Cold Storage Warehouse)** | |
| | | |
| | | |
| **2.00** | **Total for Schedule No. 2AB: First Floor - Lighting & Power Installations (1No. 1,000m $^2$ Aggregation & Cold Storage Warehouse)** | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 2AA & Schedule No. 2AB = [A]** | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 2A: Lighting & Power Installations - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses = 4x[A]** | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | **Total for Schedule No. 2A: Lighting & Power Installations - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses C/F to *Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | |

## SCHEDULE NO. 2B: FIRE ALARM & DETECTION SYSTEM - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **FIRE DETECTION AND ALARM SYSTEM** | | | | |
| | | | | | |
| | **Supply, deliver, install and commission a complete Fire Detection and Alarm system, addressable type and in accordance with BS 5839 :2000, P2 and L2** | | | | |
| | | | | | |
| 2B. 01 | Outlet for Fire Alarm Panel's concealed 25mm HG PVC conduit, wiring in 3 x 2.5mm2 SC-PVC-CU fire rated cables and all accessories, including 5A fused unswitched connection unit with neon light. | 2 | No. | | |
| | | | | | |
| 2B.02 | Outlet for fire alarm manual call point/smoke/heat detector comprising box, concealed 20mm HG PVC conduit, wiring in 3 x 1.5mm2 fire rated cables and all accessories. | 48 | No. | | |
| | | | | | |
| 2B.03 | Addressable Manual Fire break glass call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover to be installed recessed in building fabric. | 8 | No. | | |
| | | | | | |
| 2B.04 | Addressable **Electronic Fire Alarm Sounder** complete with **Red Flashing Beacon Light** as Menvier or approved equivalent. | 8 | No. | | |
| | | | | | |
| 2B.05 | Addressable **Photometric Smoke Detector** as Menvier or equal and approved. | 28 | No. | | |
| | | | | | |
| 2B.06 | Addressable **Rate of Heat Rise Detector** as Menvier MENVIER or equal and approved. | 4 | No. | | |
| | | | | | |
| 2B.07 | Addressable fire alarm repeater panel Menvier DF6100 or equal and approved | 1 | No. | | |
| | | | | | |
| 2B.08 | 1 - Loop zone addressable fire alarm control panel complete with 2X12AH autonomous time emergency batteries as Menvier DF60001 or equal and approved. | 1 | No. | | |
| | | | | | |
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| | | | | | |
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| | | | | | |
| | **Total for <u>Schedule No. 2B: Fire Alarm & Detection System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses</u> C/F to *<u>Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S.) Warehouses - 4No. Typical 1,000m2 Warehouses</u>*** | | | | |

**SCHEDULE NO. 2C: CENTRALIZED ANTENNA SYSTEM - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, Test & Commission the following: -** | | | | |
| | | | | | |
| | **CENTRALIZED ANTENNA SYSTEM** | | | | |
| | | | | | |
| 2C.01 | Rustproof Satellite Receiver Dish with 4 way Low Noise Block (LNB) downconverter for DSTV complete with mounting brackets and installation | 1 | No. | | |
| | | | | | |
| 2C.02 | UHF aerials. | 1 | No. | | |
| | | | | | |
| 2C.03 | VHF aerials. | 1 | No. | | |
| | | | | | |
| 2C.04 | Mast head High gain amplifier units. | 1 | No. | | |
| | | | | | |
| 2C.05 | Combiner unit for DSTV receiver and the UHF / VLF/VHF TV receivers as Ellies or approved equivalent | 1 | No. | | |
| | | | | | |
| 2C.06 | DSTV satellite decoder complete with 1 year premium subscription | 1 | No. | | |
| | | | | | |
| 2C.07 | 16 SWG, (300 x 300 x 300) mm$^3$ galvanised steel draw box for TV works. | 2 | No. | | |
| | | | | | |
| 2C.08 | High resolution RG TV cables for interwiring the antenna, combiner units, splitter units and amplifier. | 300 | Lm. | | |
| | | | | | |
| 2C.09 | Four way splitters as Ellies or approved equivalent | 2 | No. | | |
| | | | | | |
| 2C.10 | 13 Amp High voltage guard AVS 13 for the booster as Sollatec or approved equivalent | 1 | No. | | |
| | | | | | |
| 2C.11 | 12U, IP55 wall mounted cabinet accessories, lock, key and extractor fan and 4 Way extension socket with USB Charger | 1 | No. | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | **Total for <u>Schedule No. 2C: Centralized Antenna System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses</u> C/F to *<u>Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S) Warehouses - 4No. Typical 1,000m2 Warehouses</u>*** | | | | |

## 2D: LIGHTNING PROTECTION, EARTHING AND BONDING SYSTEM - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test & commission the lightning protection system comprising the following:** | | | | |
| | | | | | |
| | **AIR TERMINATION** | | | | |
| 2D.01 | Supply and lay along the ridge cap 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 150 | Lm. | | |
| 2D.02 | State Holdfast to fix the above tape at 1000mm intervals at the roof ridge for air termination system complete with tape jointing clamps and all the necessary accessories all as Furse Cat. No. HF015 or approved equivalent. | 150 | No. | | |
| 2D.03 | Air Termination Spike (lightning arrestors) comprising 2000mm by 15mm diameter copper rod as Furse P.No. RA240 complete with; Copper Multiple Point as Furse P. No. RA 600 and Copper Ridge Saddle as Furse P. No. SD115 or approved equivalent. | 4 | No. | | |
| | | | | | |
| | **DOWNWARD CONDUCTOR** | | | | |
| 2D.04 | Downward Conductor comprising 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 60 | Lm. | | |
| 2D.05 | Copper Square Tape Clamp for making crossing tape joints as Furse CT 105 - FU or approved equivalent. | 12 | No. | | |
| 2D.06 | DC Tape Clips for Fixing the Down Conductors to the wall as Furse CT 105-FU or approved equivalent. | 60 | No. | | |
| 2D.07 | Copper Oblong Test/Junction Clamp complete with phosphor bronze nuts, washers and screws mounted 1800mm above finished ground level as Furse P. No. CN 105 or approved equivalent. | 5 | No. | | |
| 2D.08 | 32 mm diameter galvanised steel conduit recessed in wall between test clamp and ground and through the ring beam for sleeving at roof level for securing the down conductors. | 12 | Lm. | | |
| 2D.09 | Copper Saddles fixed at 1000mm intervals at the surface on wall for the down conductor system complete with all the necessary accessories all as FURSE or approved equivalent. | 60 | No. | | |
| | | | | | |
| | **EARTHING** | | | | |
| 2D.10 | Earth Inspection Concrete Chamber 300mm x 300mm x 300mm with an air tight inspection cover to approval. | 4 | No. | | |
| 2D.11 | Earthing with 16mm nominal diameter by 1500mm long threaded copper bond earth rods, complete with driving head and clamp. | 4 | No. | | |
| 2D.12 | Driving Stud for the Item above as Furse ST 300 or approved equivalent. | 4 | No. | | |
| 2D.13 | Earth Electrode Rod-to-Downward Conductor Copper Tape Clamps as Furse CR 105 or approved equivalent. | 4 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**2D: LIGHTNING PROTECTION, EARTHING AND BONDING SYSTEM - 4NO. TYPICAL 1,000M2 AGGREGATION & COLD STORAGE WAREHOUSES CONTINUED……..**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 2D.14 | 1500mm x 1500mm copper earth mat/grid (pure copper electrode) made from 25mm x 3mm thick bare copper tape (as Furse P. No. TC030 or approved equivalent). Copper tape to be spaced at 200mm interval, gas welded joints to Engineer's approval and 6m long 25mm x 3mm insulated copper tape clamped to the down conductors. Include burrying the assembled grid to a minimum depth of 750mm below ground finish level (at permanent moisture level) and improving the earth to Engineer's approval. The measured earth resistance to be less than one (1) ohm. | 4 | No. | | |
| | | | | | |
| | **BONDING** | | | | |
| | | | | | |
| 2D.15 | Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning uits, window frames, cladding, metal roof etc and the main earth for the building. | 1 | Item | | |
| | | | | | |
| 2D.16 | Testing and Commissioning the entire earthing and lightning protection system. | 1 | Item | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | **Total for Schedule No. 2D: Lightning Protection, Earthing and Bonding System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses C/F to *Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | | | | |

**SCHEDULE NO. 2E: LIGHTING & POWER POINTS (8NO. COLD STORAGE ROOMS) - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| | **LIGHTING POINTS** | | | | |
| | | | | | |
| 2E.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 32 | No. | | |
| | | | | | |
| 2E.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 8 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 2E.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 1200mm, single Coldproof LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, Thorn or approved equivalent | 32 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| | | | | | |
| **2E.04** | **Cold Storage No. 1 (4No. each rated 15KW)** | | | | |
| **a)** | Supply and install a ***4 core 6.0 sq. mm PVC/SWA/PVC insulated copper cables*** from the ***Sub-Switchboard No. 2 inside the Warehouse to the isolator at the machine point*** complete with necessary cable glands, cable lugs and any other termination accessory (***The average cable length used = 25.0m)*** . | 4 | No. | | |
| **b)** | Supply and instal metal clad isolator as C&S Electric or approved equivalent as follows; | | | | |
| | **i)** 32 A, TP Isolator | 4 | No. | | |
| | | | | | |
| **2E.05** | **Cold Storage No. 2 (4No. each rated 15KW)** | | | | |
| **a)** | Supply and install a ***4 core 6.0 sq. mm PVC/SWA/PVC insulated copper cables*** from the ***Sub-Switchboard No. 2 inside the Warehouse to the isolator at the machine point*** complete with necessary cable glands, cable lugs and any other termination accessory (***The average cable length used = 30.0m)*** . | 4 | No. | | |
| **b)** | Supply and instal metal clad isolator as C&S Electric or approved equivalent as follows; | | | | |
| | **i)** 32 A, TP Isolator | 4 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**SCHEDULE NO. 2E: LIGHTING & POWER POINTS (8NO. COLD STORAGE ROOMS) - 4NO. TYPICAL 1,000M2 AGGREGATION & COLD STORAGE WAREHOUSES CONTINUED……..**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| **2E.06** | **Cold Storage No. 3 (4No. each rated 15KW)** | | | | |
| **a)** | Supply and install a ***4 core 6.0 sq. mm PVC/SWA/PVC insulated copper cables*** from the ***Sub-Switchboard No. 2 inside the Warehouse to the isolator at the machine point*** complete with necessary cable glands, cable lugs and any other termination accessory (***The average cable length used = 25.0m)*** . | 4 | No. | | |
| **b)** | Supply and instal metal clad isolator as C&S Electric or approved equivalent as follows; | | | | |
| | **i)** 32 A, TP Isolator | 4 | No. | | |
| | | | | | |
| **2E.07** | **Cold Storage No. 4 (4No. each rated 15KW)** | | | | |
| **a)** | Supply and install a ***4 core 6.0 sq. mm PVC/SWA/PVC insulated copper cables*** from the ***Sub-Switchboard No. 2 inside the Warehouse to the isolator at the machine point*** complete with necessary cable glands, cable lugs and any other termination accessory (***The average cable length used = 30.0m)*** . | 4 | No. | | |
| **b)** | Supply and instal metal clad isolator as C&S Electric or approved equivalent as follows; | | | | |
| | **i)** 32 A, TP Isolator | 4 | No. | | |
| | | | | | |
| **2E.08** | **Cold Storage No. 5 (4No. each rated 15KW)** | | | | |
| **a)** | Supply and install a ***4 core 6.0 sq. mm PVC/SWA/PVC insulated copper cables*** from the ***Sub-Switchboard No. 2 inside the Warehouse to the isolator at the machine point*** complete with necessary cable glands, cable lugs and any other termination accessory (***The average cable length used = 30.0m)*** . | 4 | No. | | |
| **b)** | Supply and instal metal clad isolator as C&S Electric or approved equivalent as follows; | | | | |
| | **i)** 32 A, TP Isolator | 4 | No. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for Schedule No. 2E: Lighting & Power Points (8No. Cold Storage Rooms) - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses C/F to *Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S) Warehouses - 4No. Typical 1,000m2 Warehouses*** | | | | |

## 2F: SUB-SWITCHBOARD NO. 2 - 4NO. TYPICAL 1,000M$^2$ AGGREGATION & COLD STORAGE WAREHOUSES

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test & commission the lightning protection system comprising the following:** | | | | |
| | | | | | |
| **2F.01** | **SUB-SWITCHBOARD NO. 2** | | | | |
| | | | | | |
| | Supply, install, test and commission a Free-standing, dustproof & weatherproof (i.e. IP66 rated), purpose made front access, lockable, 6mm perspex viewing window for each section, Sealable studs for all cover plate screws and all necessary accessories, cubicle type, ***Low Voltage (LV) Sub-switchboard*** manufactured in 12SWG galvanised mild steel sheet and finished in cream (or approved colour) powder coating as described below, shown on the schematic and other details as per Particular Specification.<br>This ***LV Sub-switcboard shall to be 3-phase, 415V with 1No. 700A TP+N+E Bus-bars and bus-bar connections consisting of high conductivity copper to BS 158 and BS 159, in Bus-Bars Chamber*** .<br>To be manufactured by either Schneider Electric Kenya or Specialised Power Systems or an approved manufacturer. It shall also fabricated complete with the following details:- | 1 | Item | | |
| | **a) Incoming** | | | | |
| | i) 1No. 630A TPN Main Incomer MCCB as ABB or approved equivalent | | | | |
| | ii) Digital multimeter capable of measuring voltage in the range 0 – 500V, 3-phase & 1-phase and current in the range 0-400A, 3-phase and 1-phase. | | | | |
| | iii) 3No. Phase indicating lights | | | | |
| | iv) All power system parameters (KW, KVA, KWHr, KVArs, Frequency, P.F., harmonics etc.). The digital multimeter should be complete with selector switches for viewing/displaying the various parameters. | | | | |
| | **b) Outgoing** | | | | |
| | i) 20No. 32A TPN MCCB feeder to the 20No. Evaporator & Condensers inside Cold Storage Rooms as ABB or approved equivalent. | | | | |
| | ii) 10No. 100A TPN MCCB feeder to the 4No. Distribution Boards at Ground Floor as ABB or approved equivalent. | | | | |
| | iii) 4No. 100A TPN MCCB feeder to the 1No. Distribution Board at First Floor Floor as ABB or approved equivalent. | | | | |
| | iv) 1No. 50A DP MCB feeder to street lighting control pillar as ABB or approved equivalent. | | | | |
| | v) A suitably rated 415V three-phase surge diverter as Furse ESP 415, fully wired, complete with enclosure with viewing window. | | | | |
| | ***Sufficient TP & SP spare capacity for future development i.e. at least;*** | | | | |
| | vi) Space for 3No. TPN MCCBs | | | | |
| | vii) Space for 3No. SPN MCCBs | | | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **c)** Carry out comprehensive labeling of all the bus bars, circuit breakers etc. of item above, indicating the areas served, outgoing cable sizes etc. | | | | |
| | | | | | |
| | **d)** Carry out concise load balancing to achieve a maximum imbalance not greater than ± 10% between any two phases, measured at the Main LV switchboard | 1 | Lot | | |
| | | | | | |
| | **COMPREHENSIVE PROTECTIVE MULTIPLE EARTHING** | | | | |
| 2F.02 | Earthing of the subboard in accordance with KP&L company requirements, IET regulations,the government Electrical Installations regulations and other statutory requirements comprising but not limited to the following | | | | |
| | a) Establish 450x450x700mm deep earthing chamber, complete with internal plastering, and heavy duty EAFW steel cover clearly marked "EARTH". | 1 | No. | | |
| | b) 25mm X 3mm pure copper tape as Furse | 10 | Lm. | | |
| | c) Pure copper earth rod (1500mm x 16mm) | 4 | No. | | |
| | d) Driving head for earth rod | 4 | No. | | |
| | e) Tape to earth rod clamp as Furse | 4 | No. | | |
| | f) 16mm2 single core green PVC insulated copper earth lead | 20 | Lm. | | |
| | | | | | |
| | | | | | |
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| | | | | | |
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| | | | | | |
| | **Total for Schedule No. 2F: Sub-Switchboard No. 2 - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses C/F to *Price Collection Page for Schedule No. 2: Aggregation & Cold Storage (A.C.S.) Warehouses - 4No. Typical 1,000m2 Warehouses*** | | | | |

