



# REPUBLIC OF KENYA

## STATE DEPARTMENT OF PUBLIC WORKS

### PROPOSED ERECTION AND COMPLETION OF LAND REGISTRY BUSIA TOWN-BUSIA COUNTY.

W.P ITEM NO. D11 WE/BSA/ 1501 JOB NO. 10054A

*TENDER SPECIFICATIONS AND BILLS OF QUANTITIES  
FOR SUPPLY AND INSTALLATION OF I.P P.B.X, TELEPHONE  
INSTRUMENTS AND STRUCTURED CABLING WORKS*

**PROJECT MANAGER**  
WORKS SECRETARY  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 30743 – 00100  
NAIROBI

**CLIENT**  
PRINCIPAL SECRETARY  
STATE DEPARTMENT OF LAND  
P.O.BOX 30450-00100  
NAIROBI

**ARCHITECT**  
CHIEF ARCHITECT  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 30743 - 00100  
NAIROBI

**QUANTITY SURVEYOR**  
CHIEF QUANTITY SURVEYOR  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 30743 - 00100  
NAIROBI

**ELECTRICAL ENGINEER**  
CHIEF ENGINEER (ELECTRICAL)  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 41191- 00100  
NAIROBI

**MECHANICAL ENGINEER**  
CHIEF ENGINEER (MECHANICAL (BS))  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 41191- 00100,  
NAIROBI

**STRUCTURAL ENGINEER**  
CHIEF ENGINEER (STRUCTURAL)  
STATE DEPARTMENT OF PUBLIC WORKS  
P.O BOX 30743 – 00100  
NAIROBI

**MARCH, 2016**

## TABLE OF CONTENTS

<u>TITLE</u>	<u>PAGE</u>
Contents.....	i)
Definitions.....	ii)
Form of Tender.....	(iii)
Form of Tender Security.....	(iv) – (v)
SECTION A: Instructions to Tenderers.....	A/1-A/23
SECTION B: Conditions of Contract and Sub-contract Agreement	
- <b>PART I:</b> Conditions of Contract (Main works).....	B/1-B/20
- <b>PART II:</b> Sub-Contract Agreement (KABCEC).....	1-21
SECTION C: Sub-Contract Preliminaries and Conditions.....	C/1-C/21
SECTION D: General Specifications of Materials and Works.....	D/1-D/19
SECTION E: Schedule of Contract Drawings.....	E/1
SECTION F: Particular Specifications of Materials and Works.....	F/1
SECTION G: Schedule of Unit Rates.....	G/1-G/2
SECTION H: Bills of Quantities.....	H/1-H/7
SECTION I: Technical Schedule of Items to be supplied.....	I/1-I/2
SECTION J: Standard Forms.....	J/1-J/20

## DEFINITIONS

The following terms and expressions used in the contract document shall have the following meanings:

<b>The Employer</b>	Government of the Republic of Kenya Represented by: The Principal Secretary, State Department of Land, P.O. Box 30450- 00100, <u>NAIROBI.</u>
<b>Architect</b>	Chief Architect, State Department of Public Works, P.O. Box 30743 – 00100, <u>NAIROBI.</u>
<b>Engineer</b>	Chief Engineer (Electrical), State Department of Public Works, P.O. Box 41191 – 00100, <u>NAIROBI.</u>
<b>Quantity Surveyor</b>	Chief Quantity Surveyor. State Department of Public Works, P.O. Box 30743 – 00100, <u>NAIROBI.</u>
<b>Structural Engineer</b>	Chief Engineer (Structural), State Department of Public Works, P.O. Box 30743 – 00100. <u>NAIROBI.</u>
<b>Employer’s representative</b>	This shall mean the Project Manager and shall be The Works Secretary, State Department of Public Works, P.O. Box 30743 – 00100, <u>NAIROBI.</u>
<b>Main contractor</b>	The firm appointed to carry out <b>Builders Works</b>
<b>Sub-contractor</b>	The firm appointed to carry out <b>Supply and Installation of I.P P.B.X, Telephone Instruments and Structured Cabling Works</b>
<b>Site</b>	The site for the proposed works is at <b>Busia Town-Busia County.</b>

**FORM OF TENDER**

**To:** The Principal Secretary,  
State Department of Land,  
P.O. Box 30450 – 00100,  
NAIROBI.

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF I.P P.B.X, TELEPHONE  
INSTRUMENTS AND STRUCTURED CABLING WORKS AT LAND REGISTRY- BUSIA TOWN-BUSIA  
COUNTY.**

**W.P ITEM NO. D11 WE/BSA/ 1501 JOB NO. 10054A**

---

---

1. In accordance with the Instructions to Tenderers, Conditions of Contract, Specifications and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of:

Kshs..... *[Amount in figures]*

Kenya Shillings..... *[Amount in words]*

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer’s Representative’s notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.
3. We agree to abide by this tender **for a period of 120 days from the date of tender opening**, and shall remain binding upon us and may be accepted at any time before the expiry of that period.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this ..... day of .....20.....

Signature .....in the capacity of .....

duly authorized to sign tenders for and on behalf of:

.....*[Name of Tenderer]*

of.....*[Address of Tenderer]*

PIN No. ....

VAT CERTIFICATE No. ....

**Witness:** Name .....

Address .....

Signature .....

**FORM OF TENDER SECURITY (BANK SECURITY)**

**To:** The Principal Secretary,  
State Department of Land,  
P.O. Box 30450 – 00100,  
NAIROBI.

WHEREAS.....(hereinafter called “the Tenderer”) has submitted his tender dated.....for the construction of .....  
.....(name of Contract)

KNOW ALL PEOPLE by these presents that WE.....having our registered office at .....(hereinafter called “the Bank”), are bound unto .....(hereinafter called “the Employer” in the sum of Kshs.....for which payment well and truly to be made to the said Employer, the Bank bind itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank this .....Day of .....20.....

THE CONDITIONS of this obligation are:

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

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force for **one hundred and fifty (150) days** from the date of tender opening, and any demand in respect thereof should reach the Bank not later than the said date.

\_\_\_\_\_  
[date]

\_\_\_\_\_  
[signature of the Bank]

\_\_\_\_\_  
[witness]

\_\_\_\_\_  
[seal]

**FORM OF TENDER SECURITY (INSURANCE SECURITY)**

**To:** The Principal Secretary,  
State Department of Land,  
P.O. Box 30450 – 00100,  
NAIROBI.

WHEREAS.....(hereinafter called “the Tenderer”) has submitted his tender dated.....for the construction of .....  
.....(name of Contract)

KNOW ALL PEOPLE by these presents that WE..... of .....(Name of Insurance Company)...having our registered office at.....(hereinafter called “ the Guarantor”), are bound unto .....(hereinafter called “the Procuring Entity” in the sum of Kshs.....for which payment well and truly to be made to the said Procuring Entity , the Guarantor bind itself, its successors and assigns by these presents sealed with the Common Seal of the said Guarantor this .....Day of .....20.....

THE CONDITIONS of this obligation are:

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

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force for a period of **one hundred and fifty (150) days** from the date of tender opening, and any demand in respect thereof should reach the Bank not later than the said date.

\_\_\_\_\_  
[date]

\_\_\_\_\_  
[signature of the Guarantor]

\_\_\_\_\_  
[witness]

\_\_\_\_\_  
[seal]

**SECTION A**

**INSTRUCTIONS TO TENDERERS**

# INSTRUCTIONS TO TENDERERS

## CONTENTS

<u>CLAUSE NUMBERS</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
<u>GENERAL</u>		
1.	Definitions .....	A-1
2.	Eligibility and Qualification Requirements .....	A-1-A-2
3.	Cost of Tendering .....	A-3
4.	Site Visit .....	A-3
<u>TENDER DOCUMENTS</u>		
5.	Tender Documents .....	A-3-A-4
6.	Clarification of Tender Documents .....	A-4
7.	Amendments of Tender Documents .....	A-4-A-5
<u>PREPARATION OF TENDER</u>		
8.	Language of Tender .....	A-5
9.	Documents Comprising the Tender .....	A-5
10.	Tender Prices .....	A-5-A-6
11.	Currencies of Tender and Payment .....	A-7
12.	Tender Validity .....	A-7
13.	Tender Surety .....	A-7-A-8
14.	No Alternative Offers .....	A-8
15.	Pre-Tender Meeting.....	A-9
16.	Format and Signing of Tenders .....	A-9
<u>SUBMISSION OF TENDERS</u>		
17.	Sealing and Marking of Tenders .....	A-9-A-10
18.	Deadline and Submission of Tenders .....	A-10
19.	Modification and Withdrawal of Tenders .....	A-10-A-11
<u>TENDER OPENING AND EVALUATION</u>		
20.	Tender Opening .....	A-11
21.	Process to be Confidential .....	A-12
22.	Clarification of Tenders .....	A-12
.		



**CLAUSE NUMBERS**

**PAGE**

23.	Determination of Responsiveness .....	A-12-A-13
24.	Correction of Errors .....	A-13
25.	Conversion to Single Currency .....	A-13
26.	Evaluation and Comparison of Tenders .....	A-13-A-14

**AWARD OF CONTRACT**

27.	Award .....	A-14
28.	Notification of Award .....	A-15
29.	Performance Guarantee .....	A-15
30.	Advance Payment .....	A-16

	Appendix to Instructions to Tenderers .....	A-17
--	---	------

## INSTRUCTION TO TENDERERS

Note: The tenderer must comply with the following conditions and instructions and failure to do so is liable to result in rejection of the tender.

### GENERAL

#### 1. Definitions

- (a) **“Tenderer”** means any person or persons partnership firm or company submitting a sum or sums in the Bills of Quantities in accordance with the Instructions to Tenderers, Conditions of Contract Parts I and II, Specifications, Drawings and Bills of Quantities for the work contemplated, acting directly or through a legally appointed representative.
- (b) **“Approved tenderer”** means the tenderer who is approved by the Employer.
- (c) Any noun or adjective derived from the word **“tender”** shall be read and construed to mean the corresponding form of the noun or adjective **“bid”**. Any conjugation of the verb “tender” shall be read and construed to mean the corresponding form of the verb “bid.”
- (d) **“Employer”** means a Central Government Ministry, Local Authority, State Corporation or any other Public Institution.

#### 2. Eligibility and Qualification Requirements

- 2.1 This invitation to tender is open to all tenderers who have been prequalified.
- 2.2 To be eligible for award of Contract, the tenderer shall provide evidence satisfactory to the Employer of their eligibility under Sub clause 2.1 above and of their capability and adequacy of resources to effectively carry out the subject Contract. To this end, the tenderer shall be required to update the following information already submitted during prequalification:-
  - (a) Details of experience and past performance of the tenderer on the works of a similar nature within the past five years and details of current work on hand and other contractual commitments.
  - (b) The qualifications and experience of key personnel proposed for administration and execution of the contract, both on and off site.
  - (c) Major items of construction plant and equipment proposed for use in carrying out the Contract. Only reliable plant in good working order and suitable for the work required of it shall be shown on this schedule. The tenderer will also indicate on this schedule when each item will be available on the Works. Included also should be a schedule of plant, equipment and material to be imported for the purpose of the Contract, giving details of make, type, origin and CIF value as appropriate.

- (d) Details of subcontractors to whom it is proposed to sublet any portion of the Contract and for whom authority will be requested for such subletting in accordance with clause 4 of the Conditions of Contract.
- (e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer.
- (f) Details of any current litigation or arbitration proceedings in which the Tenderer is involved as one of the parties.

### 2.3 Joint Ventures

Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:-

- (a) The tender, and in case of a successful tender, the Form of Agreement, shall be signed so as to be legally binding on all partners.
- (b) One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- (c) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the Contract including payment shall be done exclusively with the partner in charge.
- (d) All partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Tender and the Form of Agreement (in case of a successful tender).
- (e) A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

### 3. Cost of Tendering

The tenderer shall bear all costs associated with the preparation and submission of his tender and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

### 4. Site Visit

- 4.1 The tenderer is advised to visit and examine the Site and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a contract. The costs of visiting the Site shall be the tenderer's own responsibility.

4.2 The tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, his personnel or agents, will release and indemnify the Employer from and against all liability in respect of, and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which but for the exercise of such permission, would not have arisen.

4.3 The Employer shall organize a site visit at a date to be notified. A representative of the Employer will be available to meet the intending tenderers at the Site.

Tenderers must provide their own transport. The representative will not be available at any other time for site inspection visits.

Each tenderer shall complete the Certificate of Tenderer's Visit to the Site, whether he in fact visits the Site at the time of the organized site visit or by himself at some other time.

### TENDER DOCUMENTS

#### 5. Tender Documents

5.1 The Tender documents comprise the documents listed herebelow and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.

- a. Form of Invitation for Tenders
- b. Instructions to Tenderers
- c. Form of Tender
- d. Appendix to Form of Tender
- e. Form of Tender Surety
- f. Statement of Foreign Currency Requirements
- g. Form of Performance Security
- h. Form of Agreement
- i. Form of Advance payment Bank Guarantee
- j. Schedules of Supplementary Information
- k. General Conditions of Contract – Part I
- l. Conditions of Particular Application – Part II
- m. Specifications
- n. Bills of Quantities
- o. Drawings

5.2 The tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements for tender submission will be at the tenderer's own risk. Pursuant to clause 22 of Instructions to Tenderers, tenders which are not substantially responsive to the requirements of the tender documents will be rejected.

5.3 All recipients of the documents for the proposed Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "private and confidential".

6. Clarification of Tender Documents

6.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's mailing address indicated in the Invitation to Tender. The Employer will respond in writing to any request for clarification which he receives earlier than 5 days prior to the expiry of 28 days deadline for the submission of tenders. Written copies of the Employer's response (including the query but without identifying the source of the inquiry) will be sent to all prospective tenderers who have purchased the tender documents.

7. Amendment of Tender Documents

7.1 At any time prior to the deadline for submission of tenders the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective tenderer, modify the tender documents by issuing Addenda.

7.2 Any Addendum will be notified in writing or by cable, telex or facsimile to all prospective tenderers who have purchased the tender documents and will be binding upon them.

7.3 If during the period of tendering, any circular letters (tender notices) shall be issued to tenderers by, or on behalf of, the Employer setting forth the interpretation to be placed on a part of the tender documents or to make any change in them, such circular letters will form part of the tender documents and it will be assumed that the tenderer has taken account of them in preparing his tender. The tenderer must promptly acknowledge any circular letters he may receive.

7.4 In order to allow prospective tenderers reasonable time in which to take the Addendum into account in preparing their tenders, the Employer may, at his discretion, extend the deadline for the submission of tenders.

PREPARATION OF TENDERS

8. Language of Tender

8.1 The tender and all correspondence and documents relating to the tender exchanged between the tenderer and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the tenderer with the tender may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the tender, the English language shall prevail.

9. Documents Comprising the Tender

9.1 The tender to be prepared by the tenderer shall comprise: the Form of Tender and Appendix thereto, a Tender Surety, the Priced Bills of Quantities and Schedules, the information on eligibility and qualification, and any other materials required to be completed and submitted in accordance with the Instructions to Tenderers embodied in these tender documents.

The Forms, Bills of Quantities and Schedules provided in the tender documents shall be used without exception (subject to extensions of the schedules in the same format and to the provisions of clause 13.2 regarding the alternative forms of Tender Surety].

## 10. Tender Prices

10.1 All the insertions made by the tenderer shall be made in INK and the tenderer shall clearly form the figures. The relevant space in the Form of Tender and Bills of Quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the tenderer in which case the erasures and interlineations shall be initialed by the person or persons signing the tender.

10.2 A price or rate shall be inserted by the tenderer for every item in the Bills of Quantities whether the quantities are stated or not items against which no rate or price is entered by the tenderer will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities.

The prices and unit rates in the Bills of Quantities are to be the full [all-inclusive] value of the work described under the items, including all costs and expenses which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. All duties and taxes and other levies payable by the Contractor under the Contract or for any other cause as of the date 28 days prior to the deadline for the submission of tenders, shall be included in the rates and prices and the total tender prices submitted by the Tenderer.

Each price or unit rate inserted in the Bills of Quantities should be a realistic estimate for completing the activity or activities described under that particular item and the tenderer is advised against inserting a price or rate against any item contrary to this instruction.

Every rate entered in the Bills of Quantities, whether or not such rate be associated with a quantity, shall form part of the Contract. The Employer shall have the right to call for any item of work contained in the Bills of Quantities, and such items of work to be paid for at the rate entered by the tenderer and it is the intention of the Employer to take full advantage of unbalanced low rates.

10.3 Unless otherwise specified the tenderer must enter the amounts representing 10% of the sub-total of the summary of the Bills of Quantities for Contingencies and Variation of Prices [V.O.P.] payments in the summary sheet and add them to the sub-total to arrive at the tender amount.

10.4 The tenderer shall furnish with his tender written confirmation from his suppliers or manufacturers of unit rates for the supply of items listed in the Conditions of Contract clause 47 where appropriate.

10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Contract only in accordance with the provisions of the Conditions of Contract. The tenderer shall complete the schedule of basic rates and shall submit with his tender such other supporting information as required under clause 47 of the Conditions of Contract Part II.

11. Currencies of Tender and Payment

- 11.1 Tenders shall be priced in Kenya Shillings and the tender sum shall be in Kenya Shillings.
- 11.2 Tenderers are required to indicate in the Statement of Foreign Currency Requirements, which forms part of the tender, the foreign currency required by them. Such currency should generally be the currency of the country of the tenderer's main office. However, if a substantial portion of the tenderer's expenditure under the Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the contract price in the currency of those other countries. However, the foreign currency element is to be limited to two (2) different currencies and a maximum of 30% (thirty percent) of the Contract Price.
- 11.3 The rate of rates of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date thirty (30) days before the final date for the submission of tenders.
- 11.4 Tenderers must enclose with their tenders, a brief justification of the foreign currency requirements stated in their tenders.

12. Tender Validity

- 12.1 The tender shall remain valid and open for acceptance for a period of one hundred and twenty (120) days from the specified date of tender opening or from the extended date of tender opening (in accordance with clause 7.4 here above) whichever is the later.
- 12.2 In exceptional circumstances prior to expiry of the original tender validity period, the Employer may request the tenderer for a specified extension of the period of validity. The request and the responses thereto shall be made in writing or by cable, telex or facsimile. A tenderer may refuse the request without forfeiting his Tender Surety. A tenderer agreeing to the request will not be required nor permitted to modify his tender, but will be required to extend the validity of his Tender Surety correspondingly.

13. Tender Surety

- 13.1 The tenderer shall furnish as part of his tender, a Tender Surety in the amount stated in the Appendix to Instructions to Tenderers.
- 13.2 The unconditional Tender Surety shall be in Kenya Shillings and be in form of a certified cheque, a bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank approved by the Employer located in the Republic of Kenya. The format of the Surety shall be in accordance with the sample form of Tender Surety included in these tender documents; other formats may be permitted subject to the prior approval of the Employer. The Tender Surety shall be valid for twenty eight (28) days beyond the tender validity period.

- 13.3 Any tender not accompanied by an acceptable Tender Surety will be rejected by the Employer as non-responsive.
- 13.4 The Tender Sureties of unsuccessful tenderers will be returned as promptly as possible but not later than twenty eight (28) days after concluding the Contract execution and after a Performance Security has been furnished by the successful tenderer. The Tender Surety of the successful tenderer will be returned upon the tenderer executing the Contract and furnishing the required Performance Security.
- 13.5 The Tender Surety may be forfeited:
- (a) if a tenderer withdraws his tender during the period of tender validity: or
  - (b) in the case of a successful tenderer, if he fails
    - (i) to sign the Agreement, or
    - (ii) to furnish the necessary Performance Security
  - (c) if a tenderer does not accept the correction of his tender price pursuant to clause 23.

14. No Alternative Offers

- 14.1 The tenderer shall submit an offer which complies fully with the requirements of the tender documents.

Only one tender may be submitted by each tenderer either by himself or as partner in a joint venture.

- 14.2 The tenderer shall not attach any conditions of his own to his tender. The tender price must be based on the tender documents. The tenderer is not required to present alternative construction options and he shall use without exception, the Bills of Quantities as provided, with the amendments as notified in tender notices, if any, for the calculation of his tender price.

Any tenderer who fails to comply with this clause will be disqualified.

15. Pre-Tender Meeting

- 15.1 The tenderer's designated representative is invited to attend a pre-tender meeting, which if convened, will take place at the venue and time stated in the Invitation to Tender. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

- 15.2 The tenderer is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than seven days before the meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted in accordance with the following:



- (a) Minutes of the meeting, including the text of the questions raised and the responses given together with any responses prepared after the meeting will be transmitted without delay to all purchasers of the tender documents. Any modification of the tender documents listed in — Clause 9 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of a tender notice pursuant to Clause 7 and not through the minutes of the pre-tender meeting.
- (b) Non-attendance at the pre-tender meeting will not be cause for disqualification of a bidder.

16. Format and Signing of Tenders

- 16.1 The tenderer shall prepare his tender as outlined in clause 9 above and mark appropriately one set “ORIGINAL” and the other “COPY”.
- 16.2 The copy of the tender and Bills of Quantities shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer. Proof of authorization shall be furnished in the form of the written power of attorney which shall accompany the tender. All pages of the tender where amendments have been made shall be initialed by the person or persons signing the tender.
- 16.3 The complete tender shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person or persons signing the tender.

