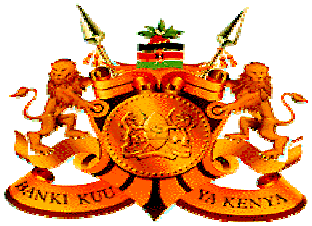
BANKI KUU YA KENYA

CENTRAL BANK OF KENYA



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TENDER FOR PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK – STATIONS -PHASE III PROJECT- INCORPORATING FIRE SAFETY OCCUPATIONAL SAFETY AND HEALTH SERVICES FOR CENTRAL BANK OF KENYA

TENDER NO. CBK/29/2012/2013/B

CLOSING ON 11TH JUNE, 2013 AT 10.30AM

SUB-CONTRACT CONDITIONS, SPECIFICATIONS AND BILLS OF QUANTITIES FOR:

PLUMBING, DRAINAGE & FIRE FIGHTING INSTALLATIONS

CLIENTS REPRESENTATIVES:

Director
Department of Estates, Supplies & Transport
Central Bank of Kenya
P.O. Box 60000 – 00200
NAIROBI.

APRIL 2013

CENTRAL BANK OF KENYA
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III

SUB-CONTRACT FOR PLUMBING AND DRAINANGE INSTALLATIONS

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CENTRAL BANK OF KENYA
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III

SUB-CONTRACT FOR PLUMBING AND DRAINANGE INSTALLATIONS

SPECIAL NOTES FOR ALL TENDERERS:

Important: **The site for the proposed works has a number of existing installations. The Sub-contractor will be required to ensure there's no interference with supply of services to neighbouring organizations. The sub-contractor will be required to take all precaution and care so that no damage will occur to the existing installations on site. The sub-contractor is also advised to secure all the necessary insurance policies as he will be solely held responsible for any damages to the existing system, injuries to persons resulting from his activities and/or interference with normal operations of the building that may result from his negligence, actions or otherwise.**

1. These notes shall form part of these specifications and conditions.

2. The tenderer is required to check the number of pages in this document and should any be found to be missing or the figures indistinct, he must inform the Engineers at once and have the same rectified. Should the tenderer be in doubt about the precise meaning of any item, word or figures, or for any reason whatsoever observe any apparent omission of words or figures, he must inform the Engineer in order that the correct meaning may be decided upon before the date for the submission of the tenders.

3. No liability whatsoever will be admitted nor claim allowed in respect of errors in the completed tender due to mistakes in this document which should have been rectified in the manner described above.

4. The tenderer shall not alter or otherwise qualify the text of this specification. Any alteration or qualification made without authority will be ignored and the text of the specification as printed will be adhered to.

5. The tenderer shall be deemed to have made allowances in his unit prices generally to cover items of preliminaries or additions to Prime cost Sums or other items, if those have not been priced against the respective items.

6. The tenderer's price shall include all government taxes including duties, V.A.T. etc. No claims whatsoever will be allowed in respect of duties, VAT etc if the tenderer fails to include them in his unit prices. It is also to be noted that VAT will be included in the unit rates and NOT worked out as a percentage of the total.

7. In no case will any expenses incurred by the tenderer in preparation of this tender be reimbursed.

8. The copyright of this specification is vested in the Engineers and no part thereof may be reproduced without their express permission, given in writing.

9. The specifications must be priced in Kenya Currency i.e. Shillings and Cents.

10. All the tenderers must make a declaration that they have not and will not make any payment to any person which can be perceived as an inducement to enable them to win this tender.

11. The works shall be carried out in accordance with provisions of the 16th Edition of IEE wiring Regulations, the most current Kenya Standards governing such works, and relevant provisions of the current Kenya Power by-laws.

Signed (As in Tender) ..... Date/Stamp .....

FORM OF TENDER

To: Central Bank of Kenya,
Haile Selassie Avenue,
P O Box 60000-00200,
Nairobi.

CENTRAL BANK OF KENYA
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III
SUB-CONTRACT FOR PLUMBING AND DRAINANGE INSTALLATIONS

1. In accordance with the Instructions to Tenderers, Conditions of Contract described or inferred to from the Kenya Association of Building and Civil Engineer Contractors (KABCEC), Form of Sub-Contract Agreement, Specifications, Drawings 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 phase the works in accordance with the building programme and to complete the whole of the works within the time of the main contract.
3. We agree to abide by this tender for 120 days from the date of official tender opening**,** and shall remain binding upon us and may be accepted at any time before that date.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Sub-Contract between us and the Main Contractor.
5. We understand that you are not bound to accept the lowest or any tender you may receive.
6. We submit the Name of …… as Surety who has signed the form attached and is willing to be bound to the Main Contractors in an amount equal to 5% of the sub-contract amount for the due performance of the sub-contract upto the date of completion of the works and who will when and if called upon sign a Bond to the offset without limitations on the same day as the Sub-contract Agreement is signed but in the event the surety name is not approved we agree to furnish within 7 days another surety to your approval.
7. We agree in the event of your acceptance of this Tender, to execute the formal Sub-contract Agreement within Fourteen (14) days from notification of acceptance.

   Dated this …… day of ……20…..

   Signature ……. Name …….

   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 ……

NB: Tenderers are required to attach the surety undertaking, dully signed by the surety, to this Form of Tender.

To: **Central Bank of Kenya,**
Haile Selassie Avenue,
P O Box 60000-00200,
Nairobi.

Sirs,

FORM OF UNDERTAKING

We _____

of _____ , being a duly registered Commercial Bank in Kenya, are willing to act as Surety and to be bound to (MAIN-CONTRACTOR) in the sum equal to Ten percent (10%) of the Sub-Contract Sum, for the due performance by

_____ (Tenderer)

of _____

of a Sub-Contract which he/they contemplate(s) entering into with the Main-Contractor for the supply, installation, testing and commissioning of plumbing and drainage installations as described in this document, and the accompanying relevant drawings for Central Bank of Kenya, according to the terms of the Performance Bank Guarantee a copy of which has been inspected by us without addition of any limitations.