## PRICE COLLECTION PAGE

### *SCHEDULE NO. 2: AGGREGATION & COLD STORAGE (A.C.S.) WAREHOUSES (4NO. TYPICAL 1,000M $^2$ WAREHOUSES)*

| Item | Description | Amount (Kshs) |
|---|---|---|
| | | |
| | | |
| **1.00** | **Total for Schedule No. 2A: Lighting & Power Installations - 4No. Typical 1,000m$^2$ Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| **2.00** | **Total for Schedule No. 2B: Fire Alarm & Detection System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| **3.00** | **Total for Schedule No. 2C: Centralized Antenna System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| **4.00** | **Total for Schedule No. 2D: Lightning Protection, Earthing & Bonding System - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| **5.00** | **Total for Schedule No. 2E: Lighting & Power Points (8No. Cold Storage Rooms) - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| **6.00** | **Total for Schedule No. 2F: Sub-Switchboard No. 2 - 4No. Typical 1,000m2 Aggregation & Cold Storage Warehouses** | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | **Total for *Schedule No. 2: Aggregation & Cold Storage (A.C.S.) Warehouses (4No. Typical 1,000m2 Warehouses* ) C/F to *Price Summary Page for Electrical Installation Works*** | |

## BILL NO. 2 - SCHEDULE NO. 3: OFFICE BLOCK

### SCHEDULE NO. 3A: LIGHTING & POWER INSTALLATIONS - OFFICE BLOCK

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 3A.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 29 | No. | | |
| | (b) Two Way Switching. | 13 | No. | | |
| | | | | | |
| 3A.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 8 | No. | | |
| | (b) 1 gang 2 way | 4 | No. | | |
| | (c) 2 gang 2 way | 2 | No. | | |
| | (d) 3 gang 1 way | 2 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 3A.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 600x600mm, Ceiling LED Panel Lighting Fitting, Surface Mountable, 40W, 4000K, with High efficiency LED panel delivering 100lm/W and an average lifetime of 50,000 hrs as Philips, Osram LEDvance or approved equivalent | 12 | No. | | |
| | **(b)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 8 | No. | | |
| | **(c)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP65, with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 10 | No. | | |
| | **(d)** 1200mm, IP65 rated single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 2 | No. | | |
| | **(e)** 1200mm, 3120 lm, single 28W, 4000K LED Batten Luminaire as Thorn Poppack LED Batten | 2 | No. | | |
| | **(f)** 1200mm, IP66 rated, single, LED fitting, 21W, 4000K, tough exterior, moist proof and average lifetime of 50,000hrs for mirror lighting as Philips, Thorn or approved equivalent | 2 | No. | | |
| | **(g)** LED security light fixture of 30W, 6500K daylight white, 3300lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE, Philips, Thorn or approved equivalent | 6 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
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| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 3A.04 | **TRUNKING & DUCTING** | | | | |
| | **i)** 150x50mm two (2) compartment powder coated trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers and all fixing accessories. Allow for colour change to Architect's detail. | 60 | Lm. | | |
| | **ii)** Factory made powder coated corner bends for the above trunking. | 10 | No. | | |
| | **iii)** Powder coated twin punched outlet plate for fixing twin socket outlets. | 10 | No. | | |
| | **iv)** Ditto but for data/telephone/single switched socket outlets. | 10 | No. | | |
| | **v)** Carry out bonding throughout the entire length of the above trunking and connect to earthing. | 1 | Item | | |
| | | | | | |
| 3A.05 | Lay HG/PVC conduiting of size 2x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for telecommunication services. | 15 | Lm. | | |
| 3A.06 | Lay HG/PVC conduiting of size 2x50mm diameter HG/PVC ducts from the electrical service duct to the trunking for internal power reticulation and inter-connecting electrical service ducts. | 12 | Lm. | | |
| 3A.07 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 3A.08 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 4 | No. | | |
| 3A.09 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in trunking complete with all the necessary accessories. | 10 | No. | | |
| 3A.10 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 14 | No. | | |
| | | | | | |
| 3A.11 | **Extract Fan's Power Point,** comprising wiring in 3 x 2.5mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 2 | No. | | |
| 3A.12 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| 3A.13 | **Hand Drier's Power Point**, wired in 3x 2.5sq mm PVC SC copper cables drawn in concealed 25mm Dia. HG PVC conduits complete with all accessories but excluding the D.P switch. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
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| | **Sub-Total B/F from Previous Page** | | | | |
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| 3A.14 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 3A.15 | **Air Conditioner's Power Point,** comprising wiring drawn in 3x2.5mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits complete with all accessories but excluding the D.P switch . | 2 | No. | | |
| 3A.16 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 3A.17 | **Undersink Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 1 | No. | | |
| 3A.18 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 1 | No. | | |
| | | | | | |
| 3A.19 | **Cooker (1-Φ) Power Point,** comprising of 3x6mm$^2$ PVC SC Copper cables drawn in concealed 25mm dia. HG PVC conduits complete with all accessories. | 1 | No. | | |
| 3A.20 | 45A DP Cooker Control Unit with 13A integral Socket Outlet and Pilot Lamp marked 'As Per Application' for item above as MK, MEM or approved equivalent. | 1 | No. | | |
| 3A.21 | Cooker Connection Unit for flush mounting and wired from Cooker Control Unit. | 1 | No. | | |
| | | | | | |
| 3A.22 | **TELEVISION POINTS** | | | | |
| | a) TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed 20mm diameter HG/PVC conduits and linked to the outside through the roof space (to the amplifier) via telephone draw in boxes. | 2 | No. | | |
| | b) Moulded ivory TV outlet plate as MK, Clipsal, Crabtree or approved equivalent. | 2 | No | | |
| | c) Supply and Install draw box 300mmx250mmx150mm made in 16SWG steel sheets finished in cream powder coating to Engineer's approval. | 1 | No | | |
| | | | | | |
| | **DATA&TELEPHONE POINTS** | | | | |
| 3A.23 | Data/Telephone outlet point done in 25mm dia. HG PVC conduits concealed in building fabric/ trunking complete with all necessary accessories. | 4 | No. | | |
| | | | | | |
| | **CCTV SYSTEM POINTS** | | | | |
| 3A.24 | CCTV System Points done in 25mm dia. HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories (N/B: conduit length for each point running from the communication room is approximately 20m). | 4 | No. | | |
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| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
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| | **Sub-Total B/F from Previous Page** | | | | |
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| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 3A.25 | 6 Ways TPN, flush mounted Distribution Board complete with 100A integral isolator as ***Schneider Electric Easy 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| 3A.26 | MCBs for item above | | | | |
| | **(i)** 10A SP | 2 | No. | | |
| | **(ii)** 20A SP | 7 | No. | | |
| | **(iii)** 32A SP | 2 | No. | | |
| | **(iv)** 45A SP | 1 | No. | | |
| | **(v)** SP Spareway | 3 | No. | | |
| | **(vi)** TP Spareway | 1 | No. | | |
| 3A.27 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 3A.28 | 4x10mm2 + 1x6mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 15 | Lm. | | |
| | | | | | |
| 3A.29 | IP65 rated, standard cable loop-in box made of powder coated steel sheets of at least 14SWG complete with 50A, Three Phase Cut-out as Henleys or approved equivalent. | 1 | No. | | |
| 3A.30 | Earthing cable loop-in box to Kenya Power (KP) standard complete with a manhole and cover. | 1 | Item | | |
| 3A.31 | 50A TPN MCCB to be mounted in the source Main LV Switchboard as ABB or approved equivalent. | 1 | No. | | |
| 3A.32 | 16mm2 4Core PVC/SWA/PVC Copper cables complete with appropriate cable glands, lugs and any other necessary accessory. | 25 | Lm. | | |
| 3A.33 | Excavate trench for ducts and armoured cable at an average depth of 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level to Engineer's Approval. | 25 | Lm. | | |
| 3A.34 | 50mm dia. HG PVC ducts encased in concrete surround and buried at least 700mm below the finished ground level for electrical power supply cables. | 25 | Lm. | | |
| 3A.35 | Construct 450mm x 450mm x 700mm deep standard manhole complete with internal plastering and an air tight heavy duty steel cover clearly marked “POWER” to approval. | 2 | No. | | |
| | | | | | |
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| | **Total for *Schedule No. 3A: Lighting & Power Installations - Office Block* C/F to *Price Collection Page - Schedule No. 3: Office Block*** | | | | |