SUBMISSION OF TENDERS

17. Sealing and Marking of Tenders

- 17.1 The tenderer shall seal the original and copy of the tender in separated envelopes, duly marking the envelopes as “ORIGINAL” and “COPY”. The envelopes shall then be sealed in an outer envelope.
- 17.2 The inner and outer envelopes shall be addressed to the Employer at the address stated in the Appendix to Instructions to Tenderers and bear the name and identification of the Contract stated in the said Appendix with a warning not to open before the date and time for opening of tenders stated in the said Appendix.
- 17.3 The inner envelopes shall each indicated the name and address of the tenderer to enable the tender to be returned unopened in case it is declared “late”, while the outer envelope shall bear no mark indicating the identity of the tenderer.
- 17.4 If the outer envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the tender. A tender opened prematurely for this cause will be rejected by the Employer and returned to the tenderer.

## 18 Deadline for Submission of Tenders

- 18.1 Tenders must be received by the Employer at the address specified in clause 17.2 and on the date and time specified in the Letter of Invitation, subject to the provisions of clause 7.4, 18.2 and 18.3.

Tenders delivered by hand must be placed in the “tender box” provided in the office of the Employer.

Proof of posting will not be accepted as proof of delivery and any tender delivered after the above stipulated time, from whatever cause arising will not be considered.

- 18.2 The Employer may, at his discretion, extend the deadline for the submission of tenders through the issue of an Addendum in accordance with clause 7, in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.
- 18.3 Any tender received by the Employer after the prescribed deadline for submission of tender will be returned unopened to the tenderer.

## 19 Modification and Withdrawal of Tenders

- 19.1 The tenderer may modify or withdraw his tender after tender submission, provided that written notice of the modification or withdrawal is received by the Employer prior to prescribed deadline for submission of tenders.

The tenderer’s modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions for the submission of tenders, with the inner and outer envelopes additionally marked “MODIFICATION” or “WITHDRAWAL” as appropriate.

- 19.2 No tender may be modified subsequent to the deadline for submission of tenders.
- 19.3 No tender may be withdrawn in the interval between the deadline for submission of tenders and the period of tender validity specified on the tender form. Withdrawal of a tender during this interval will result in the forfeiture of the Tender Surety.
- 19.4 Subsequent to the expiration of the period of tender validity prescribed by the Employer, and the tenderer having not been notified by the Employer of the award of the Contract or the tenderer does not intend to conform with the request of the Employer to extend the prior of tender validity, the tenderer may withdraw his tender without risk of forfeiture of the Tender Surety.

### TENDER OPENING AND EVALUATION

## 20 Tender Opening

- 20.1 The Employer will open the tenders in the presence of the tenderers’ representatives who choose to attend at the time and location indicated in the Letter of Invitation to Tender. The tenderers’ representatives who are present shall sign a register evidencing their attendance.

- 20.2 Tenders for which an acceptable notice of withdrawal has been submitted, pursuant to clause 19, will not be opened. The Employer will examine the tenders to determine whether they are complete, whether the requisite Tender Sureties have been furnished, whether the documents have been properly signed and whether the tenders are generally in order.
- 20.3 At the tender opening, the Employer will announce the tenderer's names, total tender price, tender price modifications and tender withdrawals, if any, the presence of the requisite Tender Surety and such other details as the Employer, at his discretion, may consider appropriate. No tender shall be rejected at the tender opening except for late tenders.
- 20.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.
- 20.5 Tenders not opened and read out a tender opening shall not be considered further for evaluation, irrespective of the circumstances.

## 21 Process to be Confidential

- 21.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Contract is announced.
- 21.2 Any effort by a tenderer to influence the Employer in the process of examination, evaluation and comparison of tenders and decisions concerning award of Contract may result in the rejection of the tenderer's tender.

## 22 Clarification of Tenders

- 22.1 To assist in the examination, evaluation and comparison of tenders, the Employer may ask tenderers individually for clarification of their tenders, including breakdown of unit prices. The request for clarification and the response shall be in writing or by cable, facsimile or telex, but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm the correction of arithmetical errors discovered by the employer during the evaluation of the tenders in accordance with clause 24.
- 22.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

## 23 Determination of Responsiveness

- 23.1 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of the tender documents.

- 23.2 For the purpose of this clause, a substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation and has a valid bank guarantee. A material deviation or reservation is one which affects in any substantial way the scope, quality, completion timing or administration of the Works to be undertaken by the tenderer under the Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.
- 23.3 Each price or unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works described under the particular item including allowance for overheads, profits and the like. Should a tender be seriously unbalanced in relation to the Employer's estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.
- 23.4 A tender determined to be not substantially responsive will be rejected by the Employer and may not subsequently be made responsive by the tenderer by correction of the non-conforming deviation or reservation.

#### 24 Correction of Errors

Tenders determined to be substantially responsive shall be checked by the Employer for any arithmetic errors in the Computations and summations. Errors will be corrected by the Employer as follows:

- (a) Where there is a discrepancy between the amount in figures and the amount in words, the amount in words will govern.
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case adjustment will be made to the entry containing that error.
- (c) The amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 13.

#### 25 Conversion to Single Currency

- 25.1 For compensation of tenders, the tender price shall first be broken down into the respective amounts payable in various currencies by using the selling rate or rates of the Central Bank of Kenya ruling on the date twenty eight (28) days before the final date for the submission of tenders.

- 25.2 The Employer will convert the amounts in various currencies in which the tender is payable (excluding provisional sums but including Dayworks where priced competitively) to Kenya Shillings at the selling rates stated in clause 25.1.

## 26 Evaluation and Comparison of Tenders

- 26.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.
- 26.2 In evaluating tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:
- (a) Making any correction for errors pursuant to clause 24.
  - (b) Excluding Provisional Sums and provision, if any, for Contingencies in the Bills of Quantities, but including Day works where priced competitively.
- 26.3 The Employer reserves the right to accept any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.
- 26.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the Contract shall not be taken into account in tender evaluation.
- 26.5 If the lowest evaluated tender is seriously unbalanced or front loaded in relation to the Employer's estimate of the items of work to be performed under the Contract, the Employer may require the tenderer to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the relationship between those prices, proposed construction methods and schedules. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in clause 29 be increased at the expense of the successful tenderer to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful tenderer under the Contract.
- 26.6 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

### AWARD OF CONTRACT

## 27 Award

- 27.1 Subject to clause 27.2, the Employer will award the Contract to the tenderer whose tender is determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price subject to possessing the capability and resources to effectively carry out the Contract Works.

- 27.2 The Employer reserves the right to accept or reject any tender, and to annual the tendering process and reject all tenders, at any time prior to award of Contract, without thereby incurring any liability to the affected tenderers or any obligation to inform the affected tenderers of the grounds for the Employer's action.

## 28 Notification of Award

- 28.1 Prior to the expiration of the period of tender validity prescribed by the Employer, the Employer will notify the successful tenderer by cable, telefax or telex and confirmed in writing by registered letter that his tender has been accepted. This letter (hereinafter and in all Contract documents called "Letter of Acceptance") shall name the sum (hereinafter and in all Contract documents called "the Contract Price") which the Employer will pay to the Contractor in consideration of the execution and completion of the Works as prescribed by the Contract.
- 28.2 Notification of award will constitute the formation of the Contract.
- 28.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.
- 28.4 Within twenty eight [28] days of receipt of the form of Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

## 29 Performance Guarantee

- 29.1 Within twenty eight [28] days of receipt of the notification of award from the Employer, the successful tenderer shall furnish the Employer with a Performance Security in an amount stated in the Appendix to Instructions to Tenderers.
- 29.2 The Performance Security to be provided by the successful tenderer shall be an unconditional Bank Guarantee issued at the tenderer's option by an established and a reputable Bank approved by the Employer and located in the Republic of Kenya and shall be divided into two elements namely, a performance security payable in foreign currencies (based upon the exchange rates determined in accordance with clause 35.4 of the Conditions of Contract) and a performance security payable in Kenya Shillings. The value of the two securities shall be in the same proportions of foreign and local currencies as requested in the form of foreign currency requirements.
- 29.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Contract the Employer may award the Contract to the next ranked tenderer.

### 30 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Contract, if requested by the Contractor, in accordance with clause 33.1 of the Conditions of Contract. The Advance Payment Guarantee shall be denominated in the proportion and currencies named in the form of foreign currency requirements. For each currency, a separate guarantee shall be issued. The guarantee shall be issued by a bank located in the Republic of Kenya, or a foreign bank through a correspondent bank located in the Republic of Kenya, in either case subject to the approval of the Employer.

## **APPENDIX TO INSTRUCTIONS TO TENDERERS**

### **1) OMIT**

Clauses 4.3, 5.1 (a), (d), (f), (h), (i), (j), 10.4, 10.5, 11.2, 11.4,15, 25, 26.6, 30

### **2) ADD TO CLAUSE 13.1**

Amount of tender surety shall be **as per the tender advertisement or letter of invitation** either from a reputable Bank or an Insurance Firm recommended by Public Procurement Oversight Authority (PPOA)

### **3) ADD TO CLAUSE 29.1**

Amount of performance security shall be five per cent (5%)

### **4) ADD TO CLAUSE 29.2**

Performance security shall not be divided in two elements and shall be payable in Kenya Shillings Only.

### **5) ADD CLAUSE 13.2**

Tender surety shall be valid for 30 days beyond the tender validity period.

### **6) ADD TO CLAUSE 24**

- (i) In the event of a discrepancy between the tender amount as stated in the form of Tender and the corrected tender figure in the Main summary of the Bills of Quantities, the amount as stated in the Form of Tender shall prevail
- (ii) The Error correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected sub-contract works (i.e. corrected tender sum less P.C; and Provisional Sums)
- (iii) The Error correction factor shall be applied to all sub-contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

### **7) MODIFY CLAUSE 10.5**

Clause 47 is not part of the Conditions of Contract Part II.

### **8) CLAUSE 28.4 AND 29.1**

Replace “twenty eight (28) days” with ‘Fourteen (14) days’

### **9) MODIFY CLAUSE 16 & 17**

Only one document (THE ORIGINAL) is to be filled, signed, sealed and submitted.

### **10) ADD TO CLAUSE 26.**

The evaluation criteria in **Appendix pages A16 – A24** shall form part of the evaluation.



## TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 4 stages, namely:

1. Determination of Responsiveness
2. Detailed Technical Examination
3. Financial Evaluation.
4. Combination of Technical, Tender Sums Comparison and Financial Score

### STAGE 1- DETERMINATION OF RESPONSIVENESS

#### **A) PRELIMINARY EXAMINATION**

This stage of evaluation shall involve examination of the pre-qualification conditions 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 may include the following:

- i) Category of Registration with National Construction Authority (N.C.A) in the relevant trade;
- ii) Class of Licenses with the relevant statutory bodies e.g. Energy Regulatory Commission, Local Authorities, and Water Management Boards etc;
- iii) Proof of payment for tender document;
- iv) Provision of Bid Security;
- v) Dully filled Form of Tender;
- vi) Statement of Compliance;
- vii) Confidential Business Questionnaire and
- viii) Any other conditions included in the advertisement notice/Invitation letter.

#### **Note:**

The bid security shall be in accordance with clauses 13 and 23.2 of Instruction to Tenderers which states as follows:

- **Clause 13.1** of Instruction to Tenderers, “the tenderers shall furnish as part of his tenders a tender surety in the amount stated in the tender document in the Appendix to Instructions to Tenderers”.
- **Clause 13.2** of Instruction to Tenderers, “the unconditional Tender surety shall be in Kenya shillings and be in form of a certified cheque, bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank/ Insurance approved by P.P.O.A located in the Republic of Kenya. The format of the surety shall be in accordance with the sample form included in the tender documents and the tender surety shall be valid for **150 days** from the date of tender opening”.
- **Clause 23.2** of Instruction to Tenderers: “For the purposes of this clause, a substantially responsive tender is one which conforms to all terms and condition and specifications of the tender document without material deviation or reservation and has a valid Bank/Insurance guarantee”.

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

**The tenderers who do not satisfy any of the above requirements shall be considered Non-Responsive and their tenders will not be evaluated further**

**B) COMPLETENESS OF TENDER DOCUMENT**

The tender document shall be examined based on clause 2.2 of the Instruction to Tenderers which states as follows:

In accordance with clause 2.2 of Instruction to Tenderers, the tenderers will be required to provide evidence for eligibility of the award of the tender by satisfying the employer of their eligibility under sub clause 2.1 of Instruction to Tenderers and adequacy of resources to effectively carry out the subject contract. The tenderers shall be required to fill the Standards Forms provided for the purposes of providing the required information. The tenderers may also attach the required information if they so desire.

The award of points for the **STANDARD FORMS** considered in this section shall be as shown below

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
(i) Tender Questionnaire -----	5
(ii) Key personnel - -----	20
(iii) Contract Completed in the last Five (5) years-----	15
(iv) Schedules of on-going projects -----	10
(v) Schedules of contractors equipment -----	10
(vi) Audited Financial Report for the last 3 years-----	10
(vii) Evidence of Financial Resources -----	-10
(viii) Name, Address and Telephone of Banks (Contractor to provide) ----	5
(ix) Litigation History-----	3
(x) Sanctity of the tender document as in accordance with clause 5 of Instruction to tenderer -----	12
<b>TOTAL</b>	<b>100</b>

The detailed scoring plan shall be as shown in table 1 below: -

**TABLE 1**

Item	Description	Point Scored	Max. Point
i	<b>Tender Questionnaire Form</b> <ul style="list-style-type: none"> <li>○ Completely filled ----- 5</li> <li>○ Partially filled ----- 3</li> <li>○ Not filled -----0</li> </ul>		5
ii	<b>Key Personnel (Attach evidence)</b>		20
	<b>Director of the firm</b> <ul style="list-style-type: none"> <li>○ Holder of degree or diploma in relevant Engineering field-----5</li> <li>○ Holder of certificate in relevant Engineering field---4</li> <li>○ Holder of trade test certificate in relevant Engineering field-----3</li> <li>○ No relevant certificate -----0</li> </ul>		5
	<b>At least 1No. degree/diploma of key personnel in relevant Engineering field</b> <ul style="list-style-type: none"> <li>○ With over 10 years relevant experience-----5</li> <li>○ With over 5 years relevant experience----- 3</li> <li>○ With under 5 years relevant experience ----- 1</li> </ul>		5
	<b>At least 1No certificate holder of key personnel in relevant Engineering field</b> <ul style="list-style-type: none"> <li>○ With over 10 years relevant experience----- 5</li> <li>○ With over 5 years relevant experience ----- 3</li> <li>○ With under 5 years relevant experience -----1</li> </ul>		5
	<b>At least 2No artisan (trade test certificate in relevant Engineering field)</b> <ul style="list-style-type: none"> <li>○ Artisan with over 10 years relevant experience---- 2.5</li> <li>○ Artisan with under 10 years relevant experience --- 2</li> <li>○ Non skilled worker with over 10 years relevant experience -----1</li> </ul>		5
iii	<b>Contract completed in the last five (5) years (Max of 5 No. Projects)</b> <ul style="list-style-type: none"> <li>○ Project of similar nature, complexity and magnitude --3</li> <li>○ Project of similar nature but of lower value than the one in consideration----- 2</li> <li>○ No completed project of similar nature ----- 0</li> </ul>		15

iv	<b>On-going projects (Max of 5 No. Projects)</b> <ul style="list-style-type: none"> <li>○ Project of similar nature, complexity and magnitude - 2</li> <li>○ Project of similar nature but of lower value than the one in consideration -----1</li> <li>○ No ongoing project of similar nature - -----0</li> </ul>		10
v	<b>Schedule of contractors equipment and transport (proof or evidence of ownership)</b> <ul style="list-style-type: none"> <li>○ Means of transport (Vehicle) ----- 4</li> <li>○ No means of transport ----- 0</li> </ul>	4	10
	For each specific equipment required in the installation of the Work being tendered for. (Maximum No. of equipment to be considered – 3 No.---- 2	6	
vi	<b>Financial report</b>		10
	<b>Audited financial report (last three (3) years)</b> <ul style="list-style-type: none"> <li>○Turn over greater or equal to 5 times the cost of the project --- 10</li> <li>○Turn over greater or equal to 3 times the cost of the project-6</li> <li>○Turn over greater or equal to the cost of the project----4</li> <li>○Turn over below the cost of the project ----- 2</li> </ul>		
vii	<b>Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc )</b> <ul style="list-style-type: none"> <li>○Has financial resources equal or above the cost of the project-- 10</li> <li>○Has financial resources below the cost of the project --5</li> <li>○Has not indicated sources of financial resources -----0</li> </ul>		10
viii	<b>Name, Address and Telephone of Banks (Contractor to provide)</b> <ul style="list-style-type: none"> <li>○Provided ----- 5</li> <li>○Not provided ----- 0</li> </ul>		5
ix	<b>Litigation History</b> <ul style="list-style-type: none"> <li>○Filled -----3</li> <li>○ Not filled -----0</li> </ul>		3
x	<b>Sanctity of the tender document</b> <ul style="list-style-type: none"> <li>○Having the document intact (not tempered with in any way) -----12</li> <li>○Having mutilated or modified the tender document----0</li> </ul>		12
	<b>TOTAL</b>		<b>100</b>

Any bidder who scores 60 points and above shall be considered for further evaluation

## **STAGE 2 - TECHNICAL EVALUATION**

### **A) COMPLIANCE WITH TECHNICAL SPECIFICATIONS**

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document.

The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

Where the Equipment proposed by the tenderer differs with the models specified in the tender document, it is mandatory that the brochures/catalogues of the same be submitted with the tender document highlighting the catalogues Numbers 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:

- a) Standards of manufacture
- b) Performance ratings/characteristics
- c) Material of manufacture
- d) Electrical power ratings and
- e) Any other necessary requirements (Specify)

**Following the above analyses, where the proposed equipment are found not to satisfy the specifications, the tender will be deemed Non – Responsive and will not be evaluated further.**

**B) TECHNICAL EXAMINATION**

In this section, the information provided in the Technical Schedule or Brochures attached will be analyzed for bidders who have qualified from **STAGE 2A** above and points awarded as shown below to a maximum of 70 points

**TABLE 2**

Item	Description	Score	Max. score
	<p><b>Technical schedule/Brochures</b></p> <ul style="list-style-type: none"> <li>○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied highlighted and meets specification (Where alternative are to supplied----- 70 or</li> <li>○ Completely filled Technical Schedule indicating Brand, Model/ Country of origin as per specification in the tender----- 70</li> <li>○</li> </ul>		<b>70</b>
	<ul style="list-style-type: none"> <li>○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied not highlighted but within range of those specified and meets specifications ----- 55 or</li> <li>○ Completely filled Technical Schedule indicating items as specified in the tender but less than 100% and above 75% of items in the technical schedule provided -----55</li> <li>○</li> </ul>		
	<ul style="list-style-type: none"> <li>○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied but between 50% and 75% of items highlighted and within range of those specified and meets specifications ----- 40 or</li> <li>○ Completely filled Technical Schedule indicating items as specified in the tender but between 50% and 75% of items in the technical schedule provided-----40</li> <li>○</li> </ul>		
	<ul style="list-style-type: none"> <li>○ Relevant Manufacturer Brochures for between 25% and 50% of items in the technical schedule with equipments to be supplied highlighted and meets specifications----- 25 or</li> <li>○ for between 25% and 50% of Technical Schedule filled indicating Brand, Model/Country of origin for the items considered as specified in the tender -----25</li> </ul>		
	<ul style="list-style-type: none"> <li>○ Less than 25% provided or no technical data provided, either in form of brochures or filling of Technical Schedule. ----- 0</li> </ul>		
	<b>TOTAL</b>		<b>70</b>

The Technical score will be carried forward to **STAGE 4**

## STAGE 3 - FINANCIAL EVALUATION

The evaluation shall be in two sections

1. Preliminary examinations and
2. Tender sum Comparisons

### A) PRELIMINARY EXAMINATIONS

The preliminary examination in the Financial Evaluation shall be in accordance with clause 26 of Instruction to Tenderers.

The parameter to be considered under this section includes the following:

- a) Arithmetic errors and comparison of rates

#### 1) Arithmetic Errors

The bid shall be checked for arithmetic errors based on the rates and the total sums indicated in the bills of quantities.

- a) Confirmation shall be sought in writing from the tenderers whose tender sums will be determined to have a significant arithmetic error to their disadvantage, to confirm whether they stand by their tender sums. The error shall be treated as per **clause 24 of Instructions to Tenderers**.

Non compliance with the above shall lead to **automatic disqualification from further evaluation**.

Discount if any shall be treated as an error in pursuant to **clause 26.3** of Instructions to Tenderers.

#### 2) Comparison of rates

The evaluation committee will compare rates from different bidders and note consistency of rates and front loading. The evaluation committee will judge and make an appropriate decision giving evidence.

### B) TENDER SUMS COMPARISONS

In this section, tender sums will be compared to the average of all sums for bidders who have qualified from **STAGE 3A** and score awarded to a maximum of 30 as shown below.

#### 1 Preliminary Average

- i. The tender sums of various binders, who qualify at **STAGE 3A** and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. The **average** of the adjusted tender sums so obtained shall be calculated.
- ii. Any tenderer whose tender percentage deviation is 20% higher or lower than the average obtained above, will be deemed to be unreasonably high or low and shall not be included in determining the mean in table 3 and **their bids shall also not be evaluated any further**. The Engineer's estimate will also be subjected to the same treatment.