We agree to enter into a Bank Guarantee under the above mentioned terms when and if called upon to do so.

Signature _____ (Surety)

Date_____

Witness _____

To be completed by proposed Surety
and returned with Tender Documents.

PART A:

INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

CONTENTS

AWARD OF CONTRACT

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, 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 **Central Bank of Kenya, P O Box 14448-00800, Nairobi, and Tel: 4242000**

2. Eligibility and Qualification Requirements

   2.1 This invitation to tender is open to all tenderers who have been pre-qualified.

   2.2 To be eligible for award of Sub-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 Sub-Contract. To this end, the tenderer shall be required to update the following information already submitted during pre-qualification:-

      (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 Sub-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 Sub-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 Sub-Contract and for whom authority will be requested for such subletting.

      (e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Sub-Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer. The program of works must be presented in detail, to include all milestones from commencement to commissioning, and handing over.

      (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 Sub-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 Sub-Contract in accordance with the Sub-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 Sub-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 here below and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.

a. Special Notes for all Tenderers
b. Form of Tender
c. Form of Undertaking
d. Definitions
e. Instructions to Tenderers
f. Conditions of Contract
g. Agreement and Conditions of Sub-Contract for Building Works
h. Preliminaries and General Conditions
i. General Mechanical Specifications
j. General Specifications for Plumbing & Drainage Works
k. Particular Specifications for Plumbing & Drainage Works
l. Particular Specifications for Portable Fire Extinguishers
m. Particular Specifications for Fire Hydrant System
n. Bills of Quantities and Schedule of unit rates
o. Standard Forms
p. 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 23 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 Sub-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 7 days prior to the 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 The tenderer for every item in the Bills of Quantities shall insert a price or rate 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 Sub-Contractor under the Sub-Contract or for any other cause as of the date 7 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. Such duties to include import duty, Value Added Tax (VAT), local authority (levies) and any other taxes (levies that may be imposed by the government and/or local authorities.

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 Sub-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 where appropriate.

10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Sub-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 the Conditions of Contract.

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 Sub-Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the Sub-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 Sub-Contract Price.

11.3 The rate of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date seven (7) 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 THIRTY (30) 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 Sub-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 Sub-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 24.

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 Sub-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 indicate 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.

Modification and Withdrawal of Tenders

18.4 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.

18.5 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.

18.6 No tender may be modified subsequent to the deadline for submission of tenders.

18.7 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.

18.8 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 Sub-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

19 Tender Opening

19.1 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.

19.2 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.

19.3 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.

19.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.

19.5 Tenders not opened and read out at tender opening shall not be considered further for evaluation, irrespective of the circumstances.

20 Process to be Confidential

20.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Sub-Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Sub-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 Sub-Contract

may result in the rejection of the Tenderer's tender.

21 Clarification Tenders

21.1 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.

21.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Sub-Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

22 Determination of Responsiveness

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

22.2 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 Sub-Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Sub-Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.

22.3 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.

22.4 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.

23 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.

24 Conversion to Single Currency

24.1 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 seven (7) days before the final date for the submission of tenders.

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

25 Evaluation and Comparison of Tenders

25.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.

25.2 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.

25.3 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.

25.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the Sub-Contract shall not be taken into account in tender evaluation.

25.5 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 Sub-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 Sub-Contract.

25.6 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 Sub-Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

AWARD OF SUB-CONTRACT

26 Award

26.1 Subject to clause 27.2, the Employer will award the Sub-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 Sub-Contract Works.

26.2 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 Sub-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.

27 Notification of Award

27.1 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 Sub-Contract documents called "Letter of Acceptance") shall name the sum (hereinafter and in all Sub-Contract documents called "the Sub-Contract Price") which the Employer will pay to the Sub-Contractor in consideration of the execution and completion of the Works as prescribed by the Sub-Contract.

27.2 Notification of award will constitute the formation of the Sub-Contract.

27.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.

27.4 Within Fourteen [14] days of receipt of the form of Sub-Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

28 Performance Guarantee

28.1 Within Fourteen [14] 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.

28.2 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 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.

28.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Sub-Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Sub-Contract. The Employer may award the Sub-Contract to the next ranked tenderer.

29 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Sub-Contract, if requested by the Sub-Contractor. 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.CLAUSE 2.1

Change to read "This invitation Tender is open to all tenderers in the Category Specified".

2. OMIT

Clauses 2.3, 4.3, 5.1, 11.2, 11.4, 25, 14.1, 13.1, 13.3, 13.4, 13.5, 15.1, 15.2

3. ADD TO CLAUSE 13.1 and 13.2

Tender surety will be required and the Tender Security shall be 2% of the contract sum.

4. CLAUSES 16.1 and 16.2

Only one set of tender document shall be submitted.

5. CLAUSES 6.1 AND 10.2

Change to 7 days (1 week)

6. CLAUSE 9.1

Appendix to Form of Tender to be omitted.

7. CLAUSE 19.2

Only the single tender document should be marked "WITHDRAWAL" OR "MODIFICATION"

8. CLAUSES 20.2, 20.3, AND 24(C)

Tender surety will be required.

9. CLAUSE 30

The Advance Payment Guarantee shall be in Kenya Shillings Only.

10. CLAUSE 16.1, 16.2, 17.1, and 17.2

Only one set of tender documents, filled in INK, shall be submitted.

11. ADD TO CLAUSE 28.1

Amount of performance security will be TEN per cent (10%) of sub-contract sum and bound to the appointed Main-contractor

12. ADD TO CLAUSE 28.2

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

13. TENDER EVALUATION CRITERIA

The following information for procurement of services shall complement or amend the provisions of the instructions to tenderers. Wherever there is a conflict between the provisions of the instructions to tenderers and the provisions of the Appendix, the provisions of the Appendix herein shall prevail over those of the instructions to tenderers.