## SCHEDULE NO. 3B: FIRE ALARM & DETECTION SYSTEM - OFFICE BLOCK

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **FIRE DETECTION AND ALARM SYSTEM** | | | | |
| | | | | | |
| | **Supply, deliver, install and commission a complete Fire Detection and Alarm system, addressable type and in accordance with BS 5839 :2000, P2 and L2** | | | | |
| | | | | | |
| 3B. 01 | Outlet for Fire Alarm Panel's concealed 25mm HG PVC conduit, wiring in 3 x 2.5mm2 SC-PVC-CU fire rated cables and all accessories, including 5A fused unswitched connection unit with neon light. | 1 | No. | | |
| | | | | | |
| 3B.02 | Outlet for fire alarm manual call point/smoke/heat detector comprising box, concealed 20mm HG PVC conduit, wiring in 3 x 1.5mm2 fire rated cables and all accessories. | 9 | No. | | |
| | | | | | |
| 3B.03 | Addressable Manual Fire break glass call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover to be installed recessed in building fabric. | 1 | No. | | |
| | | | | | |
| 3B.04 | Addressable **Electronic Fire Alarm Sounder** complete with **Red Flashing Beacon Light** as Menvier or approved equivalent. | 1 | No. | | |
| | | | | | |
| 3B.05 | Addressable **Photometric Smoke Detector** as Menvier or equal and approved. | 6 | No. | | |
| | | | | | |
| 3B.06 | Addressable **Rate of Heat Rise Detector** as Menvier MENVIER or equal and approved. | 1 | No. | | |
| | | | | | |
| 3B.07 | 1 - Loop zone addressable fire alarm control panel complete with 2X12AH autonomous time emergency batteries as Menvier DF60001 or equal and approved. | 1 | No. | | |
| | | | | | |
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| | **Total for Schedule No. 3B: Fire Alarm & Detection System - Office Block C/F to *Price Collection Page for Schedule No. 3: Office Block*** | | | | |

## SCHEDULE NO. 3C: CENTRALIZED ANTENNA SYSTEM - OFFICE BLOCK

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, Test & Commission the following: -** | | | | |
| | | | | | |
| | **CENTRALIZED ANTENNA SYSTEM** | | | | |
| | | | | | |
| 3C.01 | Rustproof Satellite Receiver Dish with 4 way Low Noise Block (LNB) downconverter for DSTV complete with mounting brackets and installation | 1 | No. | | |
| | | | | | |
| 3C.02 | UHF aerials. | 1 | No. | | |
| | | | | | |
| 3C.03 | VHF aerials. | 1 | No. | | |
| | | | | | |
| 3C.04 | Mast head High gain amplifier units. | 1 | No. | | |
| | | | | | |
| 3C.05 | Combiner unit for DSTV receiver and the UHF / VLF/VHF TV receivers as Ellies or approved equivalent | 1 | No. | | |
| | | | | | |
| 3C.06 | DSTV satellite decoder complete with 1 year premium subscription | 1 | No. | | |
| | | | | | |
| 3C.07 | 16 SWG, (300 x 300 x 300) $mm^3$ galvanised steel draw box for TV works. | 2 | No. | | |
| | | | | | |
| 3C.08 | High resolution RG TV cables for interwiring the antenna, combiner units, splitter units and amplifier. | 120 | Lm. | | |
| | | | | | |
| 3C.09 | Four way splitters as Ellies or approved equivalent | 2 | No. | | |
| | | | | | |
| 3C.10 | 13 Amp High voltage guard AVS 13 for the booster as Sollatec or approved equivalent | 1 | No. | | |
| | | | | | |
| 3C.11 | 12U, IP55 wall mounted cabinet accessories, lock, key and extractor fan and 4 Way extension socket with USB Charger | 1 | No. | | |
| | | | | | |
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| | | | | | |
| | **Total for <u>Schedule No. 3C: Centralized Antenna System - Office Block</u> C/F to *<u>Price Collection Page for Schedule No. 3: Office Block</u>*** | | | | |

## 3D: LIGHTNING PROTECTION, EARTHING AND BONDING SYSTEM - OFFICE BLOCK

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test & commission the lightning protection system comprising the following:** | | | | |
| | | | | | |
| | **AIR TERMINATION** | | | | |
| 3D.01 | Supply and lay along the ridge cap 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 40 | Lm. | | |
| 3D.02 | State Holdfast to fix the above tape at 1000mm intervals at the roof ridge for air termination system complete with tape jointing clamps and all the necessary accessories all as Furse Cat. No. HF015 or approved equivalent. | 40 | No. | | |
| 3D.03 | Air Termination Spike (lightning arrestors) comprising 2000mm by 15mm diameter copper rod as Furse P.No. RA240 complete with; Copper Multiple Point as Furse P. No. RA 600 and Copper Ridge Saddle as Furse P. No. SD115 or approved equivalent. | 1 | No. | | |
| | | | | | |
| | **DOWNWARD CONDUCTOR** | | | | |
| 3D.04 | Downward Conductor comprising 25mm X 3mm thick bare pure copper tape as Furse P. No. TC030 or approved equivalent. | 20 | Lm. | | |
| 3D.05 | Copper Square Tape Clamp for making crossing tape joints as Furse CT 105 - FU or approved equivalent. | 4 | No. | | |
| 3D.06 | DC Tape Clips for Fixing the Down Conductors to the wall as Furse CT 105-FU or approved equivalent. | 20 | No. | | |
| 3D.07 | Copper Oblong Test/Junction Clamp complete with phosphor bronze nuts, washers and screws mounted 1800mm above finished ground level as Furse P. No. CN 105 or approved equivalent. | 2 | No. | | |
| 3D.08 | 32 mm diameter galvanised steel conduit recessed in wall between test clamp and ground and through the ring beam for sleeving at roof level for securing the down conductors. | 5 | Lm. | | |
| 3D.09 | Copper Saddles fixed at 1000mm intervals at the surface on wall for the down conductor system complete with all the necessary accessories all as FURSE or approved equivalent. | 20 | No. | | |
| | | | | | |
| | **EARTHING** | | | | |
| 3D.10 | Earth Inspection Concrete Chamber 300mm x 300mm x 300mm with an air tight inspection cover to approval. | 2 | No. | | |
| 3D.11 | Earthing with 16mm nominal diameter by 1500mm long threaded copper bond earth rods, complete with driving head and clamp. | 2 | No. | | |
| 3D.12 | Driving Stud for the Item above as Furse ST 300 or approved equivalent. | 2 | No. | | |
| 3D.13 | Earth Electrode Rod-to-Downward Conductor Copper Tape Clamps as Furse CR 105 or approved equivalent. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
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| | **Sub-Total B/F from Previous Page** | | | | |
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| 3D.14 | 1500mm x 1500mm copper earth mat/grid (pure copper electrode) made from 25mm x 3mm thick bare copper tape (as Furse P. No. TC030 or approved equivalent). Copper tape to be spaced at 200mm interval, gas welded joints to Engineer's approval and 6m long 25mm x 3mm insulated copper tape clamped to the down conductors. Include burrying the assembled grid to a minimum depth of 750mm below ground finish level (at permanent moisture level) and improving the earth to Engineer's approval. The measured earth resistance to be less than one (1) ohm. | 2 | No. | | |
| | | | | | |
| | **BONDING** | | | | |
| | | | | | |
| 3D.15 | Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning uits, window frames, cladding, metal roof etc and the main earth for the building. | 1 | Item | | |
| | | | | | |
| 3D.16 | Testing and Commissioning the entire earthing and lightning protection system. | 1 | Item | | |
| | | | | | |
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| | | | | | |
| | **Total for Schedule No. 3D: Lightning Protection, Earthing and Bonding System - Office Block C/F to *Price Collection Page for Schedule No. 3: Office Block*** | | | | |

## PRICE COLLECTION PAGE

### *SCHEDULE NO. 3: OFFICE BLOCK*

| Item | Description | Amount (Kshs) |
|---|---|---|
| | | |
| | | |
| **1.00** | **Total for Schedule No. 3A: Lighting & Power Installations - Office Block** | |
| | | |
| | | |
| **2.00** | **Total for Schedule No. 3B: Fire Alarm & Detection System - Office Block** | |
| | | |
| | | |
| **3.00** | **Total for Schedule No. 3C: Centralized Antenna System - Office Block** | |
| | | |
| | | |
| **4.00** | **Total for Schedule No. 3D: Lightning Protection, Earthing & Bonding System - Office Block** | |
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| | | |
| | **Total for *Schedule No. 3: Office Block* C/F to *PPrice Summary Page for Electrical Installation Works*** | |