## 2. Working mean

The detailed scoring plan shall be as shown in table 3 below:

**TABLE 3**

Item	Description	Score	Max. score
	<p>Tender Sums: (The tender sums of binders, who qualify at STAGE 3A and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. The average of the adjusted tender sums so obtained shall be calculated. The deviation of the reduced amounts in respect of each bidder from the average shall then be worked out as a percentage of the average (Rounded off to one (1) decimal point) and scores allocated as follows :-)</p> <ul style="list-style-type: none"> <li>o Deviation of between 0% and 1% ----- 30</li> <li>o Deviation of between 1.1% and 2% ----- 28.5</li> <li>o Deviation of between 2.1% and 3% ----- 27</li> <li>o Deviation of between 3.1% and 4% ----- 25.5</li> <li>o Deviation of between 4.1% and 5% ----- 24</li> <li>o Deviation of between 5.1% and 6% ----- 22.5</li> <li>o Deviation of between 6.1% and 7% ----- 21</li> <li>o Deviation of between 7.1% and 8% ----- 19.5</li> <li>o Deviation of between 8.1% and 9% ----- 18</li> <li>o Deviation of between 9.1% and 10% ----- 16.5</li> <li>o Deviation of between 10.1% and 11% ----- 15</li> <li>o Deviation of between 11.1% and 12% ----- 13.5</li> <li>o Deviation of between 12.1% and 13% ----- 12</li> <li>o Deviation of between 13.1% and 14% ----- 10.5</li> <li>o Deviation of between 14.1% and 15% ----- 9</li> <li>o Deviation of between 15.1% and 16% ----- 7.5</li> <li>o Deviation of between 16.1% and 17% ----- 6</li> <li>o Deviation of between 17.1% and 18% ----- 4.5</li> <li>o Deviation of between 18.1% and 19% ----- 3</li> <li>o Deviation of between 19.1% and 20% -----1.5</li> <li>o Deviation of 20.1% and above ----- 0</li> </ul>		30
	<b>TOTAL</b>		<b>30</b>

The Tender sum score will be carried forward to **STAGE 4**

### **STAGE 4 - FINAL SCORE**

The total score will be combined sums of Technical, Tender Sums Comparison and Financial marks as below:

$$\text{Technical (Ts) + Tender Sums Comparison (TSC) = Ts + TSC}$$

### **RECOMMENDATION**

The lowest responsive bidder whose score is 75% and above may be recommended for award.



SECTION B

CONDITIONS OF CONTRACT  
AND  
SUB-CONTRACT AGREEMENT

## CONDITIONS OF CONTRACT

### 1.0 Definitions

1.1 In this contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

**“Bills of quantities”** means the priced and completed bill of quantities forming part of the tender.

**“Compensation Events”** are those defined in clause 24 hereunder

**“Completion date”** means the date of completion of the works as certified by the Project Manager, in accordance with Clause 31.

**“The Contract”** Means the agreement entered into between the Employer and the Contactor as recorded in the Agreement Form and signed by the parties including all attachments and appendices thereto and all documents incorporated by reference therein to execute, complete, and maintain the Works,

**“The Contractor”** refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

**“The Contractor’s Tender”** is the completed tendering document submitted by the Contactor to the Employer.

**“The Contract Price”** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

**“Days”** are calendar days; **“months”** are calendar months.

**“Defects”** is any piece of work not completed in accordance with the Contract.

**“The Defects Liability Certificate”** is the certificate issued by project Manager upon correction of defects by the Contractor.

**“The Defects Liability Period”** is the period named in the Contract Data and calculated from the Completion Date.

**“Drawings” include** calculations and other information provided or approved by the Project Manager for the execution of the Contract.

**“Dayworks”** are Work inputs subject to payment on a time basis for labour and the associated materials and plant.

**“Employer”** or the **“procuring entity”** as defined in the Public Procurement Regulations (i.e. Central or Local Government administration, Universities, Public Institutions and Corporations, etc) is the party who employs the Contractor to carry out the Works.

**“Equipment”** is the Contractor’s machinery and vehicles brought temporarily to the Site for the execution of the Works.

**“The intended completion date”** is the date on which it is intended that the Contractor shall complete the works. The intended Completion Date may be revised only by the Project manager by issuing an extension of time or acceleration in the Works.

**“Materials”** are all supplies, including consumables, used by the Contractor for incorporation in order.

**“Plant”** is any integral part of the Works that shall have a mechanical, electrical, chemical or biological function.

**“Project Manager”** is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract and shall be an “Architect” or a “Quantity Surveyor registered under the Architects and Quantity Surveyors Act Cap 525 or an “Engineer” registered under Engineers Registration Act Cap 530.

**“Site”** means the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

**“Site Investigation Reports”** are those reports that may be included in the tendering documents which are factual and interpretative about the surface and subsurface conditions at the Site.

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

**“Start Date”** is the date when the Contractor shall commence execution of the Works.

**“A Sub-contractor”** is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

**“Temporary works”** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

**“Employer’s Representative”** is the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

**“A Variation”** is an instruction given by the Employer’s Representative which varies the Works.

**“The Works”** are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

## **2.0 Interpretation**

- 2.1 In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.
- 2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).
- 2.3 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;
- (1) Agreement,
  - (2) Letter of acceptance,
  - (3) Contractor's Tender,
  - (4) Appendix to Conditions of Contract,
  - (5) Conditions of Contract,
  - (6) Specifications,
  - (7) Drawings,
  - (8) Bills of Quantities,
  - (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the contract.

Immediately after the execution of the contract, the Project Manager shall furnish both the Employer and the Contractor with two copies each of all the Contract documents. Further, as and when necessary the Project manager shall furnish the Contractor {always with a copy to the Employer) with three (3) copies of such further drawings or details or descriptive schedules as are reasonably necessary either to explain or amplify the Contract drawings or to enable the Contractor to carry out and complete the Works in accordance with these Conditions.

## **3.0 Language and Law**

- 3.1 Language of Contract and the law governing the Contract shall be English language and the Laws of Kenya respective unless otherwise stated.

## **4.0 Project Manager's Decision**

- 4.1 Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Employer and the Contract in the role representing the Employer.

## **5.0 Delegation**

- 5.1 The Project manager may delegate any of his duties and responsibilities to others after notifying the Contractor.

## **6.0 Communications**

6.1 Communication between parties shall be effective only when in writing. A notice shall be effective only when it is delivered.

## **7.0 Subcontracting**

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

## **8.0 Other Contractors**

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities etc. as listed in the Appendix to Conditions of Contract and also with the Employer, as per the directions of the Project Manager. The Contractor shall also provide facilities and services for them. The employer may modify the said List of Other Contractors etc., and shall notify the Contractor of any such modification.

## **9.0 Personnel**

9.1 The Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Qualification Information. If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within Seven days and has no further connection with the Work in the Contract.

## **10.0 Works**

10.1 The Contractor shall construct and install the works in accordance with the Specifications and Drawings. The Works may commence on the Start Date and shall be carried out in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

## **11.0 Safety and Temporary Works**

11.1 The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.

11.2 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary works and all drawings prepared by the Contractor for the execution of the temporary or permanent works, shall be subject to prior approval by the Project Manager before they can be used.

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

## **12.0 Discoveries**

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

## **13.0 Work Program**

- 13.1 Within the time stated in the appendix to Conditions of Contract, the Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the Contractor's obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

## **14.0 Possession of Site**

- 14.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Appendix to Conditions of Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be Compensation Event.

## **15.0 Access to Site**

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

## **16.0 Instructions**

- 16.1 The Contractor shall carry out all instructions of the Project Manager which are in accordance with the Contract.

## **17.0 Extension of Acceleration of Completion Date**

- 17.1 The Project manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

The Project Manager shall decide whether and by how much to extend the Intended Completion Date with 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a caused by such failure shall not be considered in assessing the new (extended) Completion Date.

17.2 No bonus for early completion of the Works shall be paid to the Contractor by the Employer

## **18.0 Management Meetings**

18.1 A Contractor management meeting shall be held monthly and attended by the Project Manager and the Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project manager shall record the minutes of management meetings and provide copies of the same to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

## **19.0 Early Warning**

19.1 The Contractor shall warn the Project at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work increase the Contract Price or delay the execution of the Works. The Project Manager may required the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

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

## **20.0 Defects**

20.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any work that the Project manager considers may have defects. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor. However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.

20.2 The Project Manager shall give notice to the Contractor of any defects before the end of the Defect Liability Period, which begins at completion, and is defined in the Appendix to Conditions of contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.

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

If the Contractor has not corrected a defect within the time specified in the Project Manager's notice, the Project Manager will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

## **21.0 Bills of Quantities**

- 21.1 The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the work to be done by the Contractor. The Contractor will be paid for the quantity of the work done at the rate in the Bills of Quantities for each item.
- 21.2 If the final quantity of the work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contractor price, the Project Manager shall adjust the rate to allow for the change.
- 21.3 If requested by the Project Manager, the Contractor shall provide the Project manager with a detailed cost breakdown of any rate in the Bills of Quantities.

## **22.0 Variations**

- 22.1 All variations shall be included in updated programs produced by the Contractor.
- 22.2 The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.
- 22.3 If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the contractor shall be in the form of new rates for the relevant items of work.
- 22.4 If the Contractor's quotation is unreasonable, the Project manager may order the variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the variation on the Contractor's cost
- 22.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the works, no quotation shall be given and the variation shall be treated as a Compensation Event.
- 22.6 The Contractor shall not be entitled to additional payment for cost that could have been avoided by giving early warning.
- 22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.



## **23.0 Payment Certificates, Currency of Payments and Advance Payments**

- 23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of work executed and payable shall be determined by the Project Manager.
- 23.2 The value of work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed; materials delivered on site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from site without the Project Manager's instructions except for use upon the works.
- 23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.
- 23.4 If an amount certified is increased in a later certificate as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 23.5 Items of the works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services, the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project manager shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.7 In the event that an advance payment is granted, the following shall apply:-

- a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the contract. The advance shall not be subject to retention money.
- b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.
- c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the contract. It shall have been completed by the time 80% of this amount is reached.

The amount to be repaid by way of successive deductions shall be calculated by means of the formula:

$$R = \frac{A(X^I - X^{II})}{80 - 20}$$

Where:

R = the amount to be reimbursed

A = the amount of the advance which has been granted

X<sup>I</sup> = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This will exceed 20% but not exceed 80%.

X<sup>II</sup> = the amount of the previous cumulative payments as a percentage of the original amount of the Contract.

This figure will be below 80% but not less than 20%.

- d) With each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

## 24.0 Compensation Events

24.1 The following issues shall constitute Compensation Events.

- a) The Employer does not give access to a part of the site by the Site Possession Date stated in the Appendix to Conditions of Contract.

- b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.
- c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the works on time.
- d) The Project Manager instructs the contractor to uncover or to carry out additional tests upon the work, which is then found to have no defects.
- e) The Project Manager unreasonably does not approve a subcontract to be let.
- f) Ground conditions are substantially more<sup>3</sup> adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the site investigation reports), from information available publicly and from a visual inspection of the site.
- g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional works required for safety or other reasons.
- h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- i) The effects on the Contractor of any of the Employer's risks.
- j) The Project Manager unreasonably delays issuing a Certificate of Completion.
- k) Other compensation events described in the Contract or determined by the Project manager shall apply

24.2 If a compensation event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

24.3 As soon as information demonstrating the effect of each compensation event upon the Contractor's forecast cost has been provided by the Contract, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager will assume that the Contractor will react competently and promptly to the event.

24.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.

24.5 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.

24.6 The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

Provided always that should the event giving rise to the claim of continuing effect, the Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

## **25.0 Price Adjustment**

25.1 The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.

25.2 The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provision in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Contract, if any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.

25.3 Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified there under;

- i) The price contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
- ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of work remaining to be executed at the date of publication of such increase or decrease.

- iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.4 The price contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

25.5 Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.

25.6 No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.7 The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rate.

## **26.0 Retention**

26.1 The Employer shall retain from the payment due to the Contractor the proportion stated in the Appendix to Conditions of Contract until Completion of the whole of the works. On Completion of the whole of the works, half the total amount retained shall be repaid to the Contractor and the remaining half when the Defects Liability Period has passed and the Project manager has certified that all defects notified to the Contractor before the end of this period have been corrected.

## **27.0 Liquidate Damages**

27.1 The Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Contract for each day that the actual Completion Date is later than the Intended Completion Date. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not alter the Contractor's liabilities.

27.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rate specified in Clause 23.30.

## **28.0 Securities**

28.1 The Performance Security shall be provided to the Employer not later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

## **29.0 Dayworks**

29.1 If applicable, the Day works rates in the Contractor's tender shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

29.2 All work to be paid for as Day works shall be recorded by the Contractor on Forms approved by the Project Manager. Each completed form shall be verified and signed by the Project manager within two days of the work being done.

29.3 The Contractor shall be paid for Day works subject to obtaining signed Day works forms.

## **30.0 Liability and Insurance**

30.1 From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:

- a) The risk of personal injury, death or loss of or damage to property (excluding the works, plant, materials and equipment), which are due to:
  - i) use or occupation of the site by the works or for the purpose of the works, which is the unavoidable result of the works, or
  - ii) Negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- b) The risk of damage to the works, plant, materials, and equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the works are being executed.

30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the works, plant, and materials is the Employer's risk except loss or damage due to;

- a) a defect which existed on or before the Completion Date.
- b) An event occurring before the Completion Date, which was not itself the Employer's risk.
- c) The activities of the Contractor on the Site after the Completion Date.

30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the works, plant, materials, and equipment) which are not Employer's risk are contractor's risks.

The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;

- a) loss of or damage to the works, plant and materials;
- b) loss of or damage to Equipment;
- c) loss of or damage to property (except the works, plant materials, and equipment) in connection with the Contract, and
- d) Personal injury or death.

30.4 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.

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

30.6 Alterations to the terms of insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

### **31.0 Completion and Taking over**

31.1 Upon deciding that the works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the works. The Employer shall take over the site and the works within seven (7) days of the Project manager's issuing a Certificate of Completion.

### **32.0 Final Account**

32.1 The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer under Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate. The Employer shall pay the Contractor the amount due in the Final certificate within 60 days.

### **33.0 Termination**

33.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;

- a) The Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Project Manager.
- b) The Project Manager instructs the Contractor to delay the progress of the works, and the instruction is not withdrawn within 30 days.
- c) The Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
- d) A payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.
- e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager.
- f) the Contractor does not maintain a security, which is required.

33.2 When either party to the contract gives notice of Contract to the Project Manager for a cause other than those listed under Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.

33.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

33.4 If the Contractor is terminated, the contractor shall stop work immediately, make the site safe and secure, and leave the site as soon as reasonably possible. The Project Manager shall immediately thereafter arrange for a meeting for the purpose of taking record of the works executed and materials, goods, equipment and temporary buildings on site.

### **34.0 Payment Upon Termination**

34.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and materials ordered and delivered to site up to the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable by the contractor.



- 34.2 If the contract is terminated for the Employer's convenience or because of a fundamental breach of contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the works, and the Contractor's costs of protecting and securing the works.
- 34.3 The Employer may employ and pay other persons to carry out and complete the works and to rectify and defects and may enter upon the works and use all materials on the site, plant, equipment and temporary works.
- 34.4 The contractor shall, during the execution or after the completion o the works under this clause remove from the site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary building, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, hold the proceeds less all costs incurred to the credit of the Contractor. Until after completion of the works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the Contract; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

### **35.0 Release from Performance**

- 35.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it.

### **36.0 Corrupt gifts and Payment of Commission**

- 36.1 The Contractor shall not;
- a) Offer or give or agree to give to any person in the service of the Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.

- b) Enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

Any breach of this Condition by the Contractor or by anyone employed by his or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement Regulations issued under the Exchequer and Audit Act Cap 412 of the Laws of Kenya.

### **37.0 Settlement of Disputes**

37.1 In case any dispute or difference shall arise between the Employer or the Project Manager on his behalf and the Contractor, either during the progress or after the completion or termination of the works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of any of the following professional institutions;

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

On the request of the applying party. The institution written to first by the aggrieved party shall take precedence over all other institutions.

37.2 The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising hereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

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

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

- 37.5 Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the works or abandonment of the works or termination of the Contract by either part:
- 37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.
  - 37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
  - 37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
  - 37.5.4 Any dispute or difference arising in respect of war risks or war damage.
- 37.6 All other matter shall only be referred to arbitration after the completion or alleged completion of the works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.
- 37.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.
- 37.8 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision, requirement or notice had been given.
- 37.9 The award of such Arbitrator shall be final and binding upon the parties.

## APPENDIX TO CONDITIONS OF CONTRACT

### CONDITIONS OF CONTRACT CLAUSE 1

The Employer is: **Government of the Republic of Kenya,**

Name of Employer's Representative: **Principal Secretary, State Department of Land.**

Address: **P.O. Box 30450 - 00100, NAIROBI**

### CONDITIONS OF CONTRACT CLAUSE 1

The Project Manager is: **Works Secretary, State Department of Public Works, Nairobi**

Address: **P.O. Box 30743 - 00100, NAIROBI**

Telephone: **2723101**

### CONDITIONS OF CONTRACT CLAUSE 1

The name (and identification number) of the Contract is: **Proposed Land Registry- Busia Town-Busia County.**

**W.P ITEM NO. D11 WE/BSA/ 1501 JOB NO. 10054A**

### CONDITIONS OF CONTRACT CLAUSE 1

The Contract Works consist **Supply and Installation of I.P P.B.X, Telephone Instruments and Structured Cabling Works**

### CONDITIONS OF CONTRACT CLAUSE 1

The start date shall be **as stated in the letter of acceptance**

### CONDITIONS OF CONTRACT CLAUSE 1

The Intended Completion Date for the whole of the Works shall be **as stated in the Letter of Acceptance.**

### CONDITIONS OF CONTRACT CLAUSE 2

The following documents also form part of the Contract: **Only as listed in Clause 2 of the conditions of contract.**

The Site Possession Date shall be **as stated in the Letter of Acceptance.**

### CONDITIONS OF CONTRACT CLAUSE 1

The Site is located at **Busia Town-Busia County.**

### CONDITIONS OF CONTRACT CLAUSE 13

The contractor shall submit a revised program for the works within **7 days** of delivery of the letter of acceptance.

**CONDITIONS OF CONTRACT CLAUSE 1**

The Defects Liability Period is **6 months** from practical completion date

**CONDITIONS OF CONTRACT CLAUSE 32**

Period of final measurement: **3 months** after practical completion

**INSTRUCTION TO TENDERERS CLAUSE 20**

The tender opening date and time is **as stated** in the Tender Invitation Notice.

**INSTRUCTION TO TENDERERS CLAUSE 20**

The name and Address of the Employer's representative for the purposes of submission of Tenders is **as stated** in the Tender Invitation Notice

**INSTRUCTION TO TENDERERS CLAUSE 13**

Amount of Tender Security is **as per the tender advertisement or letter of invitation**.

**INSTRUCTION TO TENDERERS CLAUSE 29**

The amount of performance security is **5 percent** bank guarantee of the Contract Price.

**CONDITIONS OF CONTRACT CLAUSE 27**

Liquidated and Ascertained damages: **At the rate of Kshs. 1,000.00 per week or part thereof**

**CONDITIONS OF CONTRACT CLAUSE 23**

Period of honouring certificate : **30 days**

Percentage of certified value retained : **10%**

Limit of certified value retained : **10%**

Period between program updates is **14 days**

**OMIT CLAUSE 23.7**

PART II

SUB-CONTRACT AGREEMENT

(KABCEC)

**AGREEMENT AND CONDITIONS  
OF SUB-CONTRACT FOR  
BUILDING WORKS**



**Published by:**  
**The Kenya Association of Building and  
Civil Engineering Contractors**  
with the sanction of:-  
The Joint Building Council, Kenya  
and  
The Architectural Association of Kenya

**June 2002 Edition**

© The copyright in this document is vested in  
the Kenya Association of Building and Civil Engineering  
Contractors.

## CONTENTS

<u>Clause</u>		<u>Page</u>
1.0	- Agreement	1-3
2.0	- General obligations of the Contractor	4
3.0	- General obligations of the Sub-Contractor	4
4.0	- Sub-contract documents	5
5.0	- General liability of the Sub-Contractor	5-6
6.0	- Insurance against injury to persons and property	6-7
7.0	- Performance bond	7
8.0	- Possession of site and commencement of works	7-8
9.0	- Architect's instructions	8
10.0	- Variations	8
11.0	- Liability for own equipment	8
12.0	- Provision of facilities by the Contractor	8-9
13.0	- Liability for own work	9-10
14.0	- Co-operation in use of facilities	10
15.0	- Assignment and subletting	10
16.0	- Work prior to appointment of Contractor	10-11
17.0	- Sub-Contractor design	11
18.0	- Specification of goods, materials and workmanship	11
19.0	- Compliance with statutory and other regulations	11-12
20.0	- Royalties and patent rights	12
21.0	- Antiquities and other objects of value	12
22.0	- Suspension of works	12
23.0	- Payments	12 - 14



24.0	-	Practical completion and defects liability	14-15
25.0	-	Extension of time	15
26.0	-	Loss and expense caused by disturbance of regular progress of the works	16
27.0	-	Damages for delay in completion	16
28.0	-	Fluctuations	16-17
29.0	-	Termination of the main contract	17
30.0	-	Termination of the Sub-contract	17-18
31.0	-	Settlement of disputes	18-20
	-	Sub-Contractor's performance bond	21
	-	Appendix	22

ORIGINAL

COUNTERPART

Embossed stamp

embossed stamp

1.0 AGREEMENT

1.1 This agreement is made on.....

between .....

of (or whose registered office is situated t).....

.....

(Hereinafter called "the Contractor") of the one part .....

and .....

of (or whole registered office is situated at).....

.....

(Hereinafter called "the Sub-Contractor") of the other part:

1.2 SUPPLEMENTAL to an agreement(hereinafter referred to as the "the main contract") made on .....

Between.....