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

1. Determination of Responsiveness (Mandatory Requirements)
2. Detailed Technical Examination
3. Financial Evaluation.
4. Recommendation for Tender Award

STAGE 1- DETERMINATION OF RESPONSIVENESS

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 **MUST** include the following:

i) Registration with Ministry of Public Works (Category C Minimum for Plumbing and Drainage Installations)/ /National Construction Authority.

ii) Certificate of Registration under Company's Act.

iii) City Council of Nairobi Drain Layers Certificate.

iv) Provision of Bid Security of Ksh 50,000(Fifty Thousand Shillings Only). Submitted in form of a Bank Guarantee or insurance bond from an Insurance company approved by the Public Procurement Oversight Authority (PPOA) and Valid beyond the Tender Validity Period.

v) Completed Company Profile using the Qualification Information, Tender Questionnaire and Confident Business provide in the Standard Forms.

vi) Copy of current Tax Compliant Certificate issued by Kenya Revenue Authority (KRA) and valid beyond the tender closing date.

vii) Provide signed copies of Audited Company accounts for the last 3 years.

TECHNICAL EVALUATION CRITERIA

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

TABLE 1

Item	Description (This includes Evaluation of Company Profile, Qualification Information, Tender Questionnaire and Confidential Business Questionnaire.	Point Scored	Max. Point	
i	**Key Personnel (Attach evidence)** in the company relevant to the building construction industry who will actively be involved in the proposed project (**MUST** *provide detailed CV accompanied by relevant academic and professional certificates from institutions recognized by the commission for higher education in Kenya Telephone contacts MUST be provided*)			**30**
	Director of the firm o Holder of degree/ diploma/HND in relevant Engineering field--5 o Holder of certificate in relevant Engineering field----------3 o Holder of trade test certificate in relevant Engineering field----2 o No relevant certificate ----------0		**5**	
	At least 1No. degree/diploma of key personnel in relevant Engineering field o With over 10 years relevant experience ----------10 o With Between 5-9years relevant experience ---------- 5 o With under 5 years relevant experience ---------- 1		**10**	
	At least 1No certificate holder of key personnel in relevant Engineering field o With over 10 years relevant experience ---------- 10 o With Between 5-9years relevant experience ---------- 5 o With under 5 years relevant experience ----------1		**10**	
	At least 2No artisan (trade test certificate in relevant Engineering field) o Artisan with over 10 years relevant experience ---------- 5 o Artisan with Between 4-9 years relevant experience ---------- 3 o Artisan with Below 4years relevant experience ---------- 1 o Non skilled worker with over 10 years relevant experience ----1		**5**	
ii	**Contract completed in the last five (5) years (Max of 5 No. Projects**) o Project of Similar nature Valued at Kshs. 4 Million and Above --4 o Project of Similar nature valued between Kshs. 2Million-3Million---- 2 o Project of Similar nature valued below Kshs. 2Million---------- 0 o No completed project of similar nature ---------- 0		**20**	**40**
iii	**On-going projects (Max of 5 No. Projects)** o Project of Similar nature Valued at Kshs. 4 Million and Above --4 o Project of Similar nature valued between Kshs 2Million-4Million---------- 2 o Project of Similar nature valued below Kshs. 2Million---------- 0 o No ongoing project of similar nature - ----------0		**20**	

iv	**Financial report**			**15**
	Audited financial report (last three (3) years)			
	Financial Stability (15 Marks) a) Profitability Margin	A margin above : 30% will score **7.5 marks;** 10-29 % 3 marks and below 10% 1 mark		
	b) Liquidity Ratio	2:1 – **7.5 marks;** 1:1 –3 marks; less than 1:1 1 mark		
v	**Evidence of Financial Resources (Cash in hand or Lines of Credit or Over Draft facility etc) as evidenced by recent bank reference letters.** o Has financial resources equal to Kshs .4Million or above ------- 15 o Has financial resources between Kshs. 2million- 3 Million ------10 o Has financial resources below Kshs. 2million----------0 o Has not given evidence of any of financial resources ----------0			**15**
	TOTAL			**100**

Note:

i) Only Tenderers scoring 75% and above SHALL be considered for Financial Evaluation.
ii) Tenderers scoring below 75% SHALL be automatically disqualified and will not proceed to financial evaluation.
iii) Responsive and prospective tenderers SHALL be subjected to due diligence after both Technical and Financial evaluations to confirm genuity of data and information submitted before consideration for Award of Contract.
iv) The pre – bid minutes shall be an addendum to the tender.

PART B:

CONDITIONS OF CONTRACT

PART B: CONDITIONS OF CONTRACT

PART B: CONDITIONS OF CONTRACT

1. 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 [where applicable].

"Schedule of Rates" means the priced Schedule of Rates forming part of the tender [where applicable].

"The Completion Date" means the date of completion of the Works as certified by the Employer's Representative.

"The Contract" means the agreement entered into by the Employer and the Contractor as recorded in the Agreement Form and signed by the parties.

"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 Contractor to the Employer.

"The Contract Price" is the price stated in the Letter of Acceptance.

"Days" are calendar days; **"Months"** are calendar months.

"A Defect" is any part of the Works not completed in accordance with the Contract.

"The Defects Liability Certificate" is the certificate issued by Employer's Representative upon correction of defects by the Contractor.

"The Defects Liability Period" is the period named in the Appendix to Conditions of Contract and calculated from the Completion Date.

"Drawings" include calculations and other information provided or approved by the Employer's Representative for the execution of the Contract.

"Employer" includes Central or Local Government administration, Universities, Public Institutions and Corporations and 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.

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

"Materials" are all supplies, including consumables, used by the Contractor for incorporation in 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.

"Specification" means the Specification of the Works included in the Contract.