## BILL NO. 2 - SCHEDULE NO. 4: ABLUTION BLOCK

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 4.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 22 | No. | | |
| | (b) Two Way Switching. | 6 | No. | | |
| | | | | | |
| 4.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 6 | No. | | |
| | (b) 1 gang 2 way | 4 | No. | | |
| | (c) 3 gang 1 way | 2 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 4.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP65, with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 12 | No. | | |
| | **(b)** 1200mm, IP65 rated, recess mounted, single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 6 | No. | | |
| | **(c)** 1200mm, IP66 rated, single, LED fitting, 21W, 4000K, tough exterior, moist proof and average lifetime of 50,000hrs for mirror lighting as Philips, Thorn or approved equivalent | 4 | No. | | |
| | **(d)** LED security light fixture of 30W, 6500K daylight white, 3300lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE, Philips, Thorn or approved equivalent | 6 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 4.04 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 2 | No. | | |
| 4.05 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 2 | No. | | |
| | | | | | |
| 4.06 | **Extract Fan's Power Point,** comprising wiring in 3 x 2.5mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 4.07 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 4.08 | **Hand Drier's Power Point**, wired in 3x 2.5sq mm PVC SC copper cables drawn in concealed 25mm Dia. HG PVC conduits complete with all accessories but excluding the D.P switch. | 2 | No. | | |
| 4.09 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 4.10 | **Instanteneous Shower Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 1 | No. | | |
| 4.11 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 1 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 4.12 | 12 Ways SPN, flush mounted Consumer Control Unit complete with 100A integral isolator as ***Schneider Electric Easy 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| | | | | | |
| 4.13 | MCBs for item above | | | | |
| | **(i)** 10A SP | 2 | No. | | |
| | **(ii)** 20A SP | 6 | No. | | |
| | **(iii)** 32A SP | 1 | No. | | |
| | **(iv)** SP Spareway | 3 | No. | | |
| | | | | | |
| 4.14 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 4.15 | 3x10mm2 single core PVC insulated copper cables in 38mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 10 | Lm. | | |
| | | | | | |
| 4.16 | IP65 rated, standard cable loop-in box made of powder coated steel sheets of at least 14SWG complete with 63A, Single Phase Cut-out c/w a neutral block as Henleys or approved equivalent. | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 4.17 | Earthing cable loop-in box to Kenya Power (KP) standard complete with a manhole and cover. | 1 | Item | | |
| | | | | | |
| 4.18 | 63A DP MCB to be mounted in the source Main LV Switchboard as ABB or approved equivalent. | 1 | No. | | |
| | | | | | |
| 4.19 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| 4.20 | 16mm2 2Core PVC/SWA/PVC Copper cables complete with appropriate cable glands, lugs and any other necessary accessory. | 30 | Lm. | | |
| | | | | | |
| 4.21 | Excavate trench for ducts and armoured cable at an average depth of 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level to Engineer's Approval. | 30 | Lm. | | |
| | | | | | |
| 4.22 | 50mm dia. HG PVC ducts encased in concrete surround and buried at least 700mm below the finished ground level for electrical power supply cables. | 30 | Lm. | | |
| | | | | | |
| 4.23 | Construct 450mm x 450mm x 700mm deep standard manhole complete with internal plastering and an air tight heavy duty steel cover clearly marked “POWER” to approval. | 2 | No. | | |
| | | | | | |
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| | | | | | |
| | **Total for *Schedule No. 4: Ablution Block* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## BILL NO. 2 - SCHEDULE NO. 5: POWER HOUSE

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 5.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 7 | No. | | |
| | (b) Two Way Switching. | 3 | No. | | |
| | | | | | |
| 5.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 2 | No. | | |
| | (b) 1 gang 2 way | 2 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 5.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 1200mm, IP65 rated, recess mounted, single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 7 | No. | | |
| | **(b)** LED security light fixture of 30W, 6500K daylight white, 3300lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE, Philips, Thorn or approved equivalent | 3 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 5.04 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 4 | No. | | |
| 5.05 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 4 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 5.06 | 6 Ways SPN, flush mounted Consumer Control Unit complete with 63A integral isolator as ***Schneider Electric Easy 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| | | | | | |
| 5.07 | MCBs for item above | | | | |
| | **(i)** 10A SP | 1 | No. | | |
| | **(ii)** 32A SP | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**BILL NO. 2 - SCHEDULE NO. 5: POWER HOUSE CONTINUED……..**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **(iii)** SP Spareway | 4 | No. | | |
| | | | | | |
| 5.08 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 5.09 | 3x6mm2 single core PVC insulated copper cables in 32mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 15 | Lm. | | |
| | | | | | |
| 5.10 | 32A DP MCB to be mounted in the source Main LV Switchboard as ABB or approved equivalent. | 1 | No. | | |
| | | | | | |
| | | | | | |
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| | **Total for *Schedule No. 5: Power House* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## BILL NO. 2 - SCHEDULE NO. 6: PUMP HOUSE

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 6.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 22 | No. | | |
| | (b) Two Way Switching. | 6 | No. | | |
| | | | | | |
| 6.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 6 | No. | | |
| | (b) 1 gang 2 way | 4 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 6.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 1200mm, IP65 rated, recess mounted, single LED fitting with 28W, 4000K, tough exterior, moist and dust proof and average lifetime of 50,000hrs as Philips, ThornEco Julie 1200 LED or approved equivalent | 7 | No. | | |
| | **(b)** LED security light fixture of 30W, 6500K daylight white, 3300lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE, Philips, Thorn or approved equivalent | 3 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 6.04 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 2 | No. | | |
| 6.05 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 2 | No. | | |
| | | | | | |
| | **BOREHOLE PUMPSET (8KW)** | | | | |
| 6.06 | 10mm2 4Core PVC/SWA/PVC Copper cables complete with appropriate cable glands, lugs and any other necessary accessory from Main LV Board to the Borehole's cable loop-in box. | 60 | Lm. | | |
| 6.07 | IP65 rated, standard cable loop-in box made of powder coated steel sheets of at least 14SWG complete with 40A, Three Phase Cut-out c/w a neutral block as Henleys or approved equivalent. | 1 | No. | | |
| 6.08 | Earthing cable loop-in box to Kenya Power (KP) standard complete with a manhole and cover. | 1 | Item | | |
| 6.09 | 16ATPN MCCB as ABB or approved equivalent to be mounted in the Cable Loop-in Box to feed the Pumps cable. | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
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| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 6.10 | 5x4mm$^2$pvc insulated single core copper cables in 38mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory. | 10 | Lm. | | |
| 6.11 | 16A TP Isolator as MK, Crabtree or approved equivalent. | 1 | No. | | |
| 6.12 | Excavate trench for ducts and armoured cable at an average depth of 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level to Engineer's Approval. | 60 | Lm. | | |
| 6.13 | 50mm dia. HG PVC ducts encased in concrete surround and buried at least 700mm below the finished ground level for electrical power supply cables. | 60 | Lm. | | |
| 6.14 | Construct 450mm x 450mm x 700mm deep standard manhole complete with internal plastering and an air tight heavy duty steel cover clearly marked “POWER” to approval. | 4 | No. | | |
| | | | | | |
| | **WATER TREATMENT PUMPSET (1.5KW)** | | | | |
| 6.15 | **Pump's Motor Power Point** wired in 3x2.5mm2 pvc insulated single core copper cables in 25mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 10 | Lm. | | |
| 6.16 | 10A SPN Isolator as MK, Crabtree or approved equivalent. | 1 | No. | | |
| 6.17 | 10A DP Control Switch with neon light as MK, Crabtree or approved equivalent. | 1 | No. | | |
| | | | | | |
| | **HOSE REEL PUMPSET (1.5KW)** | | | | |
| 6.18 | **Pump's Motor Power Point** wired in 3x2.5mm2 pvc insulated single core copper cables in 25mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 10 | Lm. | | |
| 6.19 | 10A SPN Isolator as MK, Crabtree or approved equivalent. | 1 | No. | | |
| 6.20 | 10A DP Control Switch with neon light as MK, Crabtree or approved equivalent. | 1 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 6.21 | 6 Ways TPN, flush mounted Distribution Board complete with 63A integral isolator as ***Schneider Electric Easy 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| 6.22 | MCBs for item above | | | | |
| | **(i)** 10A SP | 3 | No. | | |
| | **(ii)** 32A SP | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **(iii)** 40A TP | 1 | No. | | |
| | **(iv)** SP Spareway | 5 | No. | | |
| | **(v)** TP Spareway | 2 | No. | | |
| | | | | | |
| 6.23 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 6.24 | 4x10mm2 + 1x6mm2 single core PVC insulated copper cables in 50mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 10 | Lm. | | |
| | | | | | |
| 6.25 | IP65 rated, standard cable loop-in box made of powder coated steel sheets of at least 14SWG complete with 32A, Three Phase Cut-out as Henleys or approved equivalent. | 1 | No. | | |
| 6.26 | Earthing cable loop-in box to Kenya Power (KP) standard complete with a manhole and cover. | 1 | Item | | |
| 6.27 | 32A TPN MCCB to be mounted in the source Main LV Switchboard as ABB or approved equivalent. | 1 | No. | | |
| 6.28 | 10mm2 4Core PVC/SWA/PVC Copper cables complete with appropriate cable glands, lugs and any other necessary accessory. | 20 | Lm. | | |
| 6.29 | Excavate trench for ducts and armoured cable at an average depth of 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level to Engineer's Approval. | 20 | Lm. | | |
| 6.30 | 50mm dia. HG PVC ducts encased in concrete surround and buried at least 700mm below the finished ground level for electrical power supply cables. | 20 | Lm. | | |
| 6.31 | Construct 450mm x 450mm x 700mm deep standard manhole complete with internal plastering and an air tight heavy duty steel cover clearly marked “POWER” to approval. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 6: Pump House* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## BILL NO. 2 - SCHEDULE NO. 7: GATE HOUSE