.....

(hereinafter called "the Employer") of the one part and the Contractor of the other part based on the Agreement and Conditions of Contract for Building Works, published by the Joint Building Council, Kenya ..... edition.

1.3 WHEREAS the contractor is desirous of sub-letting to the Sub-Contractor .....

.....

.....

hereinafter called "the sub-contractor works" at.....

on Land Reference No.....being part of the main contract works.

1.4 And whereas the Sub-Contractor has supplied the Contractor with a priced copy of the bills of quantities (hereinafter referred to as “the sub-contractor bills”), where applicable, which together with the drawings numbered.....

.....  
.....

(Hereinafter referred to as “the sub-contract drawings), the specifications and the conditions of sub-contract have been signed by or on behalf of the parties thereto.

And whereas the Sub-Contractor has had reasonable opportunity of inspecting the main contract or a copy thereof except the detailed prices of the Contractor included in the bills of quantities or schedule of rates.

1.5 And whereas the Architect, with the approval of the Employer, has nominated the Sub-Contractor to carry out the works described at clause 1.3 herein:

**NOW IT IS HEREBY AGREED AS FOLLOWS:**

1.6 For the consideration herein stated, the Sub-Contractor shall upon and subject to the conditions annexed hereto carry out and complete the sub-contract works shown upon the sub-contract drawings and described by or referred to in the sub-contract bills, specifications and in the said conditions.

1.7 The Contractor shall pay the Sub-Contractor the sum of the Kshs (in words).....  
.....

.....(Kshs.....)  
(Hereinafter referred to as “the sub-contractor price”) or such sum as shall become payable hereinafter at the times and in manner specified in the said conditions.

1.8 The term ‘Architect’, ‘Quantity Surveyor’ and ‘Engineer’, where applicable, shall refer to the persons appointed by the Employer to administer the sub-contract in accordance with the main contract agreement. Where applicable reference to the Architect shall be deemed to include reference to the Engineer.

1.9 In the even of the need to appoint a replacement Architect, Quantity Surveyor, Engineer or other specialist (whether named in this agreement or not) the Employer shall make such appointment as soon as practicable after the need for such appointment arises and shall communicate the appointment to the Sub-Contract through the Contractor.

1.10 Where the sub-contract does not incorporate bills of quantities, the term “sub-contract bills” and “bills of quantities” wherever appearing shall be deemed deleted and replaced with the term “schedule of rates” as applicable.

1.11 The terms defined in clause 1.0 of the main contract shall have the same meaning in this sub-contract as that assigned to them therein.

1.12 AS WITNESS the hands of the said parties;

Signed by the said

.....(Contractor)

In the presence of

Name .....

Address .....

Signed by the said

.....(Sub-Contractor)

In the presence of

Name .....

Address .....

## CONDITIONS OF SUB-CONTRACT

### 2.0 GENERAL OBLIGATIONS OF THE CONTRACTOR

The Contractor shall:

- 2.1 Timeously obtain from the Architect on behalf of the Sub-Contractor all drawings, necessary details, instructions and other information required by the Sub-Contractor for the proper carrying out of the sub-contract works.
- 2.2 Provide all such facilities and attend upon the Sub-Contractor as required and as provided in the specifications, bills of quantities and these conditions to the extent compatible with the provisions of the main contract
- 2.3 Observe, perform and comply with all the provisions of the main contract and of this sub-contract on the part of the Contractor to be observed, performed and complied with to ensure satisfactory completion of the sub-contract works.

### 3.0 GENERAL OBLIGATIONS OF THE SUB-CONTRACTOR

- 3.1 The Sub-Contractor shall be deemed to have notice of all the provisions of the main contract except the detailed prices of the Contractor included in the bills of quantities or in the schedule of rates.
- 3.2 The Sub-Contractor shall carry out and complete the sub-contract works in accordance with this sub-contract and in all respects to the reasonable satisfaction of the Contractor and of the Architect and in conformity with all reasonable directions and requirements of the Contractor regulating the due carrying out of the contract works.
- 3.3 The Sub-Contractor shall observe, perform and comply with all the provisions of the main contract on the part of the Sub-Contractor to be observed, performed and complied with so far as they relate and apply to the sub-contract works or any portion thereof and are not inconsistent with the expressions of this sub-contract as if all the same were set out herein.
- 3.4 Without prejudice to the generality of the foregoing requirements, the Sub-Contractor shall especially observe perform and comply with the provisions of clauses 9.0, 18.0, 19.0 22.0, 30.0, 31.0, 34.0 and 36.0 of the main contract as they apply to the sub-contract works

### 4.0 SUB-CONTRACT DOCUMENTS

- 4.1 The sub-contract documents for use in the carrying out of the sub-contract works shall be:-
  - 4.1.1 The agreement and these conditions
  - 4.1.2 The sub-contract drawings as listed in the agreement
  - 4.1.3 The sub-contract bill of quantities or schedule of rates as applicable

- 4.1.4 The specifications as separately supplied or as contained in the sub-contract bills.
- 4.2 Upon the execution of the sub-contract, the Contractor shall register the agreement with the relevant statutory authority and pay all fees, charges, taxes, duties and all costs arising therefrom.
- 4.3 The manner of supplying contract documents, their custody, display on site and their interpretation in the event of discrepancies shall be as provided in the main contract in respect of the main contract documents with the necessary amendments made to refer to the sub-contract.

## **5.0 GENERAL LIABILITY OF THE SUB-CONTRACTOR**

- 5.1 The Sub-Contractor shall be liable for and shall indemnify the Contractor against and from:
  - 5.1.1 Any breach, non-observance or non-performance by the Sub-Contractor, his servants or agents of any of the said provisions of the main contract and of this sub-contract.
  - 5.1.2 Any act or omission of the Sub-Contractor, his servants or agents which involve the Contractor in any liability to the Employer under the main contract
  - 5.1.3 Any claim, damage, loss or expense due to or resulting from any negligence or breach of duty on the part of the Sub-Contractor, his servants or agents.
  - 5.1.4 Any loss or damage resulting from any claim under any statute or common law by an employee of the Sub-Contractor in respect of personal injury or death arising out of or in the course of his employment.
- 5.2 Provided that nothing contained in this sub-contract shall impose any liability on the Sub-Contractor in respect of any negligence or breach of duty on the part of the Employer, the Contractor, other sub-contractors or their respective servants or agents nor create any privity of contract between the Sub-Contractor and the Employer or any other sub-contractor.

## **6.0 INSURANCE AGAINST INJURY TO PERSONS AND PROPERTY**

- 6.1 Without prejudice to his liability to indemnify the Contractor under clause 5.0 above, the Sub-Contractor shall maintain:-
  - 6.1.1 Such insurances as are necessary to cover the liability of the Sub-Contractor in respect of injury or damage to property including damage to the works arising out of or in the course of or by reason of the carrying out of the sub-contract works except for liability against the contingencies specified at clause 6.3 herein.
  - 6.1.2 The insurances required under sub clause 6.1.1 and 6.1.2 above shall be placed with insurers approved by the Contractor and the Architect.
- 6.2 Notwithstanding the provisions of clause 23.0 of these conditions, the Contractor shall not be obliged to make payments to the Sub-Contractor before the said policies have been provided.

- 6.3 Where clause 13.0 of the main contract applies, the sub-contract works, including materials and goods of the sub-Contractor delivered to the works, shall as regards loss or damage by the contingencies stated at clause 13.0 therein, namely, fire, earthquake, fire following earthquake, lightning, explosion, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, aircraft and other aerial devices or articles dropped therefrom, riot and civil commotion, be at the sole risk of the contractor. The Contractor shall cover his liability for the works by procuring insurances as required in the said clause.
- 6.4 Where clause 14.0 or 15.0 of the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works shall, as regards loss or damage by the contingencies stated therein be at the sole risk of the Employer. The Employer shall cover his liability for the works by procuring insurances as required in the said clause.
- 6.5 The Sub-Contractor shall observe and comply with the conditions contained in the policy or policies of insurance of the Contractor or of the Employer, as the case may be, as regards loss or damage which may be caused by the stated contingencies. For this purpose, the Contractor or the Employer as the case may be, shall avail the said policies to the Sub-Contractor for his perusal.
- 6.6 If any loss or damage affecting the sub-contract works or any part thereof or any unfixed goods or materials is occasioned by any one or more of the said contingencies, then,
- 6.6.1 The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the Sub-Contractor under the sub-contract, and
- 6.6.2 The Sub-Contractor shall, with due diligence, restore the work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with the carrying out and completion of the sub-contract works.
- 6.6.3 The restoration of work damaged the replacement and repair of unfixed materials and goods and the removal of debris shall be deemed to be a variation required by the Architect. Such work shall be paid for in accordance with clause 30.0 of the main contract.

## 7.0 PERFORMANCE BOND

Before commencing the works, the Sub-Contractor shall provide one surety who must be an established bank or insurance company to the approval of the Contractor and who will be bound to the Contractor in the sum equivalent to seven and a half per cent (7.5%) of the sub-contract price for the due performance of the sub-contract until the certified date of practical completion. Notwithstanding the provisions of clause 23.0 of these conditions, no payments shall be made to the Sub-Contractor before the said bond is provided.

## **8.0 POSSESSION OF SITE AND COMMENCEMENT OF WORKS**

- 8.1** Within the period stated in the appendix to these conditions, the Contractor shall give possession of the site works to the Sub-Contractor and such access as may be necessary to enable the Sub-Contractor to commence and proceed with the sub-contract works in accordance with the sub-contract.
- 8.2** On or before the date for commencement of works stated in the appendix to these conditions, the Sub-Contractor shall commence the carrying out of the sub-contract works and shall proceed regularly and diligently with the same in accordance with the sub-contract programme, the main contract programme and or with the progress of the main contract works and complete on or before the date stated in the appendix to these conditions as the date for practical completion or within any extended time granted under clause 25.0 of these conditions.

## **9.0 ARCHITECT'S INSTRUCTIONS**

- 9.1** The Sub-Contractor shall forthwith comply with all the instructions issued to him by the Architect, either directly or through the Contractor, in regard to any matter in respect of which the Architect is expressly empowered by the main contract conditions to issue instructions.
- 9.2** The manner of complying with or querying the validity of an Architect's instruction shall be as provided in clause 22.0 of the main contract. The Sub-Contractor shall not be obliged to carry out instructions not issued in the manner provided therein.

## **10.0 VARIATIONS**

- 10.1** The term "variation" shall have the meaning assigned to it at clause 30.0 of the main contract.
- 10.2** The valuation of variations shall be made by the Quantity Surveyor in accordance with sub-clause 30.6 of the main contract.
- 10.3** Effect shall be given to the measurement and valuation of variations in interim certificates and by the adjustment of the sub-contract price.

## **11.0 LIABILITY FOR OWN EQUIPMENT**

The construction equipment and other property belonging to or provided by the Sub-Contractor and brought onto the site for carrying out the works shall be at the sole risk of the Sub-Contractor. Any loss or damage to the same or caused by the same shall, except for any loss or damage due to any negligence, omission or default of the Contractor, be at the sole risk of the Sub-Contractor who shall indemnify the Contractor against loss, damage or claims in respect thereof. Insurance against any such loss, damage or claims shall be the sole responsibility of the Sub-Contractor.



## **12.0 PROVISION OF FACILITIES BY THE CONTRACTOR**

- 12.1 Where provided in the main contract, the Contractor shall supply at his own cost all necessary water, lighting, electric power, telephones and security required for the sub-contract works. Where not so provided, the Sub-Contractor shall provide the said services at his own cost.
- 12.2 Except as otherwise provided in the main contract, the Sub-Contractor shall construct at his own expense all necessary workshops, stores, offices, workers' accommodation and other temporary buildings required for the carrying out of the works at such places on site as the Contractor shall identify.

The Contractor undertakes to give the sub-Contractor the required space and all reasonable facilities for such construction. Upon practical completion of the works, the Sub-contractor shall remove the said facilities and reinstate disturbed surface to the satisfaction of the Contractor.

- 12.3 The Contractor shall provide, without charge, general attendance to the Sub-Contractor to facilitate the carrying out of the works which attendance shall include facilities for access to and movement within the site and sections or parts of the building or buildings where the sub-contract works are being carried out, the use of temporary roads, paths and access ways, sanitary and welfare facilities.
- 12.4 The Contractor shall permit the Sub-Contractor to use, without charge, at all reasonable times, any scaffolding and hoisting equipment belonging to or provided by the Contractor while it remains so erected upon the site. The use by the Sub-Contractor of any other equipment, facilities or services provided by the Contractor for the works shall be subject to private arrangements between the parties hereto and shall not be regulated by these conditions.
- 12.5 Provided that such use of the scaffolding and hoisting equipment shall be on the express condition that no warranty or other liability on the part of the Contractor shall be created or implied in regard to fitness, condition or suitability for the intended purpose except that the Sub-Contractor shall be liable for any damage caused thereto or thereby.
- 12.6 Where required, the Contractor shall provide the facilities, equipment and the like and carry out any necessary builder' works within a reasonable time of the request by the Sub-Contractor to enable timely performance of the sub-contract.

## **13.0 LIABILITY FOR OWN WORK**

- 13.1 The Contractor and the Sub-Contractor shall be liable for the due carrying out of their respective works in accordance with their respective contracts without causing damage or injury to the works of the other sub-contractors, and in particular:
- 13.2 Should the carrying out of the sub-contract works cause injury or damage to the main contract works, or to the work of the other sub-contractors, the Sub-contractor shall rectify the damage so caused at his own cost.

- 13.3 Should the carrying out of the main contract works cause damage or injury to the sub-contract works, the Contractor shall rectify the damage at his own cost.
- 13.4 If in the course of carrying out the sub-contract works, the Sub-Contractor is required to carry out work not included in his sub-contract by reason of any materials of workmanship not being in accordance with the main contract or with other sub-contracts, the Contractor shall reimburse the Sub-Contractor the expenses incurred therein.

#### **14.0 CO-OPERATION IN USE OF FACILITIES**

- 14.1 The Contractor and the Sub-Contractor undertake to co-operate with each other and co-ordinate work arrangements and procedures required in carrying preventing interference, disruption or disturbance to the progress of the works or to the activities of other sub-contractors.
- 14.2 The Contractor and the Sub-Contractor undertake not to wrongfully use or interfere with equipment, scaffolding, appliances, ways, temporary works, temporary buildings and other property belonging to or provided by the other part or by other sub-contractors.
- 14.3 Provided that nothing contained in this clause shall prejudice or limit the rights of the Contractor or of the sub-Contractor in carrying out their respective statutory and or contractual duties under this sub-contract or under the main contract.

#### **15.0 ASSIGNMENT AND SUBLETTING**

- 15.1 Neither the Contractor nor the Sub-Contractor shall, without the written consent of the other and the Employer, assign this sub-contract.
- 15.2 The Sub-Contractor shall not sub-let the whole of the works without the written consent of the Contractor and the Architect.
- 15.3 Provided that any assignment and any sub-contracts as well as this sub-contract shall terminate immediately upon (for whatever reason) of the main contract.

#### **16.0 WORK PRIOR TO APPOINTMENT OF CONTRACTOR**

- 16.1 Where the Sub-Contractor is appointed before the Contractor is appointed, any work done by the Sub-Contractor prior to the said appointment shall be treated as a separate contract between the Employer and the Sub-Contractor and shall be valued by the Quantity Surveyor and paid for directly by the Employer without the involvement of the Contractor.
- 16.2 Where the Sub-Contractor is appointed before the Contractor is appointed, the Sub-Contractor shall be permitted, when the identity of the Contractor is known and within 30 days thereof, to raise objections (on reasonable grounds) against entering into a sub-contract with the Contractor

- 16.3 Where work which is outside the sub-contract is ordered directly by Employer or the Architect, that work shall be treated as a separate contract between the Sub-Contractor and the Employer and shall be valued and paid for directly to the Sub-Contractor in accordance with sub-clause 16.1 herein without the involvement of the Contractor. The cost of equipment, facilities and the like provided by the Contractor to the Sub-contractor and any builder's work carried out by the Contractor with regard to such work shall be paid directly by the Sub-Contractor to the Contractor.

## **17.0 SUB-CONTRACTOR DESIGN**

Where the sub-contract includes a design component by the Sub-Contractor, the design shall be to the approval of the Architect and the Employer. Notwithstanding and approvals, the Sub-Contractor shall be liable directly to the Employer for any consequences of failure of the design to comply with the requirements of the Employer or to be fit or suitable for the purposes for which the sub-contract works or the relevant part thereof were intended.

## **18.0 SPECIFICATION OF GOODS, MATERIALS AND WORKMANSHIP**

- 18.1 All materials, goods and workmanship shall, so far as procurable, be of the respective kinds and standards described in the sub-contract bills, specifications and drawings.
- 18.2 The provisions of clause 23.0 of the main contract regulating the procurement, specification and quality assurance of materials, processes and workmanship and the requirements of clause 24.0 therein dealing with the provision of samples and the carrying out of specified tests shall apply to the sub-contract in the same manner as they apply to the main contract.

## **19.0 COMPLIANCE WITH STATUTORY AND OTHER REGULATIONS**

The Sub-Contract shall comply with all statutory and other regulations of competent authorities regulating the carrying out of the works in accordance with the provisions of clause 17.0 of the main contract, as applicable.

## **20.0 ROYALTIES AND PATENT RIGHTS**

- 20.1 All royalties or other sums payable in respect of the supply and use of any patented articles, processes or inventions in carrying out the works as described by or referred to in the sub-contract bills, specifications or drawings shall be deemed to have been included in the sub-contract price.
- 20.2 The provision of clause 25.0 of the main contract dealing with the same shall apply to the sub-contract in the same manner as they apply to the main contract.

## **21.0 ANTIQUITIES AND OTHER OBJECTS OF VALUE**

All fossils, antiquities and other objects of interest or value which may be found on the site or in excavating the same during the progress of the sub-contract shall be dealt with in accordance with the provisions of clause 44.0 of the main contract.

## **22.0 SUSPENSION OF WORKS**

22.1 An instruction by the Architect to postpone or suspend the works under clause 28.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.

22.2 If the suspension arises due to default by the contractor and the sub-contract works are adversely effected by the suspension, the sub-contractor shall be entitled to reimbursement by the contractor of all expenses arising therefrom.

22.3 If the suspension arises due to default by the sub-contractor, the sub-contractor shall be liable to the contractor for all expenses arising therefrom.

22.4 A notice by the contractor to suspend the works under clause 29.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.

22.5 Should the sub-contract works be adversely affected by suspension under clause 29.0 of the main contract, the sub-contractor shall be entitled to the remedies provided for at clauses 25.0 and 26.0 of this sub-contract.

## **23.0 PAYMENTS**

23.1 Procedures for originating and processing applications for payments and payment certificates as regards the sub-contract works shall be the same as those prescribed for the Contractor in the main contract at clause 34.0. All references therein to the contractor shall be deemed to include references to the Sub-contractor.

23.2 Before submitting an application for payment to the Quantity Surveyor in accordance with clause 34.1 of the main contract, the Contractor shall give the Sub-Contractor a notice of not less than 7 days to submit the details of the amounts which the Sub-Contractor considers himself entitled to for the relevant period. Such details, when received, shall be annexed to the said Contractor's application.

23.3 Where it is necessary to measure the sub-contract works for purpose of interim valuation or for the preparation of the final account, the Quantity Surveyor shall give the Sub-Contractor a reasonable opportunity to be present at the time of the measurements and to take notes and measurements as he may require.

23.4 Neither the Quantity Surveyor nor the Architect shall be bound to issue a valuation or a payment certificate in respect of the sub-contract works, as the case may be, whose value is less than the amount stated in the appendix to these conditions as the minimum amount of a payment certificate before the issue of the certificate of practical completion of the main contract or of the sub-contract, as applicable.

- 23.5 Provided that where the minimum amount of a certificate inserted in the appendix to these conditions has been achieved but the corresponding minimum inserted in the appendix to the main contract in respect of the Contractor's work has not been achieved, or the Contractor has not applied for payment within the stated period, the Architect may with the consent of the Contractor, issue a payment certificate directly to the Sub-Contractor for payment by the Employer.
- 23.6 Within 7 days of receipt by the Contractor of payment by the Employer, the Contractor shall notify and pay to the Sub-Contractor the total value certified therein in respect of the sub-contract works less the portion of the retention money attributable to the sub-contract works and less amounts previously paid to the Sub-Contractor.
- 23.7 Where certificates are not paid by the Employer within the prescribed period, the Sub-Contractor shall be entitled to be paid by the Contractor, upon receipt of payment from the Employer, the interest certified for the delay in accordance with sub-clause 34.6 of the main contract in respect of the portion of the sub-contract works included in the certificate.
- 23.8 Where the Contractor has received payment from the Employer but has not released the appropriate amount to the Sub-Contractor within the stated period, the Contractor shall pay to the Sub-Contractor in addition to the amount not paid, simple interest on the unpaid amount for the period it remains unpaid at the commercial bank lending rate in force during the period of default.
- 23.9 If, upon application by the Sub-Contractor and Architect agree, or if the Contractor fails to make payment to the Sub-Contractor in accordance with sub-clause 23.6 herein and continues such default for 14 days thereafter, the Architect may issue a payment certificate directly to the Sub-Contractor for payment by the Employer, where applicable, and deduct the amount from subsequent payment to the Contractor.
- 23.10 Upon the issue of the certificate of practical completion and the release of one half of the total amount of the retention of money to the Contractor, the Contractor shall pay the portion attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.11 Upon the issue of the certificate of rectification of defects and receipt of the balance of the retention money by the Contractor, the Contractor shall pay the balance of the portion of the retention money attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.12 The sub-contract final account shall be agreed between the Sub-Contractor, the Contractor, the Quantity Surveyor and the Architect and shall be annexed to the Contractor's final accounts which shall be agreed as provided for in the main contract. For purpose of finalizing the accounts, the Quantity Surveyor may request the Sub-Contractor to submit further documents as he may deem necessary.
- 23.13 The final certificate issued under sub-clause 34.21 of the main contract shall be final and binding on the Sub-Contractor in the same manner it is binding on the Contractor.