"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.

"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. Contract Documents

2.1 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) Conditions of Contract,
(5) Specifications,
(6) Drawings,
(7) Bills of Quantities or Schedule of Rates [whichever is applicable]

3. Employer's Representative's Decisions

3.1 Except where otherwise specifically stated, the Employer's Representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

4. Works, Language and Law of Contract

4.1 The Contractor shall construct and install the Works in accordance with the Contract documents. The Works may commence on the Start Date and shall be carried out in accordance with the Programme submitted by the Contractor, as updated with the approval of the Employer's Representative, and complete them by the Intended Completion Date.

4.2 The ruling language of the Contract shall be English language and the law governing the Contract shall be the law of the Republic of Kenya.

5. Safety, Temporary Works and Discoveries

5.1 The Contractor shall be responsible for design of temporary works and shall obtain approval of third parties to the design of the temporary works where required.

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

5.3 Any thing of historical or other interest or significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Employer's Representative of such discoveries and carry out the Employer's Representative's instructions for dealing with them.

6. Work Programme and Sub-Contracting

6.1 Within seven days after Site possession date, the Contractor shall submit to the Employer's Representative for approval a programme showing the general methods, arrangements, order and timing for all the activities in the Works.

6.2 The Contractor may sub-contract the Works (but only to a maximum of 25 percent of the Contract Price) with the approval of the Employer's Representative. However, he shall not assign the Contract without the approval of the Employer in writing. Sub-contracting shall not alter the Contractor's obligations.

7. The Site

7.1 The Employer shall give possession of all parts of the Site to the Contractor.

7.2 The Contractor shall allow the Employer's Representative and any other person authorized by the Employer's Representative, 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.

8. Instructions

8.1 The Contractor shall carry out all instructions of the Employer's Representative which are in accordance with the Contract.

9. Extension of Completion Date

9.1 The Employer's Representative shall extend the Completion Date if an occurrence arises which makes it impossible for completion to be achieved by the Intended Completion Date. The Employer's Representative shall decide whether and by how much to extend the Completion Date.

9.2 For the purposes of this Clause, the following occurrences shall be valid for consideration;

Delay by: -

(a) force majeure, or

(b) reason of any exceptionally adverse weather conditions, or

(c) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works, or

(d) reason of the Employer's Representative's instructions issued under these Conditions, or

(e) reason of the contractor not having received in due time necessary instructions, drawings, details or levels from the Employer's Representative for which he specifically applied in writing on a date which having regard to the date for Completion stated in the appendix to these Conditions or to any extension of time then fixed under this Clause was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive the same, or

(f) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract, or

(g) reason of delay by statutory or other services providers or similar bodies engaged directly by the Employer, or

(h) reason of opening up for inspection of any Work covered up or of the testing or any of the Work, materials or goods in accordance with these conditions unless the inspection or test showed that the Work, materials or goods were not in accordance with this Contract, or

(i) reason of delay in appointing a replacement Employer's Representative, or

(j) reason of delay caused by the late supply of goods or materials or in executing Work for which the Employer or his agents are contractually obliged to supply or to execute as the case may be, or

(k) delay in receiving possession of or access to the Site.

10. Management Meetings

10.1 A Contract management meeting shall be held regularly and attended by the Employer's Representative and the Contractor. Its business shall be to review the plans for the remaining Work. The Employer's Representative shall record the business of management meetings and provide copies of the record to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Employer's Representative either at the management meeting or after the management meeting and stated in writing to all who attend the meeting.

10.2 Communication between parties shall be effective only when in writing.

11. Defects

11.1 The Employer's Representative 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 Employer's Representative may instruct the Contractor to search for a defect and to uncover and test any Work that the Employer's Representative considers may have a defect. 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.

11.2 The Employer's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract.

11.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Employer's Representative's notice. If the Contractor has not corrected a defect within the time specified in the Employer's Representative's notice, the Employer's Representative 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.

12. Bills of Quantities/Schedule of Rates

12.1 The Bills of Quantities/Schedule of Rates 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 rates in the Bills of Quantities/Schedule of Rates for each item. Items against which no rate is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the rates for other items in the Bills of Quantities/Schedule of Rates.

12.2 Where Bills of Quantities do not form part of the Contract, the Contract Price shall be a lump sum (which shall be deemed to have been based on the rates in the Schedule of Rates forming part of the tender) and shall be subject to re-measurement after each stage.

13. Variations

13.1 The Contractor shall provide the Employer's Representative with a quotation for carrying out the variations when requested to do so. The Employer's Representative shall assess the quotation and shall obtain the necessary authority from the Employer before the variation is ordered.

13.2 If the Work in the variation corresponds with an item description in the Bill of Quantities/Schedule of Rates, the rate in the Bill of Quantities/Schedule of Rates shall be used to calculate the value of the variation. If the nature of the Work in the variation does not correspond with items in the Bill of Quantities/Schedule of Rates, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.

13.3 If the Contractor's quotation is unreasonable, the Employer's Representative may order the variation and make a change to the Contract Price, which shall be based on the Employer's Representative's own forecast of the effects of the variation on the Contractor's costs.

14. Payment Certificates and Final Account

14.1 The Contractor shall be paid after each of the following stages of Work listed herebelow (subject to re-measurement by the Employer's
Representative of the Work done in each stage before payment is made). In case of lump sum Contracts, the valuation for each stage shall be based on the quantities so obtained in the re-measurement and the rates in the Schedule of Rates.

(i) Advance payment [after Contract execution] **NIL** (*percent of Contract Price, to be inserted by the Employer).*

(ii) First stage (*define stage)* ***AS PER PROGRESS***

(iii) Second stage *(define stage*) ***AS PER PROGRESS***

(iv) Third stage (*define stage)* ***AS PER PROGRESS***

(v) After defects liability period.