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| 7.01 | Lighting points comprising wiring in 3x1.5mm$^2$ Single Core PVC insulated Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:- | | | | |
| | (a) One Way Switching. | 14 | No. | | |
| | (b) Two Way Switching. | 4 | No. | | |
| | | | | | |
| 7.02 | 10A moulded ivory switch plates as MK, BG, Crabtree or approved equivalent as follows: | | | | |
| | (a) 1 gang 1 way | 4 | No. | | |
| | (b) 1 gang 2 way | 2 | No. | | |
| | (c) 3 gang 1 way | 2 | No. | | |
| | | | | | |
| | **LIGHTING FITTINGS** | | | | |
| 7.03 | Lighting fittings complete with all accessories including LED tubes & lamps of appropriate wattage and colour rendering and fixing materials as follows: | | | | |
| | **(a)** 600x600mm, Ceiling LED Panel Lighting Fitting, Surface Mountable, 40W, 4000K, with High efficiency LED panel delivering 100lm/W and an average lifetime of 50,000 hrs as Philips, Osram LEDvance or approved equivalent | 6 | No. | | |
| | **(b)** 18W, 200mm diameter, recess mounted, LED circular ceiling light, IP44 with daylight white output and Long lamp life above 50,000 hours as Philips, LEDVANCE or approved equivalent | 6 | No. | | |
| | **(c)** 1200mm, IP66 rated, single, LED fitting, 21W, 4000K, tough exterior, moist proof and average lifetime of 50,000hrs for mirror lighting as Philips, Thorn or approved equivalent | 2 | No. | | |
| | **(d)** LED security light fixture of 30W, 6500K daylight white, 3300lm, Black body, IP65, Frosted cover made of tempered glass for uniform illumination and average lifetime of 50,000hrs as Osram LEDVANCE, Philips, Thorn or approved equivalent | 4 | No. | | |
| | | | | | |
| | **POWER POINTS** | | | | |
| 7.04 | Ring mains socket outlets comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories. | 6 | No. | | |
| 7.05 | 13A switched white moulded case socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent. | | | | |
| | (a) Twin outlet. | 6 | No. | | |
| | | | | | |
| 7.06 | **Extract Fan's Power Point,** comprising wiring in 3 x 2.5mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 7.07 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 7.08 | **Hand Drier's Power Point**, wired in 3x 2.5sq mm PVC SC copper cables drawn in concealed 25mm Dia. HG PVC conduits complete with all accessories but excluding the D.P switch. | 2 | No. | | |
| 7.09 | 13A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 2 | No. | | |
| | | | | | |
| 7.10 | **Instanteneous Shower Water Heater's Power Point,** comprising wiring in 3 x 4.0mm2 PVC insulated single core copper cables drawn in concealed 25mm Dia. HG/PVC conduits complete with all necessary accessories but excluding the D.P switch. | 1 | No. | | |
| 7.11 | 20A double pole control switch plates with neon light as MK, BG, Crabtree or approved equivalent | 1 | No. | | |
| | | | | | |
| | **INTERNAL POWER DISTRIBUTION** | | | | |
| 7.12 | 12 Ways SPN, flush mounted Consumer Control Unit complete with 100A integral isolator as ***Schneider Electric Easy 9*** or an approved equivalent complete with all accessories but excluding MCBs. | 1 | No. | | |
| | | | | | |
| 7.13 | MCBs for item above | | | | |
| | **(i)** 10A SP | 2 | No. | | |
| | **(ii)** 20A SP | 6 | No. | | |
| | **(iii)** 32A SP | 1 | No. | | |
| | **(iv)** SP Spareway | 3 | No. | | |
| | | | | | |
| 7.14 | Carry out concise permanent traffolyte labelling for all the sub-circuits in item above. | 1 | Item | | |
| | | | | | |
| | **SUB-MAIN CABLING** | | | | |
| 7.15 | 3x10mm2 single core PVC insulated copper cables in 38mmØ concealed HG PVC conduits complete with appropriate cable glands and any other necessary accessory | 10 | Lm. | | |
| | | | | | |
| 7.16 | IP65 rated, standard cable loop-in box made of powder coated steel sheets of at least 14SWG complete with 63A, Single Phase Cut-out c/w a neutral block as Henleys or approved equivalent. | 1 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 7.17 | Earthing cable loop-in box to Kenya Power (KP) standard complete with a manhole and cover. | 1 | Item | | |
| | | | | | |
| 7.18 | 63A DP MCB to be mounted in the source Main LV Switchboard as ABB or approved equivalent. | 1 | No. | | |
| | | | | | |
| 7.19 | Supply and Install adaptable box 400mmx400mm made in 16 SWG steel sheets finished in cream powder coating to Engineer's approval. | 2 | No. | | |
| | | | | | |
| 7.20 | 16mm2 2Core PVC/SWA/PVC Copper cables complete with appropriate cable glands, lugs and any other necessary accessory. | 30 | Lm. | | |
| | | | | | |
| 7.21 | Excavate trench for ducts and armoured cable at an average depth of 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level to Engineer's Approval. | 30 | Lm. | | |
| | | | | | |
| 7.22 | 50mm dia. HG PVC ducts encased in concrete surround and buried at least 700mm below the finished ground level for electrical power supply cables. | 30 | Lm. | | |
| | | | | | |
| 7.23 | Construct 450mm x 450mm x 700mm deep standard manhole complete with internal plastering and an air tight heavy duty steel cover clearly marked “POWER” to approval. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 7: Gate House* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## SCHEDULE NO. 8: AREA LIGHTING