- 23.14 If the Architect desires to secure final payment to the Sub-Contractor before final payment is due to the Contractor, the provisions of sub-clause 31.10 of the main contract shall apply.
- 23.15 The Contractor shall be entitled to deduct from or set off against any money due from him to the Sub-Contractor in interim certificates any sum or sums which the Sub-Contractor is liable to pay to the Contractor arising under or in connection with the sub-contract.

#### **24.0 PRACTICAL COMPLETION AND DEFECTS LIABILITY**

- 24.1 The Sub-Contractor shall proceed with the works regularly and diligently and complete the same within the period stated in the appendix to this sub-contract or within such extended period as may be granted under clause 25.0 of this sub-contract.
- 24.2 Where the sub-contract works are to be completed in sections or where the sub-contract works are to be completed in advance of the main contract works, the provisions of clause 42.0 of the main contract shall apply, as appropriate, to the sub-contractor in the same manner as they apply to the main contract.
- 24.3 The procedures for certifying practical completion and for dealing with defects in the sub-contract works as well as the main contract works are as prescribed at clause 41.0 of the main contract. Upon the issue of the certificate of practical completion of the whole of the works or of the sub-contract works, as applicable, the Sub-contractor shall be entitled to release of one half of the retention money attributable to the sub-contract works within 7 days after the Contractor has received payment.
- 24.4 The balance of the retention money shall be released to the Sub-Contractor after the defects appearing in the works have been rectified in accordance with sub-clause 41.6 and 41.7 of the main contract and after the Contractor has received the said payment as provided for in sub-clause 34.16.3 of the main contract.

#### **25.0 EXTENSION OF TIME**

- 25.1 Upon it becoming reasonably apparent that the progress of the sub- contract works is or will be delayed, the Sub-Contractor shall forthwith give written notice of the cause of the delay to the Contractor and to the Architect with supporting details showing the extent of delay caused or likely to be caused. Thereafter, the Architect shall evaluate the information supplied by the Sub-Contractor and if in his opinion the completion of the works is likely to be or has been delayed beyond the date for practical

completion stated in the appendix to these conditions or beyond any extended time previously fixed under this clause, by any of the reasons entitling the Contractor to extension of time under sub-clause 36.1 of the main contract, then the Architect shall, so soon as he is able estimate the length of the delay beyond the date or time aforesaid, recommend to the Contractor a fair and reasonable extension of time to be granted for the completion of the sub-contract works.

- 25.2 Thereupon, the Contractor shall grant in writing to the Sub-Contractor the recommended time. Provided that the Contractor shall not grant any extension of time to the Sub-Contractor without the written recommendation of the Architect. And provided that the Sub-Contractor shall constantly use his best endeavors to prevent delay and shall do all that may be reasonably required to proceed with the works.
- 25.3 The procedures for dealing with requests for extension of time and the observance of time limits prescribed at clause 36.0 of the main contract shall apply to the sub-contract in the same manner as they apply to the main contract.

## **26.0 LOSS AND EXPENSE CAUSED BY DISTURBANCE OF REGULAR PROGRESS**

- 26.1 If upon written application being made by the Sub-Contractor to the Contractor and to the Architect, the Architect is of the opinion that the Sub-Contractor has been involved in direct loss and or expense, for which he would not be reimbursed by a payment made under any other provision in this sub-contract, by reasons of the regular progress of the sub-contract works or any part thereof having been materially affected by any of the reasons which would entitle the Contractor to reimbursement under clause 37.0 of the main contract, the Quantity Surveyor shall assess the amount of such loss and or expense.
- 26.2 Any amount so assessed shall be added to the sub-contract price and if an interim certificate is issued after the date of assessment, any such amount shall be added to the amount which would otherwise be stated as due in such certificate as regards the Sub-Contractor's entitlement.
- 26.3 The procedures for dealing with loss and or expense claims prescribed at clause 37.0 of the main contract shall apply to the sub-contract in the same manner as they apply to the main contract, as appropriate.

## **27.0 DAMAGES FOR DELAY IN COMPLETION**

- 27.1 If the Sub-Contractor fails to complete the sub-contract works by the date for practical completion stated in the appendix to these conditions or within any extended time fixed under clause 25.0 herein, and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Sub-Contractor shall pay or allow to the Contractor a sum calculated at the rate stated in the said appendix as liquidated damages for the period during which the works shall so remain or have remained incomplete.
- 27.2 The Contractor may deduct such sum from any money due or to become due to the Sub-Contractor under the sub-contract or recover the same from the Sub-Contractor as a debt. Provided that the Contractor shall not be entitled to recover any liquidated damages from the Sub-Contractor without first obtaining the Architect's certificate of delay prescribed herein.

## **28.0 FLUCTUATIONS**

- 28.1 Unless otherwise stated in the sub-contract bills or specifications, the sub- contract price shall be deemed to have been calculated to include all duties and taxes imposed by statutory and other competent authorities in the country where the works are being carried out, and
- 28.2 The sub-contract price shall be deemed to be based on currency exchange rates current at the date of tender as regards materials or goods to be specifically imported for permanent incorporation in the works.
- 28.3 Should duties, taxes and exchange rates vary during the period of the contract, compensation thereof shall be calculated in accordance with sub-clause 35.1 and 35.2 of the main contract.
- 28.4 Compensation for change in prices of goods and materials incorporated in the works and in the rates of wages provided for at sub-clause 35.3, 35.4 and 35.5 of the main contract shall not apply to the sub-contract unless specifically provided for in the bill of quantities or specifications.

## **29.0 TERMINATION OF MAIN CONTRACT**

- 29.1 If, for any reason, the contractor's employment is terminated either under clause 38.0, 39.0 or 40.0 of the main contract, this sub-contract shall thereupon also terminate.
- 29.2 Upon termination, the sub-contractor shall cease all work and vacate the site. He shall not remove any equipment or any materials brought onto the site for the carrying out of the works without the written approval of the contractor and the Architect
- 29.3 Where the termination of the main contract occurs without the default of the sub-contractor, the sub-contractor shall be paid by the contractor for work done in the like manner as the Contractor is paid at clause 39.5 of the main contract.
- 29.4 Where the termination of main contract arises from the default by the sub-contractor, the adjustment of the sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.

## **30.0 TRMINATION OF SUB-CONTRACT.**

- 30.1 Without prejudice to any other rights and remedies which the contractor may possess, if the sub-contractor shall make default in any one or more of the respects which would entitle the employer to terminate the main contract under clause 38.0 therein, the contractor shall give the sub-contractor a notice, with a copy to the Architect and to the employer by registered post of recorded delivery specifying the default. Should the sub-contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default and should the Architect certify that the sub-contractor is in default, the contractor may terminate the Sub-contract forthwith after the expiry of the notice provided that the notice is not given unreasonably or vexatiously.



The termination letter shall be copied to the Architect and to the Employer.

- 30.1 Where the sub-contract is terminated due to the default of the sub- contractor as in sub-clause 30.1 herein, the adjustment of sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.
- 30.2 Without prejudice to any other rights and remedies which the Sub-Contractor may possess, if the Contractor shall make default in one or more of the respects which, if committed by the Employer, would entitle the contractor to terminate the main contract under clause 39.0 therein, the Sub-Contractor shall give the Contractor a notice, with a copy to the Architect and to the Employer, by registered post or recorded delivery specifying the default. Should the contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default, and should the Architect certify that the contractor is in default, the Sub-Contractor may terminate the sub-contract forthwith after expiry of the notice, provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.
- 30.3 If the Sub-Contract is terminated due to the default of the Contractor as in sub-clause 30.3 herein, the Contractor shall pay the sub-contractor for work done in the like manner as the Contractor would be paid at sub-clause 39.5 of the main contract where the termination is done by the Contractor.
- 30.4 Where the sub-contract is terminated due to the default of the Contractor, all expenses arising from the termination shall be done wholly by the Contractor and the termination shall not create any liability on the Employer.
- 30.5 Where the sub-contract is terminated due to the default of the Sub-Contractor, the sub-contractor shall be liable to the contractor for all expenses arising therefrom.

## **31.0 SETTLEMENT OF DISPUTES**

- 31.1 In case any dispute or difference shall arise between the Contractor and Sub-Contractor, either during the progress or after the completion or abandonment of the sub-contract works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within 30 days of the notice.
- 31.2 The dispute shall be referred to the arbitration and final decision of a person to be agreed by the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointment by the Chairman or Vice Chairman of the Architectural Association of Kenya or the Chairman or Vice Chairman of The Chartered Institute of Arbitrators, Kenya Branch, at the request of the applying party.
- 31.3 The arbitration may be on the construction of this sub-contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith including the rights and liabilities of the parties during the currency of the sub-contract and subsequent to the termination of the sub-contract.

- 31.4 Where the sub-contractor is aggrieved by the manner in which the Architect has exercised or failed to exercise his powers stipulated in the main contract, or in the sub-contract or by any action or inaction of the Employer, and in particular, if he is aggrieved by:
- 31.4.1 The failure or refusal of the Architect to recommend to the contractor an extension of sub-contract time, or
  - 31.4.2 The extend of the recommended time, or
  - 31.4.3. The amount certified to the sub-contractor either in an interim in a final certificate, or
  - 31.4.4 The issue of an instruction which the sub-contractor contends is not authorised by the main contract or the sub-contract, or
  - 31.4.5. Any other matter left to the discretion of the Architect in the main contract or in the sub-contract, then.
- 31.5 Subject to the Sub-Contractor giving the Contractor such indemnity and security as the Contractor may reasonably require, the Contractor shall allow the Sub-Contractor to use the contractor's name and, if necessary, shall join the Sub-Contractor in arbitration proceeding against the employer to decide the matters in dispute or in difference.
- 31.6 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference where notice of a dispute or difference has not been given by the applying party within 90 days of the occurrence or discovery of the matter or issue giving rise to the dispute or difference.
- 31.7 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties.
- 31.8 In any event, no arbitration shall commence earlier than 90 days after the service of the notice of a dispute or difference, except as provided for at sub-clause 31.9 herein.
- 31.9 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 sub-contract without having to comply with sub clause 31.8 herein.
- 31.9.1 Whether or not the issue of an instruction by the Architect is authorized by the main contract or these conditions, and
  - 31.9.2 Whether or not a payment certificate has been improperly withheld or is not in accordance with the main contract or these conditions or though issued, it has not been honoured.

- 31.10 All other matters in dispute shall only be referred to arbitration after the practical completion or alleged practical completion of the works or abandonment of the works or termination or alleged termination of the sub-contract, unless the Architect the contractor and the sub-contractor agree otherwise in writing.
- 31.11 The Arbitrator shall, without prejudice to the generality of his powers, have power to direct such measurements, computations, tests, or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject or included in any payment certificate.
- 31.12 The Arbitrator shall, without prejudice to the generality of his powers, have power to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion decision, requirement or notice had been given.
- 31.13 Provided that any decision of the Architect which is final and binding on the contractor under the main contract shall be final and binding between the contractor and the sub-contractor.
- 31.14 The award of such Arbitrator shall be final and binding upon the parties.

**SUB CONTRACTOR'S PERFORMANCE BOND**

BY THIS AGREEMENT we

.....(SURETY) of  
.....are bound to  
.....(CONTRACTOR) in the sum  
of Kenya shillings .....  
(Kshs. ....) to be paid by us to the said  
.....(CONTRACTOR) WHEREAS by an  
agreement in writing dated.....  
..... (SUB-  
CONTRACTOR) entered into a sub-contract with  
.....(CONTRACTOR)  
to carry out and complete the works therein stated in the manner and by the time therein specified  
all in accordance with he provisions of the said sub-contract, namely: (description of  
works).....  
...

NOW the condition of the above written bond is such that if the said sub-contractor, his executors,  
administrator, successors or assigns shall duly perform his obligations under the sub-contract,  
of if on default by the sub-contractor the surety shall satisfy and discharge the damages  
sustained by the contractor thereby up to the amount of the above written bond, then this  
obligation shall be void, otherwise it shall remain in full force and effect. Upon default, and  
without prejudice to his other rights under the sub-contract, the contractor shall be entitled  
to demand forfeiture of the bond and we undertake to honour the demand in the amount  
stated above.

PROVIDED always and it is hereby agreed and declared that no alteration in the terms of the said  
sub-contract or in the extend or nature of the works to be carried out and no extension of  
time by the contractor under the sub-contract shall in any way release the surety from any  
liability under the above written bond.

IN WITNESS whereof we have set out hand this..... day of.....

.....

Surety

Witness

Authorized by Power of Attorney No .....

<b>APPENDIX</b>	<b>Clause</b>
Name of sub-contractor's insurers	6.0
Name of sub-contractor's surety	7.0
Amount of surety	7.0
Period of possession of site	8.1
Date of commencement of works	8.2
Date for practical completion	8.2
Interval for application of payment certificates	23.1
Minimum amount of payment certificate	23.4
Percentage of certified value retained	23.6
Limit of retention fund, if any	23.6
Name of the sub-contractor's bank for purposes of interest calculation.	23.7, 23.8
Defects liability period	23.11
Period of final measurement and valuation	23.12
Damages of delay in completion at the rate of Kshs .....	27.1
Signed by the said:	

.....

**CONTRACTOR**

.....

**SUB-CONTRACTOR**

**APPENDIX TO SUB CONTRACT AGREEMENT (KABCEC)**

1. **MODIFY CLAUSE 7.0**

The performance bond shall be 5% (five per cent) of the sub contract amount.

2. **MODIFY CLAUSE 9.0**

Any reference made to Architect shall also mean the Project Manager.

SECTION C

SUB-CONTRACT PRELIMINARIES

AND

GENERAL CONDITIONS

CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

<u>CLAUSE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1.01	Examination of Tender Documents	C-1
1.02	Discrepancies	C-1
1.03	Conditions of Contract Agreement	C-1
1.04	Payments	C-2
1.05	Definition of Terms	C-2
1.06	Site Location	C-3
1.07	Duration of contract	C-4
1.08	Scope of contract Works	C-4
1.09	Extent of the Contractor's Duties	C-4
1.10	Execution of the Works	C-4
1.11	Validity of Tender	C-5
1.12	Firm – Price Contract	C-5
1.13	Variation	C-5
1.14	Prime Cost and Provisional Sums	C-6
1.15	Bond	C-6
1.16	Government Legislation and Regulations	-6
1.17	Import Duty and Value Added Tax	C-6
1.18	Insurance Company Fees	C-7
1.19	Provision of Services by the Main Contractor	C-7
1.20	Suppliers	C-8
1.21	Samples and Materials Generally	C-8
1.22	Administrative Procedure and Contractual Responsibility	C-8



1.23	Bills of Quantities	C-8
1.24	Contractor's Office in Kenya	C-9
1.25	Builders Work	C-9
1.26	Structural Provision for the Works	C-9
1.27	Position of Services, Plant, Equipment, Fittings and Apparatus	C-10
1.28	Checking of Work	C-10
1.29	Setting to Work and Regulating System	C-10
1.30	Identification of Plant and Components	C-11
1.31	Contract Drawings	C-11
1.32	Working Drawings	C-12
1.33	Record Drawings (As Installed) and Instructions	C-13
1.34	Maintenance Manual	C-15
1.35	Hand – Over	C-16
1.36	Painting	C-16
1.37	Spares	C-17
1.38	Testing and Inspection – Manufactured Plant	C-17
1.39	Testing and Inspection – Installation	C-17
1.40	Labour Camps	C-17
1.41	Storage of Materials	C-18
1.42	Initial Maintenance	C-18
1.43	Maintenance and Servicing after Completion of the Initial Maintenance	C-18
1.44	Trade Names	C-18
1.45	Water and Electricity for the Works	C-19
1.46	Protection	C-19

1.47	Defects after Completion	C-19
1.48	Damages for Delay	C-19
1.49	Clear Away on Completion	C-19
1.50	Final Account	C-19
1.51	Fair Wages	C-20
1.52	Supervision	C-20
1.53	Test Certificates	C-20
1.54	Labour	C-21
155	Discount to the Employer	C-21
1.56	Guarantee	C-21
1.57	Direct Contracts	C-22
1.58	Attendance upon the Tradesmen	C-22
1.59	Trade Union	C-22
1.60	Local and other Authorities notices and fees	C-22
1.61	Assignment or Subletting	C-23
1.62	Partial Completion	C-23
1.63	Temporary Works	C-24
1.64	Patent Rights	C-24
1.65	Mobilization and Demobilization	C-24
1.66	Extended Preliminaries	C-24
1.67	Supervision by Engineer and Site Meetings	C-24
1.68	Amendment to Scope of Contract Works	C-25
1.69	Contractors Obligation and Employers Obligation	C-25
1.70	Appendix to Sub-Contract preliminaries and General conditions	C-26

## SECTION C

### SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

#### 1.01 Examination of Tender Documents

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

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

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

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

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

#### 1.02 Discrepancies

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

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

#### 1.03 Conditions of Sub-Contract Agreement

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

The Conditions of the Contract between the Main Contractor and the Sub-contractor as hereinafter defined shall be the latest edition of the Agreement and Schedule of Conditions of Kenya Association of Building and Civil Engineering Contractors as particularly modified and amended hereinafter. For the purpose of this contract the Agreement and Schedule of Conditions and any such modifications and amendments shall read and construed together. In any event of discrepancy the modifications and amendments shall prevail.

#### 1.04 Payment

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

## 1.05 Definition of Terms

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

- i) **Employer:** The term “**Employer**” shall mean **The Principal Secretary, Ministry of Land, Housing and Urban Development,**
- ii) **Architect:** The term “**Architect**” shall mean **The Chief Architect, State Department of Public Works**
- iii) **Quantity Surveyor:** The term “**Quantity Surveyor**” shall mean **The Chief Quantity Surveyor State Department of Public Works**
- iv) **Civil/Structural Engineers:** The term “**Civil/Structural Engineers** ” shall mean **The Chief Engineer( Structural), State Department of Public Works**
- v) **Engineer:** The term “**Engineer**” shall mean **Chief Engineer (Electrical), State Department of Public Works**
- vi) **Mechanical Engineer:** the term “**Mechanical Engineer**” shall mean **Chief Engineer (Mechanical (BS)), State Department of Public Works**
- vii) **Main Contractor:** The term “**Main Contractor**” shall mean the firm or company appointed to carry out the Building Works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.
- viii) **Sub-contractor:** The term “**Sub-contractor**” shall mean the persons or person, firm or Company whose tender for this work has been accepted, and who has entered into a contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.
- ix) **Sub-contract Works:** The term “**Sub-contract Works**” shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this Sub-contract and whether the same may be on site or not.
- x) **Contract Drawings:** The term “**Contract Drawings**” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- xi) **Working Drawings:** The term “**Working Drawings**” shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.
- xii) **Record Drawings:** The term “**Record Drawings**” shall mean those drawings required to be prepared by the Sub-contractor showing “as installed” and other records for the Sub-contract Works.

xiii) **Abbreviations:**

**CM** shall mean **Cubic Metre**

**SM** shall mean **Square Metre**

**LM** shall mean **Linear Metre**

**M** shall mean **Metre**

**LS** shall mean **Lump Sum**

**mm** shall mean **Millimetres**

**No.** shall mean **Number**

**Kg.** shall mean **Kilogramme**

**KEBS** shall mean **Kenya Bureau of Standards**

**BS** shall mean. **Current standard British Standard Specification published by the British Standard Institution, 2 Park Street, London W1, England**

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

1.06 **Site Location**

The site of the Sub-contract Works is situated at **Busia Town-Busia County.**

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

1.07 **Duration of Sub-Contract**

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

1.08 **Scope of Sub-Contract Works**

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

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

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

At the commencement of the works, the Sub-contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally.

If these materials and equipment are not available locally, the Sub-contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the Sub-contractor from supplying the specified materials and equipment in time.

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

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

#### 1.10 Execution of the Works

The works shall be carried out strictly in accordance with:

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

The Contract Drawings and Specifications to be read and construed together

#### 1.11 Validity of Tender

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

#### 1.12 Firm – Price Sub-contract

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

#### 1.13 Variation

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

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

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

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

#### 1.14 **Prime Cost and Provisional Sums**

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

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

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

#### 1.15 **Bond**

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

#### 1.16 **Government Legislation and Regulations**

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

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

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

#### 1.17 **Import Duty and Value Added Tax**

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

### 1.18 Insurance Company Fees

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

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

### 1.19 Provision of Services by the Main Contractor

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

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

### 1.20 Suppliers

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

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

### 1.21 Samples and Materials Generally

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



## 1.22 **Administrative Procedure and Contractual Responsibility**

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

## 1.23 **Bills of Quantities**

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

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

## 1.24 **Sub-contractor’s Office in Kenya**

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

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

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

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

## 1.25 **Builder’s Work**

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

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

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

#### 1.26 **Structural Provision for the Works**

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

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

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

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

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

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

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

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

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

#### 1.28 **Checking of Work**

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

### 1.29 Setting to Work and Regulating System

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

No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests 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 as part of the Sub-contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.