14.2 Upon deciding that Works included in a particular stage are complete, the Contractor shall submit to the Employer's Representative his application for payment. The Employer's Representative shall check, adjust if necessary and certify the amount to be paid to the Contractor within 21 days of receipt of the Contractor's application. The Employer shall pay the Contractor the amounts so certified within 30 days of the date of issue of each Interim Certificate.

14.3 The Contractor shall supply the Employer's Representative with a detailed final account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer's Representative shall issue a Defect 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 Employer's Representative shall issue within 21 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 Employer's Representative shall decide on the amount payable to the Contractor and issue a Final Payment Certificate.

The Employer shall pay the Contractor the amount so certified within 60 days of the issue of the Final Payment Certificate.

14.4 If the period laid down for payment to the Contractor upon each of the Employer's Representative's Certificate by the Employer has been exceeded, the Contractor shall be entitled to claim simple interest calculated pro-rata on the basis of the number of days delayed at the Central Bank of Kenya's average base lending rate prevailing on the first day the payment becomes overdue. The Contractor will be required to notify the Employer within 15 days of receipt of delayed payments of his intentions to claim interest.

15. Insurance

The Contractor shall be responsible for and shall take out appropriate cover against, among other risks, personal injury; loss of or damage to the Works, materials and plant; and loss of or damage to property.

16. Liquidated Damages

16.1 The Contractor shall pay liquidated damages to the Employer at the rate 0.01 per cent of the Contract price per day for each day that the actual Completion Date is later than the Intended Completion Date except in the case of any of the occurrences listed under Clause 9.2. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

17. Completion and Taking Over

17.1 Upon deciding that the Work is complete the Contractor shall request the Employer's Representative to issue a Certificate of Completion of the Works, upon deciding that the Work is completed.
The Employer shall take over the Site and the Works within seven days of the Employer's Representative issuing a Certificate of Completion.

18. Termination

18.1 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 continuously without reasonable cause or authority from the Employer's Representative;

(b) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(c) a payment certified by the Employer's Representative is not paid by the Employer to the Contractor within 30 days after the expiry of the payment periods stated in Sub-Clauses

14.2 and 14.3 hereabove.

(d) the Employer's Representative 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.

18.2 If the Contract is terminated, the Contractor shall stop Work immediately, and leave the Site as soon as reasonably possible. The Employer's Representative 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.

19. Payment Upon Termination

19.1 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the Works and use all materials on Site, plant, equipment and temporary works.

19.2 The Contractor shall, during the execution or after the completion of the Works under this Clause, remove from the Site as and when required within such reasonable time as the Employer's Representative may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to him, and in default thereof, the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.

19.3 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 Employer's Representative 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 Contractor; 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.

20. Corrupt Gifts and Payments of Commission

20.1 The Contractor shall not:

(a) Offer or give or agree to give to any person in the service of the Employer any gifts 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 with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract with the Employer.

(b) Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the Laws of Kenya.

21. Settlement of Disputes

21.1 Any dispute arising out of the Contract which cannot be amicably settled between the parties shall be referred by either party 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 of the Chartered Institute of Arbitrators, Kenya branch, on the request of the

applying party.

22. APPENDIX TO CONDITIONS OF CONTRACT

THE EMPLOYER IS

Name: **Central Bank of Kenya**

Address: **P. O. Box 60000-00200, NAIROBI**

Name of Employer's Representative: **Director, Estates and Transport Department**

Address **P. O. Box 60000-00200, NAIROBI**

The Works consist of **Supply, Delivery and Installation of Plumbing and Drainage Systems**

The Start Date shall be **as stated in the Letter of Acceptance**

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

The following documents also form part of the Contract: **(Only as listed in Clause 2)**

The Site Possession Date shall be as **stated in the letter of acceptance**.

The Site is located **along Haile Selaisse Avenue Nairobi**

The Defects Liability period is **6 Months**

Amount of Tender Security will be 2 % 0f the contract sum.

The name and Address of the Employer's representative for the purposes of submission of tenders is the **Project Architect, Edon Consultants, P. O. Box 19684-00200**

The tender opening date and time is **as per invitation letter.**

The amount of performance security is **10 percent** bank guarantee of the Sub-Contract Price.

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

Liquidated and Ascertained damages: **KShs. 50,000.00 per week**

Prime cost sums for which the Contractor desires to tender : **NIL**

Period of honouring certificate : **30 days**

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

Limit of retention fund : **5%**

PART C:

AGREEMENT AND CONDITIONS OF SUB-CONTRACT FOR BUILDING WORKS

PART C: AGREEMENT AND CONDITIONS OF SUB-CONTRACT FOR BUILDING WORKS

ORIGINAL
embossed stamp

COUNTERPART
embossed stamp

1.0 AGREEMENT

1.1 This agreement is made on **……...**

between**……..**

of (or whose registered office is situated at**)……..**

……

(hereinafter called "the Contractor") of the one part**…….**

and**…….**

of (or whose 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 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-contract 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-contract 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-contract price") or such sum as shall become payable hereinafter at the times and in the 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 event of the need to appoint a replacement Architect, Quantity Surveyor, Engineer of 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-Contractor 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 Obligation 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 express provisions 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 or death arising out of or in the course of or caused by the carrying out of the sub-contract works.

6.1.2 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.

6.1.3 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 clauses.

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 to the approval of the Contractor and who will be bound to the Contractor in the sum equivalent to ten per cent (10%) 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 of the 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 adjustments 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, damages 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 surfaces 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 subcontract 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 builders' work 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 or of other sub-contractors, and in particular:

13.2 Should the carrying out of the subcontract works cause injury or damage to the main contract works, or to the work of other sub-contractors, the Sub-Contractor shall rectify the damages 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 or 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 out their respective operations and in the use of site facilities and services to prevent 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 the equipment, scaffolding, appliances, passage ways, temporary works, temporary buildings and other property belonging to or provided by the other party 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 termination (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. If the Architect finds merit in the grounds raised, ha shall direct that the Sub-Contractor be paid for work done in accordance with sub-clause 16.1 herein. Thereupon, the Sub-Contractor shall be relieved of further liability as regards the sub-contract works.