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, install, test and commission the following ;-** | | | | |
| | | | | | |
| | **AREA LIGHTING** | | | | |
| | | | | | |
| 8.01 | 7.0 Meters outdoor/street lighting galvanized steel round column for side entry single arm painted with rust proof aluminum paint in concrete 1:2:4 ratio foundation, glanding plates and with a lockable anti-vandalism door. | 38 | No | | |
| 8.02 | 4-pole Lucy connector mounted on street lighting columns. | 38 | No | | |
| | | | | | |
| 8.03 | Side entry road lighting lantern for 100W, sealed to IP65 outdoor LED FloodLight complete with mounting brackets to the poles above as Nikkon, Philips or approved equivalent. | 32 | No | | |
| | | | | | |
| 8.04 | 120w, Integrated All in One LED solar street light made of die-cast aluminium, IP66 rated, with high quality LED chip, high efficiency of at least 150lm/W and CCT of 3000K complete with mounting brackets to the pole (specified elsewhere) as Nikkon, Philips or an approved equivalent. | 6 | No | | |
| | | | | | |
| 8.05 | Wiring from lighting fitting to the cut-out fuses with 1.5mm2 twin PVC with ECC for street/outdoor lighting column between lucy connector and lantern. | 220 | Lm. | | |
| 8.06 | 5A, MCB and all other necessary accessories. | 38 | No. | | |
| | | | | | |
| 8.07 | 2 core, 6mm2 for street lighting PVC/SWA/PVC copper cables complete with appropriate cable lugs, cable glands and any other necessary accessory (Switchboard to Control Pillar). | 170 | Lm. | | |
| 8.08 | Allow for Earthing at every third pole interval and the control pillars. The contractor to ensure that the earth resistance does not exceed 10 Ohms. | 11 | No. | | |
| | | | | | |
| 8.09 | 2 core, 4mm$^2$ for street lighting PVC/SWA/PVC copper cables complete with appropriate cable glands and any other necessary accessory (from Control Pillar to Garden/Street Lights). | 600 | Lm. | | |
| 8.10 | Trenching at an average depth of 700mm, Cable Laying, Tiling with "HATARI" tiles and Backfilling of the trenches with soil and compact to natural ground level for the above cable to Engineer's Approval. | 700 | Lm. | | |
| 8.11 | HG PVC conduit of size 50mm diameter from Control Pillar to streetlighting poles power reticulation and data services. | 700 | Lm. | | |
| | | | | | |
| 8.12 | 30A SP 300mA residual circuit breaker with overload and short circuit protection (RCBO) to be mounted inside the control pillar As Hager, Telemecanique or equal and approved | 2 | No. | | |
| 8.13 | An astronomical street light Time Switch of DIN Rail installation type, shortest switching time <1min, power consumption <4VA, IP20 rated or better, astronomical programmable time switch as Panasonic or approved equivalent | 2 | No. | | |
| 8.14 | 30A, 240V 1-pole contactor as manufactured by Telemecanique or approved equivalent, to be installed inside the control pillar. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**4: AREA LIGHTING CONTINUED…….**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| 8.15 | 200mm x 450mm x 600mm, Weather Proof, Lockable (with hinged door) Control Pillar made in 14 SWG galvanized steel sheet as per Engineer's drawing spray painted with rust proof paint and made with a provision for mounting the following: a 1 -pole contactor, 1No. 63A SPN switch fuse, RCBO and a 6-way Consumer Unit. The Control Pillar to be secured at 450mm above ground in concrete 1:2:4 ratio extending to 450mm below ground. | 2 | No | | |
| | | | | | |
| 8.16 | Allow for inter-wiring within the Control Pillar | 2 | Item | | |
| | | | | | |
| 8.17 | Earthing to Kenya Power (KP) standard at the board complete with manhole and cover. | 1 | Item | | |
| | | | | | |
| 8.18 | 6 ways, SPN, flush mounted consumer unit complete with 100A integral isolator as C&S, SCHNEIDER ELECTRIC, HAGER or approved equivalent complete with all accessories but excluding MCBs. | 2 | No. | | |
| | | | | | |
| 8.19 | MCBs for item above | | | | |
| | **(i)** 10A SP | 4 | No. | | |
| | **(ii)** SP Spareway | 8 | No. | | |
| | | | | | |
| 8.20 | Carry out concise permanent traffolyte labeling for all the sub-circuits in item above. | 2 | Item | | |
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| | **Total for *Schedule No. 8: Area Lighting* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## SCHEDULE NO. 9: MAIN SWITCHBOARD & POWER DISTRIBUTION & RETICULATION

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply, Install, test and commission the following :** | | | | |
| | | | | | |
| | **MAIN DISTRIBUTION SWITCHBOARD** | | | | |
| 9.01 | Supply, install, test and commission a Free-standing, dustproof & weatherproof (i.e. IP66 rated), purpose made front access, lockable, perspex viewing window for each section, Sealable studs for all cover plate screws and all necessary accessories, cubicle type, ***Main LV Switchboard manufactured in 12SWG galvanised mild steel sheet and finished in cream*** (or approved colour) powder coating as described below, shown on the schematic and other details as per Particular Specification.<br>This LV Sub-switcboard shall to be ***3-phase, 415V with 1000A TP+N+E Bus-bars and bus-bar connections consisting of high conductivity copper to BS 158 and BS 159, in Bus-Bars Chamber*** .<br>To be manufactured by either Schneider Electric Kenya or Specialised Power Systems or an approved manufacturer. It shall also fabricated complete with the following details:- | 1 | Item | | |
| | **a) Incoming** | | | | |
| | i) 1No. 800A TPN MCCB with Shunt Trip as Merlin Gerin or approved equivalent. | | | | |
| | ii) 1No. Voltmeter 0-600V plus selector switch. | | | | |
| | iii) 1No. Ammeter plus selector switch with C.T.s (600/5) | | | | |
| | iv) 3No. Phase indicating lights | | | | |
| | v) 1No. Power factor meter | | | | |
| | vi) All power system parameters (KW, KVA, KWHr, KVArs, Frequency, P.F., harmonics etc.). The multimeter should be complete with selector switches for viewing/displaying the various parameters. | | | | |
| | | | | | |
| | **b) Outgoing** | | | | |
| | i) 1No. 200A TPN MCCB feeder to the Sub-Switchboard No. 1 at Value Addition Warehouses as ABB or approved equivalent. | | | | |
| | ii) 1No. 630A TPN MCCB feeder to the Sub-Switchboard No. 2 at Aggregation & Cold Storage Warehouses as ABB or approved equivalent. | | | | |
| | ii) 1No. 50A TPN MCCB feeder to the Cable Loop-ing Box at Office Block as ABB or approved equivalent. | | | | |
| | ii) 2No. 32A DP MCB feeder to the 2No. Cable Loop-ing Boxes at Ablution Block & Gate House as ABB or approved equivalent. | | | | |
| | iii) 1No. 32A TPN MCCB feeder to the CLB at the Pump House as ABB or approved equivalent. | | | | |
| | iv) 2No. 32A DP MCB feeder to Street Lighting control pillar & Power House's Consumer Unit as ABB or approved equivalent. | | | | |
| | v) A suitably rated 415V three-phase surge diverter as Furse ESP 415, fully wired, complete with enclosure with viewing window. | | | | |
| | vi) Space for 3No. TPN MCCBs | | | | |
| | vii) Space for 4No. SPN MCCBs | | | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

**SCHEDULE NO. 9: MAIN SWITCHBOARD & POWER DISTRIBUTION & RETICULATION CONTINUED…..**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **c)** Carry out comprehensive labeling of all the bus bars. CT chambers, circuit breakers etc. above, indicating the areas served, outgoing cable sizes etc. | | | | |
| | | | | | |
| | **d)** Carry out concise load balancing to achieve a maximum imbalance not greater than ± 10% between any two phases, measured at the Main LV switchboard | 1 | Lot | | |
| | | | | | |
| | **POWER FACTOR CORRECTION** | | | | |
| 9.02 | 180KVArs digital programmed modular type automatic power factor correction capacitor bank switched in 2 steps of 30 KVArs, 3 steps of 20 KVArs, 4 steps of 10KVArs and 4 steps of 5 KVArs as that manufactured by POWER TECHNICS complete with alarm for low power factor, switching MCBs, contactor controls and interwiring to facilitate dropping out of the capacitor bank in the event of mains power failure to avoid disorientating the generator AVR modules.. The bank to be made from low-loss bio-degradable compactive units, complete with common firmly bonded/earthed metallic enclosure made from 14 gauge cream powder coated galvanised steel sheets. The PFC bank to be an integrated in the Switchboard in item 1F.18 above | 1 | No. | | |
| | | | | | |
| | **COMPREHENSIVE PROTECTIVE MULTIPLE EARTHING** | | | | |
| 9.03 | Earthing of the subboard in accordance with KP&L company requirements, IET regulations,the government Electrical Installations regulations and other statutory requirements comprising but not limited to the following | | | | |
| | a) Establish 600x600x700mm deep earthing chamber, complete with internal plastering, and heavy duty EAFW steel cover clearly marked "EARTH". | 1 | No. | | |
| | b) 25mm X 3mm pure copper tape as Furse | 20 | Lm. | | |
| | c) Pure copper earth rod (1500mm x 16mm) | 4 | No. | | |
| | d) Driving head for earth rod | 4 | No. | | |
| | e) Tape to earth rod clamp as Furse | 4 | No. | | |
| | f) 25mm2 single core green PVC insulated copper earth lead | 20 | Lm. | | |
| | | | | | |
| **9.04** | **POWER DISTRIBUTION CABLING** | | | | |
| | **a)** 25mm sq. 4-core PVC/SWA/PVC 90$^{o}$C thermosetting insulated Copper Cable complete with appropriate cable lugs, cable glands complete with plastic sleeves and all necessary accesories. | 70 | Lm. | | |
| | | | | | |
| | | | | | |
| | **Sub-Total C/F to the Next Page** | | | | |