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

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

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

### 1.30 Identification of Plant Components

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

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

### 1.31 Contract Drawings

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

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

### 1.32 Working Drawings

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

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

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

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

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

- a) Any drawings required by the Main Contractor, or Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.
- b) General Arrangement Drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.
- c) Schematic Layout Drawings of services and of control equipment.
- d) Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.
- e) Complete circuit drawings of the equipment, together with associated circuit description.
- f) Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

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

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

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

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

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

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

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

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

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

- a) Working Drawings amended as necessary but titled "Record Drawings" and certified as a true record of the "As Installed" Sub-contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.
- b) Fully dimensioned drawings of all plant and apparatus.
- c) General arrangement drawings of equipment, other areas containing plant forming part of the Sub-contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.
- d) Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.
- e) Relay adjustment charts and manuals.
- f) Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
- g) System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- h) Grading Charts.

- i) Valve schedules and locations suitability cross-referenced.
- j) Wiring and piping diagrams of plant and apparatus.
- k) Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.
- l) Operating Instruction

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

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

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

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

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

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

#### 1.34 **Maintenance Manual**

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

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

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

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

- a) System Description.
- b) Plant
- c) Valve Operation
- d) Switch Operation
- e) Procedure of Fault Finding
- f) Emergency Procedures
- g) Lubrication Requirements
- h) Maintenance and Servicing Periods and Procedures
- i) Colour Coding Legend for all Services
- j) Schematic and Writing Diagrams of Plant and Apparatus
- k) Record Drawings, true to scale, folded to International A4 size
- l) Lists of Primary and Secondary Spares.

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

### 1.35 **Hand-over**

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

The procedure to be followed will be as follows:

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

1.36 **Painting**

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

1.37 **Spares**

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

1.38 **Testing and Inspection – Manufactured Plant**

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

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

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

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

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

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

1.39 **Testing and Inspection –Installation**

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

1.40 **Labour Camps**

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

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

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



1.41 **Storage of Materials**

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

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

1.42 **Initial Maintenance**

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

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

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

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

The sub-contractor shall, if required, enter into a maintenance and service agreement with the employer for the installation for a period of up to five years from the day following the last day of the liability for Defects Period which offers the same facilities as specified in Clause 1.41 (Initial Maintenance).

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

The sub-contractor shall submit with his tender for the works, where called upon a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.44 **Trade Names**

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

1.45 **Water and Electricity for the Works**

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

1.46 **Protection**

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

1.47 **Defects After Completion**

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

1.48 **Damages for Delay**

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

1.49 **Clear Away on Completion**

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

1.50 **Final Account**

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

Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.

Statement B - detailing all the variation orders issued on the contract.

Statement C - Summarising statement A and B giving the net grand total due to the Contractor for the execution of the Contract.

1.51 **Fair Wages**

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

- a) The sub-contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the County where work is carried out.

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

#### 1.52 **Supervision**

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

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

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

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

#### 1.53 **Test Certificates**

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

#### 1.54 **Labour**

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

#### 1.55 **Discount to the Main Contractor**

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

#### 1.56 **Guarantee**

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

#### 1.57 **Direct Contracts**

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

1.58 **Attendance Upon the Tradesmen etc**

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

1.59 **Trade Unions**

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

1.60 **Local and other Authorities notices and fees**

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

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

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

1.61 **Assignment or subletting**

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

1.62 **Partial Completion**

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

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

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

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

### 1.63 Temporary Works

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

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

### 1.64 Patent Rights

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

### 1.65 Mobilization and Demobilization

The contractor shall mobilize labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment.

Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.

### 1.66 Extended Preliminaries

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

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

### 1.67 Supervision by Engineer and Site Meetings

A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.

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

**1.68 Amendment to Scope of Contract Works**

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

No claims shall be entertained on account of variation to scope of works either to increase the works (pre-financing) or reduction of works (loss of profit-see clause 1.70)

**1.69 Contractor Obligation and Employers Obligation**

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

## APPENDIX TO SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1. **OMIT CLAUSE 1.12**

2. **ADD TO CLAUSE 1.17**

Prices quoted shall include **16% VAT**

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

3. **ADD TO CLAUSE 1.40**

There is no labour camp

4. **CLAUSE 1.66**

Extended Preliminaries shall be equal to or less than liquidated and ascertained damages and are subject to mutual agreement.

5. **MODIFY CLAUSE 1.15**

Amount of performance bond shall be five per cent (5%)

SECTION D  
GENERAL SPECIFICATIONS  
OF  
MATERIALS AND WORKS



## GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

1. General
2. Standard of Materials
3. Workmanship
4. Procurement of Materials
5. Record Drawings
6. Regulations and Standards
7. Setting out Works
8. Testing on Site

## **1. GENERAL**

1.1. This specification is to be read in conjunction with any other information herein issued with it. Bills of quantities and schedule of unit rates shall be the basis of all additions and omissions during the progress of the works.

## **2. STANDARD OF MATERIALS**

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

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

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

## **3. WORKMANSHIP**

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

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

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

## **4. PROCUREMENT OF MATERIALS**

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

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

## **5. RECORD DRAWINGS**

- 5.1. These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.
- 5.2. The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.
- 5.3. Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.
- 5.4. One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

## **6. REGULATIONS AND STANDARDS**

- 6.1. All work executed by the contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, Electric Power Act, Kenya Bureau of Standards (KeBS), Institution of Electrical Engineers (I.E.E) Wiring Regulations, Current recommendation of CCITT and CCIR, and with the Regulations of the Local Electricity Authority and the Communications Commission of Kenya (CCK)
- 6.2. Where the sets of regulations appear to conflict, they shall be clarified with the Engineer.

## **7. SETTING OUT WORK**

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

## **8. TESTING ON SITE**

- 8.1. The contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specifications No. 1 and No.2, Electric Supply Company's By-Laws, Communications Commission of Kenya (CCK) requirements or any other supplementary Regulations as may be produced by the engineer.
- 8.2. Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation shall be rectified by the contractor at his own expense.

SECTION E

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Engineer	

***NOTE:***

Tenderers are advised to inspect the electrical drawings at the office of the **Chief Engineer (Electrical) - Directorate of Public Works**, at Chief Engineer's (Electrical) office, Hill Plaza Building, Community area, Nairobi along Ngong road, during normal working hours.

SECTION F  
PARTICULAR SPECIFICATIONS  
OF  
MATERIALS AND WORKS

**1. PARTICULAR AND TECHNICAL SPECIFICATIONS OF MATERIALS AND WORKS FOR I.P. P.B.X AND TELEPHONE INSTRUMENTS**

**CLAUSE**

**DESCRIPTION**

**PART 1**

1.00	Particular specifications
1.01	Description of the site
1.02	Description of the project
1.03	Climatic conditions
1.04	Bond for I.P. P.B.X with provisional type approval
1.05	Regulations
1.06	Position of Services and Equipment
1.07	Setting to work and Regulating Systems
1.08	Identification of plant Components
1.09	Working with drawings
1.10	Record Drawings
1.11	Tests
1.12	Quality materials
1.13	Training
1.14	Equipment guarantee
1.15	Patent rights

**PART 2**

2.00	Technical Specification for I.P. P.B.X
2.01	Scope of the Work
2.02	Minimum requirements
2.03	Equipment finish
2.04	Interference suppression
2.05	Door keys
2.06	Equipment Hardware
2.07	Equipment Software
2.08	System features
2.09	Barring and route restriction
2.10	Class of service
2.11	Attendant console
2.12	Telephone instruments
2.13	Numbering system
2.14	Exchange lines
2.15	Tie lines
2.16	System Maintenance
2.17	Power supply
2.18	List of main requirements for the I.P. P.B.X
2.19	Other requirements for the I.P. P.B.X
2.20	Digital enhanced cordless Telephony (Dect.)
2.21	Items to be stated by the Tenderer.
2.22	Statement of compliance

## **PART 1**

### **1.00 PARTICULAR SPECIFICATIONS**

#### **1.01 DESCRIPTION OF THE SITE**

The site of the proposed works is located at **Busia-Busia County**

#### **1.02 DESCRIPTION OF THE PROJECT**

The works comprise the Supply, Installation, Testing and Commissioning of a new I.P. P.B.X, Telephone Instruments and Structured cabling works.

#### **1.03 CLIMATIC CONDITIONS**

Maximum Temperature:	30.°C
Minimum Temperature :	17°C
Relative humidity range :	40% - 90%
Atmospheric salt content:	Less than 0.002%
Dust in Atmosphere:	Relatively dusty conditions prevail
Longitude (approximately):	34 07 30E
Latitude (approximately):	00 27 11N
Altitude:	1130m above sea level

Solar Radiation, February Mean Max 543 Langley's

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

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

#### **1.04 BOND FOR I.P. P.B.X WITH PROVISIONAL TYPE APPROVAL**

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



## **1.05 REGULATIONS**

The sub-contractor shall, in the execution and completion of the works in the detailed design for which he is responsible comply with the provisions of the following as necessary and relevant:

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

## **1.06 POSITION OF SERVICES AND EQUIPMENT**

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

The sub-contractor shall ascertain on site that his work will not foil other services or furniture and all services through the ducts must be readily accessible for maintenance and arranged to allow maximum access along the ducts. Any work which has to be redone due to negligence in this respect will be the sub-contractor's responsibility.

## **1.07 SETTING TO WORK AND REGULATING SYSTEMS**

The sub-contractor shall carry out such tests of the contract works as are required by KeBS Standard Specifications and Codes of Practice, I.E.E Regulations or equal and approved codes, or the competent Authority.

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

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

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

#### **1.08 IDENTIFICATION OF PLANT AN COMPONENTS**

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

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

#### **1.09 WORKING DRAWINGS**

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

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

#### **1.10 RECORD DRAWINGS**

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

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

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

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

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

#### **1.11 TESTS**

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

#### **1.12 QUALITY OF MATERIALS**

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

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

#### **1.13. TRAINING**

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

#### **1.14 EQUIPMENT GUARANTEE**

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

#### **1.15 PATENT RIGHTS**

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

## **PART 2**

### **2.00 TECHNICAL SPECIFICATIONS**

#### **2.01 SCOPE OF THE WORK**

The sub-contractor shall supply, deliver, unload, test, commission, guarantee and be liable for defects, and be responsible for the initial maintenance, all as specified herein, of I.P. P.B.X, Telephone instruments and structured cabling works. The I.P. P.B.X will be entirely I.P. , ISDN native and with time multiplexing architecture.

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

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

#### **2.02 MINIMUM REQUIREMENTS**

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

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

#### **2.03 EQUIPMENT FINISH**

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

#### **2.04 INTERFERENCE SUPPRESSION**

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

#### **2.05 DOOR KEYS**

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

## **2.06 EQUIPMENT HARDWARE**

The tenderer shall quote for multimedia applications digital I.P. P.B.X .The equipment shall operate on duplicated processor.

## **2.07 EQUIPMENT SOFTWARE**

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

- Open Source Asterisk IP PBX
- Interactive Voice Response(IVR)
- Video Conference
- Built in call recording
- Voice Mail to Email
- Distributed office set up
- Centralized Administration
- Call Detail Report
- FOP-Web Based Receptionist Console
- GSM Integration
- Parallel Ringing
- Voice Logger
- Audio Conference Bridging
- Fax Support
- Logical Partitioning

## **2.08 SYSTEM FEATURES**

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

- Direct inward dialing
- Direct outward dialing
- Dial pulse signaling
- DTMF to dial pulse conversion (Tone to pulse conversion)
- Direct Trunk access
- Class of Service
- Flexible assignment of printer ports
- Flexible numbering of extensions
- Flexile tone plan
- Group Hunting
- Multiple operator console
- Music on hold
- Tandem trunks
- Tie trunks
- Extension features eg call forwarding, Busy override, conference, (up to 8 conferences) camp on etc.

## 2.09 BARRING AND ROUTE RESTRICTION

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

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

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

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

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

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

## 2.10 CLASS OF SERVICE

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

- **Full Access**

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

- **Trunk Route Restriction**

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

- **Trunk Barred**

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

- **Restricted Access**

Those permitted incoming calls and internal calls only.

- **Barred Access**

Those permitted tie line and internal calls only.

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

There shall be a means of re-allocating subscriber access to the various I.P.P.B.X facilities which shall be promoted by a security system that will prevent unauthorized alterations.

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

## **2.11 ATTENDANT CONSOLE**

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

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

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

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

Call presentation, chaining process, call back will be entirely managed by the I.P.P.B.X; however it will be possible to put certain call on individual hold, on keys which have been reserved to that effect.

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



## 2.12 TELEPHONE INSTRUMENTS

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

### (a) Digital Executive Telephone Instruments

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

- Standard telephone facilities
- Abbreviated dialing
- Automatic ring back indication
- Calling number display
- Calls indication
- Call waiting display
- Do-not disturb indication
- Extension status indication
- Hands free
- Individual speed dialing
- Intercom
- LCD display (16 characters)
- Microphone unit.
- On hook dialing
- Password protection
- Repeat last number
- Ringing level and tune selection
- Store and redial
- Single key access to line features

### (b) Digital Standard Telephone Instruments

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

- Standard telephone facilities
- Automatic ring back indication
- Extension status indication
- Individual speed dialing
- On hook dialing
- Repeat last Number
- Ringing level and tune selection
- Store and redial.

## 2.13 NUMBER SYSTEM

The number scheme will be:-

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

## 2.14 EXCHANGE LINES

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

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

## 2.15 TIE LINES

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

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

## 2.16 SYSTEM MAINTENANCE

- Test Equipment and Tools

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

- Maintenance Features

The PABX shall have the following system maintenance features:-

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

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

- **Maintenance and Operating Manuals**

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

They will include but not limited to:-

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

## **2.17 POWER SUPPLY**

### **Rectifier**

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

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

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

- **Battery**

A stationery battery is required to supply power during peak hours and mains supply failures and to provide smoothing for DC out put from the rectifier.

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

- **Voltage stabilizer**

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

## Earthing

An independent telecommunication earth shall be provided for the I.P.P.A.B.X and the MDF (*if available*). The earth lead cable shall not be less than 6mm<sup>2</sup> and shall terminate to copper earth electrode(s) in a concrete manhole (300mm x 300mm) with a suitable concrete cover.

## 2.18 LIST OF MAIN REQUIREMENTS FOR THE PROPOSED I.P.P.B.X FOR OL-KALOU - NYANDARUA COUNTY

FACILITY	INITIALLY EQUIPPED	ULTIMATE SIZE
No. of Digital Extensions	100	120
No. of Trunk lines	8	12
No. of ISDN lines	1	1
Tie Lines	4	4
No. of GSM modules complete with Lines	4	6
No. of Operator's Consoles	2	2
No. of Operator's Head sets	2	2
No. of Operators' Hand sets	2	2

## 2.19 OTHER REQUIREMENTS

The I.P.P.B.X shall:

1. Be fully digital with a redundant processor with its own power supply
2. have remote maintenance interface MDF and lightning protection;
3. be of compact modular design with sub-lines pre-wired and easily removable;
4. have at least 50% power failure trunk transfer facility;
5. be able to support both digital and analogue circuits;
6. have a UPS of at least 8 hrs autonomy;
7. have direct inward system access facilities and data communication services;
8. be equipped with flexible music on hold;
9. be ISDN equipped;
10. be equipped with station Hunt groups facility;
11. be complete with a maintenance terminal facility with VDU and Key board;
12. have call forwarding automatic call transfer, three party conference among other standard features;
13. be equipped with mains power supply Anti-surge, over-voltage and under-voltage protection devices and lightning protectors for all cards; voltage
14. have facility for selection for night service/special night answer point;
15. have on screen fault indication facility;
16. have computer-telephone inter-face for digital instruments capability;
17. be ready to accommodate either or all E1 and ISDN cards which include but are not limited to BRA ,PRA BPRA and LIOx;

- 18. be **type approved by the CCK**. The tenderer must indicate the type approval references for the various parts that constitute the equipment. Photostat copies of type approvals must be attached and
- 19. be **compatible** for connection to Telkom Kenya Telecommunication network.

**2.20 ITEMS TO BE STATED BY THE TENDERER**

Delivery period from date of award of contract.....weeks

Period required for installation from receipt of equipment .....weeks

What is the name and model number of the I.P.P.B.X for which you have tendered?  
.....

In which countries is the I.P.P.B.X and its PCB's manufactured.....  
.....

With what standard does the I.P.P.B.X comply? .....

Is a full stock of spares available in Kenya? .....

For how many years is the continuity of spare parts guaranteed? (A minimum of 10 years is required).....years

What is the busy hour traffic capacity of the I.P.P.B.X assuming no delay in main exchange dial tone? .....

What is the maximum ambient temperature in which the I.P.P.B.X will function satisfactorily?  
.....

Is air conditioning required for the I.P.P.B.X? .....

Is protection against high transient line voltage incorporated? .....

How many pairs are required per extension line? .....

Is the operator's console suitable for a blind operator? .....

What is the guarantee period offered? .....

(Note: 12 months is the minimum)

Is an MDF incorporated in the I.P.P.B.X? .....

Capacity of the standby battery in A.H.....

Output of charger in Amps .....

## 2. PARTICULAR AND TECHNICAL SPECIFICATIONS OF MATERIALS AND WORKS FOR STRUCTURED CABLING WORKS

### A. GENERAL TECHNICAL SPECIFICATIONS

#### PART 3

- a. Section Includes: Equipment, materials, labor, and services to provide telephone and data distribution system including but not limited to:
- 1) Telephone and data cabling terminations
  - 2) Optical fiber and terminations
  - 3) Data/voice outlets
  - 4) Terminal blocks/cross-connect systems
  - 5) Equipment racks and cabinets
  - 6) System testing
  - 7) Documentation and submissions
  - 8) Surface trunking, cable ladder,
  - 9) Core switch, edge switches
- b. Provide all equipment, materials, labor, and services, not specifically mentioned or shown, which may be necessary to complete or perfect all parts of the installation. Ensure that they are in compliance with requirements stated or reasonably inferred by the contract documents.

#### 1. REFERENCES

- a. Design, manufacture, test, and install telecommunications cabling networks per manufacturer's requirements and in accordance with NFPA-70 (*National Electrical Code®*)/IEE Regulations, state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards: ANSI/NECA/BICSI-568 -- Standard for Installing Commercial Building Telecommunications Cabling ANSI/TIA/EIA Standards.
- 1) *ANSI/TIA/EIA-568-B.1* -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
  - 2) *ANSI/TIA/EIA-568-B.2* -- Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components
  - 3) *ANSI/TIA/EIA-568-B.3* -- Optical Fiber Cabling Components Standard
  - 4) *ANSI/TIA/EIA-569-A* -- Commercial Building Standard for Telecommunications Pathways and Spaces
  - 5) *ANSI/TIA/EIA-606(A)* -- The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
  - 6) *ANSI/TIA/EIA-607(A)* -- Commercial Building Grounding and Bonding Requirements for Telecommunications
  - 7) *ANSI/TIA/EIA-526-7* -- Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
  - 8) *ANSI/TIA/EIA-526-14A* -- Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant
  - 9) *ANSI/TIA/EIA-758(A)* -- Customer-Owned Outside Plant Telecommunications Cabling Standard
  - 10) ISO/IEC 1101 *Amendment 2*

- b. Local codes, rules, regulations, and ordinances governing the work, are as fully part of the specifications as if herein repeated or hereto attached. If the contractor should note items in the drawings or the specifications, construction of which would be code violations, promptly call them to the attention of the Project Manager in writing. Where the requirements of other sections of the specifications are more stringent than applicable codes, rules, regulations, and ordinances, the specifications shall apply.

## 1. PERMITS, FEES, AND CERTIFICATES OF APPROVAL

- a. The Contractor to include the cost of application and pay for building permit.
- b. As prerequisite to final acceptance, supply to the client certificates of inspection from an inspection agency acceptable to the owner and approved by local municipality and utility company serving the Project Manager.

## 2. SYSTEM DESCRIPTION

- a. A telecommunications cabling system generally consists of one telecommunications outlet in each workstation, wall telephones in common and power socket outlet.
  - b. The typical work area consists of a single-gang plate with two standards compliant work area outlets.
  - c. One work area outlet consists of one (1) four-pair data Category 6 cables or above, installed from work area outlet to the data cabinet. Terminate data cables on modular patch panels located in the appropriate data cabinet.
  - d. One work area outlet consists of one (1) four-pair screened (ScTP) cable installed from work area outlet to the data termination rack in the cabinet. Terminate data cables on rack mounted modular patch panels.
- 2.1. Vertical/horizontal copper backbone cabling consists of multiple pair unshielded twisted-pair installed from the main cross-connect (MC) to the horizontal cross-connect (HC) and/or from the MC to the intermediate cross-connect (IC) to the HC.
- 2.2. Vertical/horizontal backbone cabling consists of 62.5/125  $\mu\text{m}$  multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC.
- g. Vertical/horizontal backbone cabling consists of 50/125  $\mu\text{m}$  multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC. *Specification Note: State what this backbone will be utilized for. Examples are voice telecommunications service, premises switching equipment, data communications, etc.*

### 3. SUBMITTALS

- a. Submit to the P.M shop drawings, product data (including cut sheets and catalog information), and samples required by the contract documents. Submit shop drawings, product data, and samples with such promptness and in such sequence as to cause no delay in the work or in the activities of separate contractors. The engineer will indicate approval of shop drawings, product data, and samples submitted to the engineer by stamping such submittals "APPROVED" with a stamp. Submitted shop drawings shall be initialed or signed by the contractor, showing the date and the contractor's legitimate firm name.