16.3 Where work which is outside the sub-contract is ordered directly by the 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 builders' 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 any approvals, the Sub-Contractor shall be liable directly to the Employer for any consequences of failure 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-Contractor 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 provisions 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 affected 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 clause 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 purposes of interim valuations or for the preparation of the final account, the Quantity Surveyor shall give the Sub-Contractor a reasonable opportunity to be present at the times 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 payments 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 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 purposes of finalizing the accounts, the Quantity Surveyor may request the Sub-Contract 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-Contract in the same manner that 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-contractor 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-contract 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 to 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 endeavours 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 to 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 procedure 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 and taxes 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 bills 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 the main contract arises fro a 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 Termination 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 or 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.

30.2 Where the sub-contract is terminated due to the default of the Sub-Contract 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.

30.3 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.

30.4 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.

30.5 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.

30.6 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 the Sub-Contractor, either during the progress or after the completion or abandonment of the sub-contract works, such disputes 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 appointed 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 extent of the recommended time, or

31.4.3 The amount certified to the Sub-Contractor either in an interim or in a final certificate, or

31.4.4 The issue of an instruction which the Sub-Contractor contends is not authorized 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 proceedings 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 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 of 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.

APPENDIX	**Clause**
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……
Sub-Contract period	8.2……..
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 purpose of interest calculation.	23.7, 23.8……
Period of final measurement and valuation	23.12……...
Damages for delay in completion	27.1 – At the rate of Ksh……
	……

Signed by the said:

……..	……
CONTRACTOR	**SUB-CONTRACTOR**

PART D:

PRELIMINARIES
AND
GENERAL CONDITIONS

PART D - PRELIMINARIES AND GENERAL CONDITIONS

CONTENTS

PART D

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 Sub-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 **Central Bank of Kenya**

ii) **Architect:** The term **"Architect"** shall mean **Edon Consultants**

iii) **Electrical Engineer:** The term **"Electrical Engineer"** shall mean **Feradon Associates Ltd.**

iv) **Mechanical Engineer:** The term **"Mechanical Engineer"** shall mean **Feradon Associates Ltd.**

v) **Quantity Surveyor:** The term **"Quantity Surveyor"** shall mean **Quanti-Bill Consultants**

vi) **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.

vii) **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.

viii) **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.

ix) **Contract Drawings:** The term **"Contract Drawings"** shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.

x) **Working Drawings:** The term **"Working Drawings"** shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.

xi) **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.

xii) **Abbreviations:**

CM shall mean **Cubic Metre**
SM shall mean **Square Metre**
LM shall mean **Linear Metre**
LS shall mean **Lump Sum**
mm shall mean **Millimetres**
No. Shall mean **Number**
Kg. shall mean **Kilogram**
BS shall mean. **Current standard British Standard Specification published by the British Standard Institution, 2 Park Street, London W1, England**

"Ditto" shall mean the whole 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 **along Haile Selaisse, Nairobi.**

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 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 Employer's Representative

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 utilized 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 10% 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 utilized 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.

d) 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 thereunder 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 Engineer 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, licenses, 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 the 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 Architect.

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, 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 six 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 unauthorized 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 - Summarizing statement A and B giving the net grand total due to the Sub-contractor for the execution of the Sub-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 Sub-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 district 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 Sub-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 an 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 Architect or Engineer.

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

Depending on the scope of coordination works required onsite, the Engineer shall recommend the appointment of a Resident Electrical Engineer, who will be required to be based on site. The Resident Engineer shall be appointed and paid by the Engineer. Provision to be made for the appointment of the Resident Engineer.

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 twelve (12) months from the date of the Architect’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.

PART E

GENERAL MECHANICAL SPECIFICATION

PART E: GENERAL MECHANICAL SPECIFICATION

PART E: GENERAL MECHANICAL SPECIFICATION

1 General

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

2 Quality of Materials

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

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

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

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

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

3 Regulations and Standards

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

a) The Kenya Government Regulations.

b) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.

c) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.

d) British Standard and Codes of Practice as published by the British Standards Institution (BSI)

e) The Local Council By-laws.

f) The Electricity Supply Authority By-laws.

g) Local Authority By-laws.

h) The Kenya Building Code Regulations.

i) The Kenya Bureau of Standards

4 Electrical Requirements

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

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

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

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

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

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

5 Transport and Storage

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

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

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

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

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

6 Site Supervision

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

7 Installation

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 3 of this Section.

8 Testing

8.1 General

The Sub-contractor's attention is drawn to part 'A' Clause 38 of the "Preliminaries and General Conditions".

8.2 Material Tests

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

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

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

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

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

8.3 Manufactured Plant and Equipment – Work Tests

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

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

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Sub-contractor.

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

8.4 Pressure Testing

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

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

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

9 Colour Coding

Unless stated otherwise in the Particular Specification all pipework shall be colour coded in accordance with the latest edition of BS 1710 and to the approval of the Engineer or Architect.

10.0 Welding

10.1 Preparation

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

10.2 Method

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

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

10.3 Welding Code and Construction

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

a) **Pipe Welding**

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

b) **General Welding**

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

10.4 Welder's Qualifications

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

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

PART F

GENERAL SPECIFICATIONS

FOR

PLUMBING AND DRAINAGE

PART F: GENERAL SPECIFICATIONS FOR PLUMBING AND DRAINAGE

PART F

GENERAL SPECIFICATIONS FOR PLUMBING AND DRAINAGE

1.0 MATERIALS AND STANDARDS

2.0 General

This section specifies the general requirements for plumbing and drainage forming part of the Sub-Contract Works and shall apply except where specifically stated elsewhere in the specification or on the contract Drawings.