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Sub-Total B/F from Previous Page** | | | | |
| | | | | | |
| | **b)** 4x240mm sq. + 1x120mm sq. 4-core XLPE insulated armoured Copper Cable for connection of the Sub-Switchboard No. 2 inside Aggregation Warehouse to the Main Switchboard complete with appropriate cable lugs, cable glands complete with plastic sleeves and all necessary accesories. | 75 | Lm. | | |
| | | | | | |
| | **c)** 95mm sq. 4-core PVC/SWA/PVC 90$^{o}$C thermosetting insulated Copper Cable for connection of the Sub-Switchboard No. 1 inside Value Addition Warehouse to the Main Switchboard complete with appropriate cable lugs, cable glands complete with plastic sleeves and all necessary accesories. | 110 | Lm. | | |
| | | | | | |
| **9.05** | **EXTERNAL POWER RETICULATION** | | | | |
| | | | | | |
| | **a)** 100mm dia. HG PVC duct encased in concrete surround buried 600mm underground for power supply cable way along road and parking crossings. | 100 | Lm. | | |
| | **b)** Establish 600 x 550 x 700mm deep standard power manholes, complete with internal plastering, and heavy duty EAFW steel cover. | 4 | No. | | |
| | **c)** Establish 450 x 450 x 700mm deep standard data/telephone manholes, complete with internal plastering, and heavy duty EAFW steel cover. | 5 | No. | | |
| | **d)** 70mm diameter HG PVC ducts encased in concrete surround buried in ground for streetlighting cables. | 100 | Lm. | | |
| | **e)** Excavate trenches for ducts and armoured cables above, average depth 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level. | 100 | Lm. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 9: Main Switchboard, Power Distribution & Reticulation* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

## SCHEDULE NO. 10: PROJECT MANAGER'S STATIONERY

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| | **Supply and deliver to the Project Manager the following stationery to be used in running the project:** | | | | |
| | | | | | |
| 10.01 | Photocopying paper white A4 80g/$M^2$ (Reams) | 5 | No. | | |
| 10.02 | Letterhead quality paper as CONQUERER or equal and approved cream 80g/m3 | 1 | Ream | | |
| 10.03 | A4 size translucent PVC covers as KATKO or approved equivalent, 100 sheets blue in colour and 0.2mm thick | 2 | Pkts. | | |
| 10.04 | A4 size Embossed covers as KATKO or approved equivalent, 100 sheets blue in colour | 2 | Pkts. | | |
| 10.05 | 22mm diameter spiral binders black in colour | 2 | Pkts. | | |
| 10.06 | HP Laser Jet Cartridges | | | | |
| | i) CE505A | 2 | No. | | |
| | ii) CF226A | 2 | No. | | |
| | | | | | |
| 10.07 | Kyocera Task Alfa Toner/Cartridge TK-8735K (complete set of Black-Cyan-Magenta - Yellow) | 1 | No. | | |
| | | | | | |
| 10.08 | 4TB Portable Harddisk as Hp/Transcend/Toshiba. | 2 | No. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 10: Project Manager's Stationery* C/F to *Price Summary Page for Electrical Installation Works*** | | | | |

**SCHEDULE NO. 11: KENYA POWER CONNECTION WORKS**

| Item | Description | Qty | Unit | Rate (Kshs) | Amount (Kshs) |
|---|---|---|---|---|---|
| | | | | | |
| 11.01 | Charges for supply & installation of a suitably rated Three Phase Transformer, Construction of Powerlines and Service line connectivity by Kenya Power | 1 | Item | **4,500,000.00** | **4,500,000.00** |
| | | | | | |
| 11.02 | Attendance and liason with Kenya Power | | % | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | **Total for *Schedule No. 11: Kenya Power Connection Works* C/F to *Price Summary Page for Electrical Installation Works*** | | | | **4,500,000.00** |

# PRICE SUMMARY PAGE

## *ELECTRICAL INSTALLATION WORKS*

| ITEM | DESCRIPTION | AMOUNT (KSHS) |
|---|---|---|
| | | |
| 1.00 | TOTAL FOR BILL NO. 1: SUB-CONTRACT PRELIMINARIES | |
| 2.00 | TOTAL FOR SCHEDULE NO. 1: VALUE ADDITION (V.A.) WAREHOUSES (4NO. TYPICAL 1,000M2 WAREHOUSES) | |
| 3.00 | TOTAL FOR SCHEDULE NO. 2: AGGREGATION & COLD STORAGE (A.C.S.) WAREHOUSES (4NO. TYPICAL 1,000M2 WAREHOUSES) | |
| 4.00 | TOTAL FOR SCHEDULE NO. 3: OFFICE BLOCK | |
| 5.00 | TOTAL FOR SCHEDULE NO. 4: ABLUTION BLOCK | |
| 6.00 | TOTAL FOR SCHEDULE NO. 5: POWER HOUSE | |
| 7.00 | TOTAL FOR SCHEDULE NO. 6: PUMP HOUSE | |
| 8.00 | TOTAL FOR SCHEDULE NO. 7: GATE HOUSE | |
| 9.00 | TOTAL FOR SCHEDULE NO. 8: AREA LIGHTING | |
| 10.00 | TOTAL FOR SCHEDULE NO. 9: MAIN SWITCHBOARD, POWER DISTRIBUTION & RETICULATION | |
| 11.00 | TOTAL FOR SCHEDULE NO. 10: PROJECT MANAGER'S STATIONERY | |
| 12.00 | TOTAL FOR SCHEDULE NO. 11: KENYA POWER CONNECTION WORKS | |
| | | |
| | | |
| | **TOTAL FOR ELECTRICAL INSTALLATION WORKS CARRIED TO GRAND PRICE SUMMARY PAGE OF VOL. 1 OF 3 FOR MAIN WORKS** | |

**Total Amount in Words (Kenya Shillings)** .....

……..……..……

**Bidder's Name (Domestic) & Official Stamp** .....

**P.O. Box**.....

**Signature**.....**Date**.....

**PIN NO**.....**V.A.T Certificate NO**.....

**Witness**.....**Address**.....

**Signature of Witness**.....**Date**.....

# SECTION G

# TECHNICAL SCHEDULE

# OF

# ITEMS TO BE SUPPLIED

## TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.

2. The filling of this schedule forms part of Technical Evaluation of the tenders, and bidders shall therefore be required to indicate the type/make and country of origin of all the materials and equipment they intend to offer to the employer in this schedule.

3. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered responsive.

**TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED**
**(To be completed by the Tenderer)**

| Item | Description | Type/Make | Model | Country of Origin |
|---|---|---|---|---|
| 1. | 600mmx600mm LED Panel Lighting Fittings | | | |
| 2. | High bay Lighting Fixtures | | | |
| 3. | LED Circular & Fluorescent Lighting Fittings | | | |
| 4. | Lighting Switches | | | |
| 5. | Sockets | | | |
| 6. | DP Switches | | | |
| 7. | Copper Cables | | | |
| 8. | Addressable Smoke Detectors | | | |
| 9. | Addressable Heat Detectors | | | |
| 10. | Fire Alarm Control Panel | | | |
| 11. | Distribution Boards, Consumer Units & LV Switchboards | | | |
| 12. | 100w, Integrated All in One LED solar street light | | | |
| 13. | 100w, LED Street lighting Fixture | | | |

# SECTION H

# STANDARD FORMS

## CONTENTS OF SECTION H


| | TITLE | PAGE |
|---|---|---|
| 1. | Key Personnel | H/1 |
| 2. | Schedule of Contracts completed in the last five (5) years | H/2 |
| 3. | Schedule of on-going projects | H/3 |
| 4. | Contractor's Equipment | H/4 |
| 5. | Details of Litigation or Arbitration Proceedings | H/5 |


***NOTE:***

1.0 Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part the evaluation criteria.

## KEY PERSONNEL

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

| S/NO. | NAME | HIGHEST QUALIFICATION *(Attach proof)* | YEARS OF EXPERIENCE (GENERAL) | YEARS OF EXPERIENCE IN PROPOSED POSITION |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |

I certify that the above information is correct.

…….. …… ……

Title Signature Date

## CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature, complexity and volume over the last 5 years.

| PROJECT NAME | NAME OF CLIENT | TYPE OF WORK AND YEAR OF COMPLETION | VALUE OF CONTRACT (KSHS.) |
|---|---|---|---|
| | | | |

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

..... ..... .....

Title Signature Date

## SCHEDULE OF ON-GOING PROJECTS

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

| PROJECT NAME | NAME OF CLIENT | CONTRACT SUM | % COMPLETION | COMPLETION DATE |
|---|---|---|---|---|
| | | | | |

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

| ..... | ..... | ..... |
|---|---|---|
| Title | Signature | Date |

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

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

**DETAILS OF LITIGATION OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER HAS BEEN INVOLVED AS ONE OF THE PARTIES IN THE LAST 5 YEARS**

1. .....

2. .....

3. .....

4. .....

5. .....

6. .....

7. .....

8. .....

9. .....

10. .....