*1) By submitting shop drawings, product data, and samples, the contractor represents that he or she has carefully reviewed and verified materials, quantities, field measurements, and field construction criteria related thereto. It also represents that the contractor has checked, coordinated, and verified that information contained within shop drawings, product data, and samples conform to the requirements of the work and of the contract documents. The engineer/designer remains responsible for the design concept expressed in the contract documents as defined herein.*

*2) The P.M approval of shop drawings, product data, and samples submitted by the contractor shall not relieve the contractor of responsibility for deviations from requirements of the contract documents, unless the contractor has specifically informed the engineer/designer in writing of such deviation at time of submittal, and the engineer/designer has given written approval of the specific deviation. The contractor shall continue to be responsible for deviations from requirements of the contract documents not specifically noted by the contractor in writing, and specifically approved by the engineer in writing.*

*3) The P.M approval of shop drawings, product data, and samples shall not relieve the contractor of responsibility for errors or omissions in such shop drawings, product data, and samples.*

*4) The P.M review and approval, or other appropriate action upon shop drawings, product data, and samples, is for the limited purpose of checking for conformance with information given and design concept expressed in the contract documents. The engineer's review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the contractor as required by the contract documents.*

*The review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences, or procedures. The P.M approval of a specific item shall not indicate approval of an assembly of which the item is a component.*



b. Shop drawings: Submit the following:

*Coordinate with Part 2.Backbone (riser) diagrams*

- 1) *System block diagram, indicating interconnection between system components and subsystems*
- 2) *Interface requirements, including connector types and pin-outs, to external systems and systems or components not supplied by the contractor Fabrication drawings for custom-built equipment*

c. Product Data -- Provide catalog cut sheets and information for the following:

*Coordinate with Part 2.*

- 1) *Wire, cable, and optical fiber*
- 2) *Outlets, jacks, faceplates, and connectors*
- 3) *All metallic and nonmetallic raceways, including surface raceways, outlet boxes, and fittings*
- 4) *Terminal blocks and patch panels*
- 5) *Enclosures, racks, and equipment housings*
- 6) *Over-voltage protectors*
- 7) *Splice housings*

d. Samples-- Submit samples as required by the Engineer.

e. Project record drawings:

- 1) Submit project record drawings at conclusion of the project and include:
  - (a) *Approved shop drawings*
  - (b) *Plan drawings indicating locations and identification of work area outlets, nodes, data cabinet rooms, and backbone (riser) cable runs*
  - (c) *Cross-connect schedules including entrance point, main cross-connects, intermediate cross-connects, and horizontal cross-connects.*
  - (d) *Labeling and administration documentation*
  - (e) *Warranty documents for equipment.*
  - (f) *Copper certification test result printouts and diskettes.*
  - (g) *Optical fiber power meter/light source test results.*
  - (h) *Operation and maintenance manuals:*

#### **4. QUALITY ASSURANCE**

- 4.1. The contractor shall have worked satisfactorily for a minimum of five (5) years on systems of this type and size.
- 4.2. b. Upon request by the P.M, furnish a list of references with specific information regarding type of project and involvement in providing of equipment and systems.
- 4.3. Equipment and materials of the type for which there are independent standard testing requirements, listings, and labels, shall be listed and labeled by the independent testing laboratory.
- 4.4. Where equipment and materials have industry certification, labels, or standards (i.e., NEMA - National Electrical Manufacturers Association), this equipment shall be labeled as certified or complying with standards.
- 4.5. Material and equipment shall be new, and conform to grade, quality, and standards specified. Equipment and materials of the same type shall be a product of the same manufacturer throughout.
- 4.6. Subcontractors shall assume all rights and obligations toward the contractor that the contractor assumes toward the client and P.M.

#### **5. WARRANTY**

- 5.1. Unless otherwise specified, unconditional guarantee shall be in writing for the materials, equipment, and workmanship for a period of not less than fifteen (15) years from date of commissioning of the project for active components.
- 5.2. Transfer manufacturer's warranties to the owner in addition to the General System Guarantee. Submit these warranties on each item in list form with shop drawings. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the guarantee period. Final payment shall not relieve you of these obligations.

#### **6. DELIVERY, STORAGE, AND HANDLING**

- 6.1. Protect equipment during transit, storage, and handling to prevent damage, theft, soiling, and misalignment. Coordinate with the client for secure storage of equipment and materials. Do not store equipment where conditions fall outside manufacturer's recommendations for environmental conditions. Do not install damaged equipment; remove from site and replace damaged equipment with new equipment.

## **7. SEQUENCE AND SCHEDULING**

- 7.1. Submit schedule for installation of equipment and cabling. Indicate delivery, installation, and testing for conformance to specific job completion dates. As a minimum, dates are to be provided for bid award, installation start date, completion of station cabling, completion of riser cabling, completion of testing and labeling, cutover, completion of the final punch list, start of demolition, owner acceptance, and demolition completion.

## **8. USE OF THE SITE**

- 8.1. Access to building wherein the work is performed shall be as directed by the P.M. The client will occupy the premises during the entire period of construction for conducting his or her normal business operations. Cooperate with the client to minimize conflict and to facilitate the owner's operations.

Schedule necessary shutdowns of plant services with the main contractor, and obtain written permission from the client.

Proceed with the work without interfering with ordinary use of streets, aisles, passages, exits, and operations of the client.

## **PART 4 - PRODUCTS**

### **1. MANUFACTURERS**

Provide products of manufacturers as named in individual articles. Where no manufacturer is specified, provide products of manufacturers in compliance with requirements.

### **2. FABRICATION**

Fabricate custom-made equipment with careful consideration given to aesthetic, technical, and functional aspects of equipment and its installation.

### **3. SUITABILITY**

Provide products that are suitable for intended use, including, but not limited to environmental, regulatory, and electrical.

### **4. VOICE/DATA TELECOMMUNICATIONS SERVICE BACKBONE CABLE**

a. Solid copper, 24 AWG, 100  $\Omega$  balanced twisted-pair (UTP) backbone cable, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.2

b. Multimode 62.5/125  $\mu\text{m}$  diameter tight-buffered optical fiber, with fiber counts as indicated on drawings, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

### **5. VOICE TELECOMMUNICATIONS STATION CABLE**

a. Solid copper, 24 AWG, 100  $\Omega$  balanced twisted-pair (UTP) Category 6e cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.

### **6. DATA STATION CABLE (Copper)**

a. Solid copper, 24 AWG, 100  $\Omega$  balanced twisted-pair (UTP) Category 6e cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.

b. Solid copper, 24 AWG, 100  $\Omega$  balanced twisted-pair, screened (ScTP) cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 (Annex K) up to 100 MHz

### **7. DATA STATION CABLE (Optical Fiber)**

a. Multimode 62.5/125  $\mu\text{m}$  diameter tight-buffered optical fiber, with the required number of fiber counts, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

### **8. UNDERGROUND TELECOMMUNICATIONS CABLE (Copper)**

If you have copper cables installed outside between buildings, be certain to specify overvoltage protectors on both ends of the cable. See article, OVERVOLTAGE PROTECTORS.

Solid copper, 24 AWG 100  $\Omega$  balanced twisted-pair, gel-filled duct cable, in sizes as indicated on the drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.2 and ANSI/TIA/EIA-758(A).

## **9. UNDERGROUND TELECOMMUNICATIONS CABLE (Optical Fiber)**

Singlemode 8.7  $\mu\text{m}$  to 10  $\mu\text{m}$  diameter, armored, gel-filled optical fiber, with number of usable fibers as shown on drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.3 and ANSI/TIA/EIA-758(A).

## **10. VOICE/DATA – COPPER & OPTICAL FIBER WORK AREA OUTLETS**

Edit for items that will actually be used on the project.

Pick a color for the faceplate and each type of jack, or make them all one color.

Determine which pinning standard is to be used, T568A, T568B, or USOC. If not otherwise specified, specify T568A. Use either 10c with 5C connectors or 10d (1) for ST connectors. 5C connectors are preferred. Use ST connectors to match existing cable plant if required.

Single-gang mounting plate with two (2) openings containing the following devices:

a. Data Outlet - 8-pin modular, category 6e, unkeyed, black, pinned to either T568 (A or B) standards.

b. Optical Fiber Connectors – simplex ST - ST adapter.

Provide two optical fiber adapters for each faceplate

## **11. VOICE/DATA WORK AREA OUTLETS (Copper only)**

Single-gang mounting plate with four (4) openings containing the following devices:

Data Outlet - 8-pin modular, Category 6e, unkeyed, black, pinned to either T568 (A or B) standards.

## **12. VOICE ONLY WORK AREA OUTLET**

Single-gang faceplate with 8-pin modular, category 6e, unkeyed, ivory telephone jack, pinned to either T568 (A or B) standards

## **13. TERMINATION BLOCKS**

For items that will actually be used on the project: Coordinate with MC, IC and HC layout drawing.

a. Product(s) as approved by the P.M: Wiring blocks are to be in following configurations:

1) List dimensional configurations

2) ER – List pairs categorized for PBX portion of ER and pairs field terminated for backbone and CO portion of ER

Provide wiring troughs between ER frame sections.

## **14. PATCH PANELS**

Specification Note: Alter quantities to match job requirements.

19 in. rack mountable, 24-port 8-pin modular to insulation displacement connector (IDC) meeting Category 6e performance standards, and pinned to either T568 (A or B) standards. Typical examples of IDC connections are the 110, BIX, and Krone.

## **15. WALL MOUNTED OPTICAL FIBER PATCH PANELS**

Specification Note: Alter quantities to match job requirements

Wall-mounted optical fiber termination panel with 12-fiber capacity, hinged door, cable strain relief, slack storage, and two 6-port 5C or approved alternative connector panels with adapters and provisions for two splice trays.

## **16. RACK MOUNTED OPTICAL FIBER TERMINATION PANEL**

Specification Note: Alter size to match job requirements. Coordinate with connector type.  
*19 in. rack mounted 72-port rack-mounted optical fiber termination panel with cable strain relief, grounding lugs, slack storage and three 12-port duplex SC or approved alternative connector panels with adapters and provisions for six (6) splice trays.*

## **17. SPLICE TRAYS**

Sized for single mode and multimode fibers, nonmetallic with clear plastic cover, 12-fiber splice capacity and compatible with splice enclosure and splicing method.

## **18. OPTICAL FIBER CONNECTORS**

Ceramic tipped field installed 568SC connectors, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3. Various alternative field installed connector designs, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3 (Annex A).

## **19. OPTICAL FIBER JUMPERS**

Dual 62.5/125- $\mu\text{m}$  (*and/or single mode*) optical fiber jumper cable, 1 m long with 3.0 mm Duplex 568SC optical fiber connectors on each end.

Dual 62.5/125- $\mu\text{m}$  (*and/or single mode*) optical fiber jumper cable, 1 m long with approved alternative duplex optical fiber connectors on each end.

## **20. OPTICAL FIBER PIGTAILS**

62.5/125  $\mu\text{m}$  (*and/or single mode*) optical fiber pigtail 1 m long with 3.0 mm single 568 SC optical fiber connectors on one end

## **21. OPEN FRAME EQUIPMENT RACK**

Open frame, 19 in. equipment rack, 7 foot 6 in. overall height with flange base, mounting rails drilled front and back and tapped to EIA standards, and a front-rack mountable 10 outlet multiple outlet electrical strip or 42u enclosed glazed.

## **22. EQUIPMENT RACKS/CABINETS**

Specification Note: Use 19 in. or change to 23 in. as required. If using wall-mounted racks or cabinets, add required specifications here. Add and delete features as required.

a. The 19 in. equipment rack shall have the following minimum requirements:

- 77 in. (44 rack spaces) of panel space
- Welded frame construction
- Locking front and rear doors
- Adjustable front and back equipment mounting rails drilled and tapped to EIA standards
- 10 position electrical outlet strip
- Removable side panels
- Top mounted, thermostatically controlled exhaust fan
- Smoked acrylic front door.

## **23. LISTED BUILDING ENTRANCE PROTECTORS**

Use when copper cables are run outside of building.

Use appropriate protector modules.

Building entrance terminal utilizing a two (2) foot fuse link between the outside cable plant splice and the protector module with IDC type input and output terminals, 100-pair capacity and female mounting base, equipped with 230 volt solid state protector modules. Provide sufficient protector modules to completely populate all building entrance terminals.

## **24. SPLICE HOUSING**

Use this or something else. Delete splice modules if used for optical fiber cables.

- a. Encapsulated, re-enterable splice housing, sized as required with bonding straps, accessories, end caps and encapsulant as required
- b. Splice modules (such as 710 series or MS<sup>2</sup>) for use within splice housing

## **25. SPARES**

Change quantities to suit job size. Edit to match that which is actually specified.

- a. Furnish the following spare equipment and parts:  
Terminal block connectors, if required

Test set cords, if required

Install one test cord set in each telecommunications closet

Five (5) percent of base bid quantity of each type of jack shall be provided

Five (5) percent of base bid quantity of each type of outlet

Five thousand (5000) ft of each type of station cable

One thousand (1000) ft of one-pair cross-connect wire for each telecommunications closet

One thousand (1000) ft of two-pair cross-connect wire for each telecommunications closet

Five (5) percent of base bid quantity of protector modules

## **EXECUTION**

### **1. PRE-INSTALLATION SITE SURVEY**

- a. Prior to start of systems installation, meet at the project site with the P.M and representatives of trades performing related work to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work. Facilitation with the Client will be necessary to plan the crucial scheduled completions of the equipment room and telecommunications closets.
- b. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.

### **2. HANDLING AND PROTECTION OF EQUIPMENT AND MATERIALS**

- a. Be responsible for safekeeping of your own, such as equipment and materials, on the job site. The client assumes no responsibility for protection of above named property against fire, theft, and environmental conditions.

### **3. PROTECTION OF OWNER'S FACILITIES**

- a. Effectively protect the client's facilities, equipment, and materials from dust, dirt, and damage during construction.
- b. Remove protection at completion of the work.

### **4. INSTALLATION**

Receive, check, unload, handle, store, and adequately protect equipment and materials to be installed as part of the contract. Store in areas as directed by the owner's representative. Include delivery, unloading, setting in place, fastening to walls, floors, ceilings, or other structures where required, interconnecting wiring of system components, equipment alignment and adjustment, and other related work whether or not expressly defined herein.

Install materials and equipment in accordance with applicable standards, codes, requirements, and recommendations of national, state, and local authorities having jurisdiction, and *National Electrical Code®* (NEC) and with manufacturer's printed instructions.

Adhere to manufacturer's published specifications for pulling tension, minimum bend radii, and sidewall pressure when installing cables.

1) Where manufacturer does not provide bending radii information, minimum-bending radius shall be 15 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the P.M and the client.

e. Penetrations through floor and fire-rated walls shall utilize intermediate metallic conduit (IMC) or galvanized rigid conduit (GRC) sleeves and shall be fire stopped after installation and testing, utilizing a fire stopping assembly approved for that application.

f. Install station cabling to the nearest telecommunications room (TR), unless otherwise noted.

g. Installation shall conform to the following basic guidelines:

- 1) Use of approved wire, cable, and wiring devices
- 2) Neat and uncluttered wire termination

h. Attach cables to permanent structure with suitable attachments at intervals of 1200-1500mm. Support cables installed above removable ceilings.

i. Install adequate support structures for 10 foot of service slack at each TR.

j. Support riser cables every floor and at top of run with cable grips.

- 1) Limit number of four-pair data riser cables per grip to fifty (50)

k. Install cables in one continuous piece. Splices shall not be allowed except as indicated on the drawings or noted below:

l. Provide over voltage protection on both ends of cabling exposed to lightning or accidental contact with power conductors.

*Specification Note: Insert any other specific installation requirements here, such as hook and latch fasteners instead of cable ties, etc.*

## **5. GROUNDING**

Edit as required.

a. Grounding shall conform to ANSI/TIA/EIA 607(A) - *Commercial Building Grounding and Bonding Requirements for Telecommunications*, *National Electrical Code®*, ANSI/NECA/BICSI-568 and manufacturer's grounding requirements as minimum.

b. Bond and ground equipment racks, housings, messenger cables, and raceways.

c. Connect cabinets, racks, and frames to single-point ground which is connected to building ground system via #6 AWG green insulated copper grounding conductor.



## 6. LABELING

Use 6d if the type of termination block permits labels. Otherwise use 6e.

Use 6g if the owner does not have a standard for outlet numbering.

Use 6h if required. Alter time as requested.

Labeling shall conform to ANSI/TIA/EIA-606(A) standards. In addition, provide the following:

a. Label each outlet with permanent self-adhesive label with minimum 3/16 in. high characters.  
b. Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:

- 1) Inside receptacle box at the work area.
- 2) Behind the communication closet patch panel or punch block.

c. Use labels on face of data patch panels. Provide facility assignment records in a protective cover at each telecommunications closet location that is specific to the facilities terminated therein.

d. Use color-coded labels for each termination field that conforms to ANSI/TIA/EIA-606(A) standard color codes for termination blocks.

e. Mount termination blocks on color-coded backboards.

f. Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.

g. Label cables, outlets, patch panels, and punch blocks with room number in which outlet is located, followed by a single letter suffix to indicate particular outlet within room, i.e., S2107A, S2107B. Indicate riser cables by an R then pair or cable number.

h. Mark up floor plans showing outlet locations, type, and cable marking of cables. Turn these drawings over to the owner two (2) weeks prior to move in to allow the owner's personnel to connect and test owner-provided equipment in a timely fashion.

i. Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form (3.5" floppy disks) and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

## 7. TESTING

Testing shall conform to ANSI/TIA/EIA-568-B.1 standard. Testing shall be accomplished using level IIe or higher field testers.

Test each pair and shield of each cable for opens, shorts, grounds, and pair reversal. Correct grounded, and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.

- 1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements.
- 2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable.

Use 2 or 3 as required.

3) If copper cables contain more than the following quantity of bad pairs, or if outer sheath damage is cause of bad pairs, remove and replace the entire cable:

CABLE SIZE	MAXIMUM BAD PAIRS
<100	1
101 to 300	1 – 3
301 to 600	3 – 6
>601	6

4) If horizontal cable contains bad conductors or shield, remove and replace cable. Initially test optical cable with a light source and power meter utilizing procedures as stated in ANSI/TIA/EIA-526-14A: *OFSTP-14A Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant* and ANSI/TIA/EIA-526-7 *Measurement of Optical Power Loss of Installed Single mode Fiber Cable Plant*. Measured results shall be plus/minus 1 dB of submitted loss budget calculations. If loss figures are outside this range, test cable with optical time domain reflectometer to determine cause of variation. Correct improper splices and replace damaged cables at no charge to the owner.

1) Cables shall be tested at 850 and 1300 nm for multimode optical fiber cables. Cables shall be tested at 1310 and 1550 nm for single mode optical fibers.

2) Testing procedures shall utilize “Method B” – One jumper reference.

3) Bi-directional testing of optical fibers is required.

d. Perform optical time domain reflectometer (OTDR) testing on each fiber optic conductor. Measured results shall be plus/minus 1 dB of submitted loss budget calculations.

1) Submit printout for each cable tested.

2) Submit 3.5 in. disks with test results and program to view results.

e. Where any portion of system does not meet the specifications, correct deviation and repeat applicable testing at no additional cost.

## FIELD QUALITY CONTROL

a. Employ job superintendent during the course of the installation to provide coordination of work of this specification and of other trades, and provide technical information when requested by other trades. This person shall maintain current RCDD® (Registered Communications Distribution Designer) registration and shall be responsible for quality control during installation, equipment set-up, and testing.

b. At least 30 percent of installation personnel shall be *BICSI Registered Telecommunications Installers*. Of that number, at least 15 percent shall be registered at the *Technician Level*, at least 40 percent shall be registered at the *Installer Level 2*, and the balance shall be registered at the *Installer Level 1*.

Specification Note: Use this or insert manufacturer’s requirements for installer qualifications to meet extended warranty program requirements.

c. Installation personnel shall meet manufacturer’s training and education requirements for implementation of extended warranty program.

## **B. PARTICULAR SPECIFICATIONS FOR STRUCTURED CABLING**

### **1.0 SITE LOCATION**

The site of the proposed works is located at **Busia County**

### **2.0 DESCRIPTION OF THE PROJECT**

The works to be carried out comprise the following;

- i) Proposed supply, installation, testing and commissioning of a structured cabling system to cater for computer data points and telephone points.
- ii) Configure and set up the structured cabling system to be used on LAN,
- iii) Produce test result, warranty certification, reports and as installed drawings.  
The Network will be capable of supporting approximately 266 data/voice points.
- iii) Supply, install appropriate telephone cables to interconnect the data cabinets to the E.P.A.B.X (*to be supplied by others*). The works shall include inter-wiring, programming and activating all voice points.

### **3.0 REGULATIONS**

The contractor shall, in execution and completion of the works in the detailed design for which he is responsible, comply with the provisions of the following as necessary and relevant;

- a) ISO/IEC, CCK, ATM CENELEC 11801
- b) ANSI/EIA/TIA 56
- c) Latest Edition of IEE Regulation
- d) Kenya Bureau of Standards
- e) Electric Power Act and Rules made there under.

### **4.0 WORKING DRAWINGS**

The Contractor shall submit to the Project Manager working drawings for the proposed system for approval. The drawings will show the locations of and identifiers for all cable routing and terminations, telecommunication outlets/connectors. Location of core switch and Edge switches.