3 Pipework and Fittings

Pipework materials to be used are as follows: -

3.1 Cold Water Mains

Unplasticised PVC or galvanized steel medium or heavy grade, as specified on the drawings.

3.2 Black Steel Pipework

All black steel pipework up to 65mm nominal bore shall be manufactured in accordance with BS 1387 Medium Grade, with tempered place threads in accordance with BS 21. All fittings shall be malleable iron and manufactured in accordance with BS 143.

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

All black steel pipeworks, 80mm nominal bore up to 150mm nominal bore, shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace union and coupling for the joint of pipes to valves other items of plant.

All flanges shall comply with the requirements of BS 10 to the relevant classification contained hereinafter under section C of the Specification.

3.3 Galvanized Steel Pipework

Galvanized Steel pipework shall be manufactured to comply in all respects with the standards described for black Steel pipework in paragraph 3.2 above.
Galvanizing shall be carried out in accordance with the requirements of BS 1387 and BS 143 respectively.

3.4 Copper Tubing

All copper tubing shall be manufactured in accordance with BS 2871 from C.160 ‘Phosphorous De-oxidized Non-Arsenical Copper’ in accordance with BS 1172.

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

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

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

3.5 Cast Iron Pipework

a) **Internal Services**

Cast Iron pipework and fittings for use above ground in connection with internal building services, shall be manufactured with spigot and socket joints of the weight required by the local authority and shall fully comply with the requirements of BS 416.

All joints on Cast Iron spigot and socket pipes shall be made with an approved cold caulking compound and so installed as to allow for any expansion or contraction, which may take place.

All Cast Iron pipe work, branches, tees bends and other fittings shall be supplied complete with inspection covers for cleaning purposes. These inspection covers shall be included as parts of the fittings and shall comply with requirements of BS 416.

b) **External Services**

Cast iron pipe work, which is used in connection with buried external services, shall be manufactured, coated and tested in accordance with the requirements of BS 1211

All buried cast iron bends, elbows swept tees and other fittings, shall comply with the requirements of BS 1130.

Joining on external cast iron pipes shall be carried out in accordance with one of the methods described in BS Code of Practice 301, Clause 505C (v), to the approval of the Engineer.

3.6 Pitch fibre Pipework

Pitch Fibre Pipework and fittings for use in connection with external drainage services shall be manufactured in accordance with the requirements of BS 2760. Pipes shall be connected by means of purpose tapered joints manufactured in accordance with the requirements of the notes contained under Appendix C of BS 2760.

Until such a time as the use of pitch impregnated fibre is covered by a code of practice, the jointing, laying and cutting of these pipes shall be carried out in accordance with the requirements of the notes contained under appendix C of BS 2760.

3.7 Concrete Pipe

Where concrete pipe and fittings are used in connection with the conveyance surface water of sewage under atmospheric pressure, they shall be manufactured in accordance with the requirements of BS 556,Class 1, except where otherwise stated.

The joints of concrete pipe and fittings may be one of the following depending application and conditions: -

1) Flexible rebated type (storm water drainage only)
2) Ordinary spigot and socket type
3) Flexible spigot and socket type.
4) Ordinary related type (Storm water drainage only)

Joints (1) and (2) shall be sealed with suitable rubber gaskets manufactured in accordance with BS 2494 except where they are likely to be contained by oil products, in which case the gasket be manufactured in accordance with BS 3514.

Joints (3) and (4) shall be made with approved cement mortar mix.

3.8 PVC (Hard) Pressure Pipes and Fittings

All PVC pipes and fittings shall be manufactured in accordance with BS 3505: 1968 or the relevant Kenya Standard.

Jointing

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

Anchoring

The bends, valves and hydrant tees etc., in the line of the water main shall be adequately anchored to resist thrust due to internal water pressure. A concrete block shall be cast under and around the pipe and between it and sides of the trench. Well-rammed material shall be used to support the pipe and either side of the concrete.

Pipe Bed

Pipes shall be uniformly laid on a 75mm thick bed, (sand or red soil) and must not be allowed to rest on the joint or on stones etc.

Backfilling

For the protection of the pipe, initial backfilling shall be carried out as soon as possible after laying. The initial backfill shall be fine grained material thoroughly compacted around the pipe and consolidated to a depth of 6" above the crown of the pipe and at no time shall heavy rocks, stones or other objects be included in the balance of the backfill that might protrude the initial backfill layer and come into contact with the pipe.

Testing

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

3.09 MuPVC Waste Systems

All pipes and fittings shall be manufactured in accordance with BS 5255: 1968 or the relevant Kenya Standard.
Pipe shall be supplied in plain-ended lengths.

Thickness

The Minimum acceptable wall thickness of pipe and fittings shall be as follows:

size(in)	Size (mm)	Pipe and Fittings Wall Thickness (mm)
1…	32	1.8
1	40	1.9
2	50	2.0

Jointing

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

Anchoring

All bends, valves and hydrant tees etc, in the line of water main shall be adequately anchored to resist thrust due to internal water pressure. A concrete block shall be cast under and around the pipe and between it and sides of the trench. Well-rammed material shall be used to support the pipe and either side of the concrete.

Workmanship

The installation method of jointing shall be solvent welding; and both jointing and fixing shall comply in all respect to the manufacturer's site-work instructions. The maximum intervals between pipe supports at 200c shall be as follows: -

Nominal size (in)	Nominal size (mm)	Horizontal (mm)	Vertical (mm)
1…	32	500	1200
1	40	500	1200
2	50	900	2000
3	80	900	2000
4	100	1000	2000
6	150	1000	2000

Pipes shall be fixed in straight runs and horizontal runs and shall be laid to gradients in conformity with BS 5572 of Practice for Sanitary and in any event not less than 18mm/m unless otherwise specified.