### **5.0 NETWORK CABINETS**

- a) To be located on each floor in designated rooms as indicated in the electrical drawings.
- b) Must be metallic (appropriately sized as specified in the BQ) with a front clear glass, free standing, complete with lock and key and the following accessories;
  - Cable Management channel rack
  - Cable support hooks
  - Cable support rings and straps
  - Cable duct cover
  - Feed through cable panels
  - Vented equipment shelving
  - Blank filler panels

- Hinged wall mounted brackets
- Glass viewing window
- Colored Designation strips
- Management lock and key
- Cooling extractor fans
- Caster wheels
- Inbuilt 2-gang power socket outlet

## 6.0 ACTIVE CONTROL EQUIPMENTS AT THE NETWORK CORE

The active control equipment at the core should have the following features:

- a. Backplane/switch fabric Bandwidth Capacity of 150 GBPS or more.
- b. IEEE 802.3 compliant for power over Ethernet
- c. IEEE 802.1 based security compliant
- d. SNMP compliant for security
- e. Layer 2/3/4 switch
- f. Should support Gigabit Ethernet to the desktop
- g. Should have at least 10-slots or higher chassis
- h. The core switches should have two links to each floor configured in active/active configuration. The links should deliver 2GBPS throughput when all ports are active.
- i. The core switch should have redundant power supply, redundant fan tray and redundant CPU/ supervisor engine installed
- j. Fiber cable linking stacks on each floor to the core should be connected to 1000Base X(GBIC) port on the core switch.
- k. Should be installed with the latest version of system software at the time of delivery.
- l. Should support Quality of service for various applications.

## 7.0 ACTIVE CONTROL EQUIPMENTS AT THE LAN EDGE

Active control equipments at the LAN Edge should have the following features

- a) Active control equipments at the LAN Edge should support 10/100/1000 MBPS on all ports (RJ45) and Gigabit to the desktop connectivity
- b) The equipments should have at least two 1000BaseXGigabit uplink ports for terminating backbone Fiber.
- c) The equipments should support layer 3 routing.
- d) Should support IEEE 802.1, SSH, SNMP.
- e) Switch Fabric forwarding Bandwidth of 64GBPS or more.
- f) More than 12,000MAC addresses should be available on each switch .
- g) The switches should have 24/48 ports of 10/100/1000 MBPS.
- h) Each stack on the edge will have two links of Fiber to the core switch, totaling two fiber terminations from the core switch to the stack.
- i) Should support Jumbo frames.
- j) Total stack throughput bandwidth of 64 GBPS or more.
- k) Active Equipments at the LAN Edge should be quoted with a minimum of **One year of warranty** covering free replacement of parts and units.

## **8.0 NETWORK MANAGEMENT SYSTEM**

Bidders must propose the manufacturers Network Management system for centralized configuration, maintenance and trouble shooting of active equipments. Third party stand alone systems should not be offered as part of the solution. Features and functionalities of the system should include the following:

- a) Should be compatible with Microsoft windows/Linux operating systems
- b) Graphical User Interface for central Management and network viewing
- c) Network discovery and inventory management
- d) VLAN, multicast, security and load-balancing/fail over configuration
- e) Downloading and saving of log file from the device flash memory
- f) Centralized upgrade/backup and archiving of active devices
- g) Export of network topology to JPEG or other standard formats.

## **9.0 CABLES**

### **9.1 UTP CABLE**

The UTP cable must be category 6 compliant UTP cable, with the following specifications:

- a) 4-pair cables with 100 ohm impedance.
- b) Compliant to standards such as TIA/EIA – 268-B. 2-1 and IEC 61156-5
- c) Made of polyethylene insulation
- d) Pulling force should support up to 50N/mm<sup>2</sup>

### **9.2 OPTICAL FIBRE CABLE**

The fibre cable must be 8 core multimode fibre with the following specifications:-

- a) Cable size: 8 cores.
- b) Termination: SC Duplex connectors.
- c) Graded Index: Nominal 62.5/125 micron

## **10.0 CAT 6 PATCH PANELS**

The Contractor shall provide factory made patch panels, cat 6 complete with rear cable management and front designation strips, 110 PCB mounted connectors and integral RJ mounted jack sockets.

## **11.0 FIBER PATCH PANELS**

All Backbone Fiber links to individual floors should be terminated on Fiber Patch Panels. Connector interfaces should support ST, Sc simplex, Sc duplex, FC, LC or MT-RJ.

## **12.0 BACK BONE**

Backbone cabling inclusive of switches and all necessary accessories shall be carried out in readiness for the termination of edge switches.

The Backbone cabling shall be flexible and allow for easy 'add ons' for future expansions. Hence enough capacity shall be allowed for future expansion.

### 13.0 EDGE/FLOOR SWITCHES

These shall be per floor and have enough capacity for expansion

### 14.0 ADDITIONAL NOTES

Tenderers should take note of the following

- a) The network should be capable of carrying data, voice and video. QoS should be considered as part of installation and configuration of the network.
- b) All active LAN equipments should be from the same manufacturer for seamless integration, management and maintenance.
- c) Each floor should have a telecommunication Closet to house the necessary structured cabling components and active equipments.

### 15.0 BROCHURES AND TECHNICAL LITERATURE

Tenderers **must** enclose together with their submitted bids brochures detailing technical Literature and specifications of the active components of the structured cabling system. The brochures shall be used to evaluate the suitability of these components.

**Any bid submitted without the brochures shall be considered technically non-responsive, and may subsequently be disqualified.**

STATEMENT OF COMPLIANCE

(a) I confirm compliance with all clauses in this tender specification.

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

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

Date .....

SECTION G

SCHEDULE OF UNIT RATES



## SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from 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.

**SCHEDULE OF UNIT RATES**  
**(To be completed by the Tenderer)**

Item	Description	Unit	Rate(KSh)
<b>1</b>	<b>Data Racks</b> (a) 9U (b) 12U (c) 18U (d) 27U (e) 32U	No No. No. <b>No</b> <b>No</b>	
<b>2</b>	<b>Telephone cables</b> (a) 40 Pair (b) 50 Pair (c) 100 pair	LM LM LM	
<b>3</b>	<b>Fiber optic cable</b> (a) Single Mode  (b) Dual	LM  LM	
<b>4</b>	<b>Network Switches rack mounted</b> (a) 12 Port  (b) 48 Port	No.  No.	
<b>5</b>	<b>Backfilling</b>	LM	

SECTION H

BILLS OF QUANTITIES

## **BILLS OF QUANTITIES**

### **A) PRICING OF PRELIMINARIES ITEMS**

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

The Bills of Quantities are divided generally into three sections:

#### **(a) Preliminaries – Bill No.1**

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

#### **(b) Installation Items – Other Bills**

- (i) The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
- (ii) The unit of measurements and observations are as per those described in clause 1.0 5 of the section C.

#### **(c) Summary**

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

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

## SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including **16% VAT**).
3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender**.
6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

## 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: \_\_\_\_\_

**BILL 1.0 - CONTRACT PRELIMINARIES** *(Refer to Section C of this Tender Document)*

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
1	Discrepancies clause 1.02				
2	Conditions of contract Agreement clause 1.03				
3	Payments clause 1.04				
4	Site location clause 1.06				
5	Scope of Contract Works clause 1.08				
6	Extent of the Contractor's Duties clause 1.09				
7	Firm price contract clause 1.12				
8	Variation clause 1.13				
9	Prime cost and provisional sum clause 3.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond clause 1.15				
11	Government Legislation and Regulations clause 1.16				
12	Import Duty and Value Added Tax clause 1.17 <i>(Note this clause applies for materials supplied only)</i>				
13	Insurance company Fees clause 1.18				
14	Provision of services by the Main contractor clause 1.19				
15	Samples and Materials Generally clause 1.21				
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
<b>SUB TOTAL C/F TO COLLECTION PAGE No. H/5</b>					

**BILL 1.0 CONT'D - CONTRACT PRELIMINARIES** *(Refer to Section C of this Tender Document)*

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
18	Contractor's Office in Kenya clause 1.24				
19	Builder's Work clause 1.25				
20	Setting to work and Regulating system clause 1.29				
21	Identification of plant components clause 1.30				
22	Working Drawings clause 1.32				
23	Record Drawings(As Installed) and Instructions clause 1.33				
24	Maintenance Manual clause 1.34				
25	Hand over clause 1.35				
26	Painting clause 1.36				
27	Testing and Inspection – manufactured plant clause 1.38				
28	Testing and Inspection – Installation clause 1.39				
29	Storage of Materials clause 1.41				
30	Initial Maintenance clause 1.42				
31	Local and other Authorities notices and fees clause 1.60				
32	Temporary Works clause 1.63				
33	Patent Rights clause 1.64				
34	Mobilization and Demobilization Clause 1.65				
35	Supervision by engineer and site meetings clause 1.67	100000			100,000.00
<b>SUB TOTAL C/F TO COLLECTION PAGE No. H/5</b>					





**schedule 1: IP PBX WORKS**

Item	Description	Qty	Unit	Rate	Kshs.
1.00	Supply, install, test and commission an IP PBX equipped as specified in section "F".	1	No.		
1.01	Supply, install, test and commission a battery set for the I.P. P..B.X. above with enough capacity to serve all auxiliary equipment linked to the IP PBX. for a period of minimum 8 hours .	1	No.		
1.02	Supply, install, test and commission an AC Voltage stabilizer for the IP PABX. and all auxiliary equipment. Connected to the IP PABX	1	No.		
1.03	Provide and independent telecommunication earth to the IP PBX and MDF	1	No.		
1.04	Supply, Install, Test and commision an MDF suitable for the ultimate size of the IP PBXMachine above	1	No.		
1.05	Supply, Install, Test and commision a Modem for ISDN PRI for the PBX	1	No.		
1.06	PVC Insulated Telephone copper cables:- a) 100 pair PVC/CU Armoured outdoor cable to all block as backbone to all the blocks b) 50 pair PVC/CU armoured outdoor cable to all block as backbone to all the blocks	200	M		
		150	M		
1.07	Standard Telephone Instruments telephone instruments complete with telephone cord and termination blocks as described in the technical Specifications section F	25	No.		
1.08	Executive telephone instruments complete with telephone cord and termination block as described in the technical Specifications section F	6	No.		
1.09	Allow for terminating, testing and Labeling all voice circuits.	1	Item		
1.10	Secretarial Sets as described in the technical Specifications section F	3	No.		
	<b>Sub-total for IP P.A.B.X C/F to Bills Summary Page</b>				

**Schedule 2: STRUCTURED CABLING WORKS -Ground Floor**

Item	Description	Qty	Unit	Rate	Kshs.
<b><u>Horizontal Data Cabling</u></b>					
2.00	22HU Cabinet as described in particular specifications	1	No.		
2.01	24 port RJ-45 Cat 6 data patch panel for UTP termination as Siemon or approved equivalent.	3	No.		
2.02	24 port RJ45 cat 6 voice patch panel for UTP termination as Siemon or approved equivalent	2	No.		
2.03	1M RJ45-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used in cabinet.	55	No.		
2.04	Cable managers as Siemon or Approved Equivalent	3	No.		
2.05	Cat 6 UTP 4-Pair cable as Siemon or approved equivalent laid between cabinet and work station.	1000	M		
2.06	3M RJ45-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used at work station.	55	No.		
2.07	RJ45 Cat 6 UTP (Dual) outlet complete with faceplate and labeling system as Siemon or approved equivalent.	55	No.		
<b><u>Active Components</u></b>					
2.08	24 port Edge Switch, as Cisco Catalyst 2960-X Series	3	No.		
2.08	12 port Core routing Switch, as CISCO WS-C3750X-12S-5 Catalyst 3750-X Switch	1	No.		
<b><u>Horizontal Telephony Cabling</u></b>					
2.09	1M S110-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used in cabinet.	34	No.		
2.10	S110 Rack Mount Field termination kit for 100 pair blocks, 4 pair connection blocks panel.	2	No.		
<b><u>General Requirements</u></b>					
2.11	Earthing the system at the Cabinet level	Item	Item		
2.12	800VA Rack mount Uninterruptible power supply unit.	2	No.		
<b><u>Backbone Telephony/Data Cabling</u></b>					
2.13	100 Pair PVC telephony copper cable	80	LM		
2.14	4 Pair Multimode fibre optic cable as data backbone to first floor edge switch complete with connectors to active components and all terminations to active equipment i.e., switches in the server room	60	LM		
2.15	12 Pair Multimode fibre optic tray/patch panel complete with connectors, in Computer room cabinet complete with connectors and all terminations	1	No.		
<b>Total C/F to Summary Page</b>					

**Schedule 3: STRUCTURED CABLING WORKS -First Floor**

Item	Description	Qty	Unit	Rate	Kshs.
	<b><u>Horizontal Data Cabling</u></b>				
3.00	22HU Cabinet as described in particular specifications	1	No.		
3.01	24 port RJ-45 Cat 6 data patch panel for UTP termination as Siemon or approved equivalent.	3	No.		
3.02	24 port RJ45 cat 6 voice patch panel for UTP termination as Siemon or approved equivalent	2	No.		
3.03	1M RJ45-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used in cabinet.	58	No.		
3.04	Cable managers as Siemon or Approved Equivalent	3	No.		
3.05	Cat 6 UTP 4-Pair cable as Siemon or approved equivalent laid between cabinet and work station.	1000	M		
3.06	3M RJ45-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used at work station.	58	No.		
3.07	RJ45 Cat 6 UTP (Dual) outlet complete with faceplate and labeling system as Siemon or approved equivalent.	58	No.		
	<b><u>Active Components</u></b>				
3.08	24 port Edge Switch, as Cisco Catalyst 2960-X Series	3	No.		
	<b><u>Horizontal Telephony Cabling</u></b>				
3.09	1M S110-RJ45 Cat 6 UTP factory terminated patch cord as Siemon or approved equivalent to be used in cabinet.	31	No.		
3.10	S110 Rack Mount Field termination kit for 100 pair blocks, 4 pair connection blocks panel.	2	No.		
	<b><u>General Requirements</u></b>				
3.11	Earthing the system at the Cabinet level	Item	Item		
3.12	800VA Rack mount Uninterruptible power supply unit.	2	No.		
	<b><u>Backbone Telephony/Data Cabling</u></b>				
3.13	100 Pair PVC telephony copper cable	80	LM		
3.14	4 Pair Multimode fibre optic cable as data backbone to first floor edge switch complete with connectors to active components and all terminations to active equipment i.e., switches in the server room	60	LM		
	<b>Total C/F to Summary Page</b>				

**SCHEDULE NO. 4 - ENGINEER'S STATIONERY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.01	Photocopy paper A4 (80gm <sup>3</sup> ) white	4	Ream		
4.02	Photocopy paper A3 (80g/cm <sup>3</sup> ) white	2	Ream		
4.03	Printer cartridge 53A	2	No		
4.04	Letter head quality paper as CONQUERER or equal and approved blue 80g/cm <sup>3</sup>	4	Ream		
4.05	A4 size, Transluscent PVC covers as KATKO or approved equivalent, 100 sheets blue in colour and 0.2mm thick	4	pkts		
4.06	A4 size, Embossed covers as KATKO or approved equivalent, 100 sheets blue in colour	4	pkts		
4.07	22mm diameter spiral binders black in colour	4	PKTS		
4.08	Tracing paper 110g 50m roll	2	Roll		
4.09	Ammonia paper	2	Roll		
4.10	1 Terabyte portable external hard disc as HP/Toshiba/Dell	2	No		
4.11	HP ENVY 17-j120us 17.3" HD+ (1600x900) Laptop i7-4700MQ 12GB 1TB Beats Audio Quad Speakers Up to 2.25 Hours Battery Life Bluetooth - Brand New Sealed In Box	1	No.		
<b>SUB TOTAL C/F TO MAIN SUMMARY</b>					

**SUMMARY PAGE**

Item	Description	KSHS
1.00	Sub-total Preliminaries B/F from page H/5	
2.00	Sub-total Bill No. 1: IPPBX Works B/F from page H/6	
3.00	Sub-total Bill No. 2: Structured Cabling (Ground Floor	
4.00	Sub-total Bill No. 3: Structured Cabling First Floor	
5.00	Sub-total Bill No. 4: Engineer's Stationary	
6.00	Contingency Sum to be Expended at the Discretion of the Project Manager	300,000.00
	<b>Grand total for I.P. PBX installation and Structured Cabling C/F to Form of Tender</b>	

TOTAL AMOUNT IN WORDS .....

.....

.....

.....

.....

TENDERER'S NAME & STAMP

.....

.....

SIGNATURE ..... DATE.....

P.I.N No.,..... V.A.T CERTIFICATE No.....

WITNESS..... ADDRESS.....

SIGNATURE OF WITNESS..... DATE.....

SECTION I  
TECHNICAL SCHEDULE  
OF  
ITEMS TO BE SUPPLIED

## TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered responsive.



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

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>TYPE/MAKE</b>	<b>COUNTRY OF ORIGIN</b>
1.0	Core switch		
2.0	Edge switch		
3.0	CAT 6 cables		
4.0	Patch panels		
5.0	Discases		
6.0	Fiber optic cable		
7.0	Cable managers		
8.0	UPSs		
9.0	Data Cabinets		

SECTION J

STANDARD FORMS

## CONTENTS OF SECTION J

	<u>TITLE</u>	<u>PAGE</u>
1.	Performance Bank Guarantee	J/1
2.	Form of Agreement	J/2-J/4
3.	Tender Questionnaire	J/5
4.	Confidential Business Questionnaire	J/6 -J/7
5.	Key Personnel	J/8
6.	Schedule of Contracts completed in the last five (5) years	J/9
7.	Schedule of on-going projects	J/10
8.	Contractor's Equipment	J/11
9.	Financial Reports for the last five (5) years	J/12
10.	Evidence of Financial Resources to Meet Qualification Requirements	J/13
11.	Bidder's Bank Information	J/14
12.	Details of Litigation or Arbitration Proceedings	J/15
13	Commissioning Guide for Electrical Installation works	J/16 - J/21

**NOTE:**

Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part the evaluation criteria.

**PERFORMANCE BANK GUARANTEE**

**To:** The Principal Secretary,  
Ministry of Land, Housing and Urban Development,  
P.O. Box 30450– 00100,  
NAIROBI

Dear Sir,

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

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of:

Kshs. .... (*amount of Guarantee in figures*)

Kenya Shillings ..... (*amount of Guarantee in words*),

and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings ..... (*amount of Guarantee in words*) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

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

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR .....

Name of Bank .....

Address .....

Date .....

**FORM OF AGREEMENT**

THIS AGREEMENT, Made the.....day  
of.....between  
.....of  
.....(or whose registered office is situated at) (herein  
after called “the Employer”) of the one part AND ..... of  
.....(or whose registered office is situated at) (herein after called  
“the Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes  
.....  
.....(Name and identification number of contract) (herein after called  
“the Works”) located at .....  
..... (place/location of the Works) and the Employer has  
appointed .....  
Of ..... (or whose registered  
office is situated at)  
as the.....for the purposes  
thereof and has accepted the tender submitted by the Contractor for the execution and  
completion of the said works and the remedying of any defects therein in the sum of  
Kshs.....(amount in figures) Kenya  
Shillings.....  
.....  
(Amount in words) (herein after called “the Contract price”).

NOW THAT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as respectively assigned to them in the conditions of Contract herein after referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.
  - (i) Letter of acceptance
  - (ii) Form of Tender
  - (iii) Conditions of Contract
  - (iv) Specifications
  - (v) Priced Bills of Quantities
  - (vi) Drawings

3. In consideration of the payments to be made by the Employer to the Contractor as herein mentioned, the contractor hereby covenants with the Employer to execute and complete the Works and any defects therein in conformity in all respects with the provision of the contract.
4. The Employer hereby covenants to pay the contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first written.

The common Seal of \_\_\_\_\_

Was hereunto affixed in the presence of \_\_\_\_\_

Signed, Sealed and Delivered by the said \_\_\_\_\_

Binding Signature of Employer. \_\_\_\_\_

Date \_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

Date \_\_\_\_\_

Witnessed by: 1)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

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

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

2) Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**TENDER QUESTIONNAIRE**

Please fill in block letters.

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

\_\_\_\_\_  
Signature of Tenderer

Make copy and deliver to:

The Works Secretary,  
State Department of Public Works,  
P.O. Box 30743 - 00100,  
**NAIROBI**

**CONFIDENTIAL BUSINESS QUESTIONNAIRE**

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

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

***Part 1 – General***

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

Plot No..... Street/Road .....  
Postal Address..... Tel No.....  
Nature of Business.....  
Current Trade Licence No..... Expiring date.....

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

Name of your bankers.....

Branch.....

Address.....Telephone.....

***Part 2 (a) – Sole Proprietor***

Your name in full..... Age.....  
Nationality..... Country of Origin.....  
Citizenship details .....

***Part 2 (b) – Partnership***

*Give details of partners as follows:*

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





**KEY PERSONNEL**

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

POSITION	NAME	HIGHEST QUALIFICATION <i>(Attach proof)</i>	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

I certify that the above information is correct.

.....  
Title

.....  
Signature

.....  
Date

**CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS**

Work performed on works of a similar nature, complexity and volume over the last 5 years.

PROJECT NAME	NAME OF CLIENT	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

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

.....

.....

.....

Title

Signature

Date

**SCHEDULE OF ON-GOING PROJECTS**

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

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

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

.....

Title

.....

Signature

.....

Date

**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?)

**FINANCIAL REPORTS FOR THE LAST FIVE YEARS**

(Balance sheets, Profits and Loss Statements, Auditor's reports, etc.  
List below and attach copies)

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

**EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS**

*(Cash in hand, Lines of credit, e.t.c. List below and attach copies of supportive documents)*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

**BIDDER'S BANK INFORMATION**

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

NAME OF BANK	BANK BRANCH	ACCOUNT NAME	ADDRESS	TELEPHONE



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. \_\_\_\_\_