Pipes passing through wall or floor shall be sleeved to allow unrestricted movements.

The works shall be inspected and tested during installation at any stage in accordance with BS 5572. All work, which will be concealed, shall be tested before it is finally enclosed and verified by the Clerk of Works.

Pipe Bed

Pipes shall uniformly be laid on a 75mm thick bed, (Sand or red soil) and not be allowed to rest on the joint or on stones etc.

Supports to Fittings

In underground installation care shall be taken to ensure that heavy components such as valves are fully supported so that the pipeline carries no weight.

Backfilling

For the protection of the pipe initial Backfilling shall be carried out as soon as possible after laying. The initial backfill shall be fine-grained material thoroughly compacted around the pipe and consolidated to depth of 6" above the crown of the pipe. At no time shall heavy rocks, stones or other object be included in the balance of the backfill that might protrude the initial backfill and come into contact with the pipe.

Testing

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

3.10 A.B.S. Waste System

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

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

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

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

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

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

3.11 PVC Soil System

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

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

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

Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet.
Suitable supporting brackets and pipe clips shall be at maximum of meter centers
The Sub- contractor shall be responsible for the joint into the Gully Trap on Drain Trap as indicated on the drawings.

3.12 UPVC Square Rainwater System pipe and Gutter

Gutter shall be a rectilinear section 116mm or 137mm wide.

Gutters shall be supplied in plain-ended lengths

The minimum acceptable wall thickness of gutter shall be 2.20mm

Rainwater pipes shall be supplied in plain-ended lengths.

The minimum acceptable wall thickness of rainwater pipes shall be 1.80mm
Pipe support brackets must be adequate to screen expansion gaps.

The grade of UPVC used for gutter and pipe shall have a minimum softening point of 75^0C when tested by the vicat method as described in BS 2782.

The pipe and gutter shall be colour Grey, to BS 5252, 10.A. 07, black white or rustic

3.13 <u>uP.V.C. Rainwater Fittings</u>

All fittings shall be injection mounted and shall be compatible with pipe and gutters and shall conform to BS 456 or the appropriate Kenya Standard.

All gutters pipe and fittings shall be Colour Grey to British Standard 5252, 12.A. 07 0r black, white or rustic.

Gutter connecting fittings shall have integrally moulded seal retaining cavities housing a rubber seal of hollow section.

The fitting shall incorporate a gutter-retaining clip.

Gutter shall be supplied in plain-ended lengths.

The minimum acceptable wall thickness of gutter shall be 2.20mm

Rain water pipes shall be circular in section, 65mm nominal diameter complying in al respects to British Standard 4576 or the relevant Kenya Standard.

Rainwater pipes shall be supplied in plain-ended lengths. The minimum acceptable wall thickness of rainwater pipes shall be 1.80mm

Pipe support brackets must be adequate to screen expansion gaps.

The grade of UPVC used for gutter and pipe shall have a minimum softening point of 75^0 C when tested by the Vicat method as described in BS 2782.

The pipe and gutter shall be Colour Grey, to BS 5252, 10.A.07. black, white or rustic.

3.14 <u>UPVC Underground Drainage System</u>

(a) Pipes and fitting

The pipes and fittings shall comply in all respects to British Standard 46600 & 581 or the relevant Kenya Standards.
Pipes shall be supplied in plain-ended lengths.

The minimum acceptable wall thickness of pipe and fittings will be as follows:

110mm pipe	3.0mm	
160mm pipe	3.9mm	
110mm junction only	3.50mm socket	3.80mm body
All other fittings	3.20mm socket	3.40mm body
160mm all fittings	4.30mm socket	4.70mm body

The method of jointing to be employed shall be by lip seal socketted fittings. Jointing to other materials shall be made in the manner specified by the manufacturer.

The grade of UPVC used for the pipes shall have a minimum softening point of 82^0 C when tested by the 'Vicat' method 102D as described in British Standard 2494: 1976.

Holderbats shall be made of Mild Steel protected from corrosion by galvanizing or such coating for optimum fit. To fit pipe supports a special purpose made PVC packing piece may be used.

The base of soil and vent stack connection to the below ground drain shall be made with a bend of minimum centre lines radius of 250mm.

Minor changes of direction where permitted shall be made with a variable bend that has a constant effective length.

(b) Excavation of Trenches

The installation, method of joining shall confirm in all respects to the manufacturer's site work instruction.

Trenches shall be excavated to a sufficient depth to allow a 50mm minimum bed below the underside of the pipe. Trenches width shall be not less than the outlet diameter of the plus 300mm and not wider than necessary.

(c) Trench Invert

The base of the trench shall be such that even support is given to the pipe for it's full length. Soft spots shall be removed and replaced with compacted granular material as described below. High spots and rock shall be removed to allow full 50mm-bed depth.

(d) Pipe bed

The bed shall be composed of granular material to the specification called for below and shall cover the full trench width and length and boned to gradient.

(e) Laying and jointing

Pipes and fitting shall be laid true to gradient in straight lines and joined in accordance with manufacturer's instructions. All pegs used for alignment and other purposes must be removed after use and before side filling. All joints shall be watertight complying with CP 301, Clauses 5:3

Pipe barrels shall be in continuos contact with the trench bed when laid.

(f) Side Filling

The side filling of pipes shall be composed of hard granular material, which shall be to the requirements below.

Side fillings must be placed equally on both sides of the pipe and compacted, so as to buttress the pipes against the trench walls. Side filling shall continue up to pipe crown level as a minimum and above this level if required by the Engineer.

(g) Back Filling

The first 300mm of backfill above crown level shall be taken from selected trench spoil all passing 25mm sieve. It shall be placed in two 150mm layers each firmly tramped. Above the 300mm level mechanical fillings and compaction may be used.

Where cover is less than 450mm the pipe shall be covered with 75mm of selected material laid to support a concrete tile or slab indicating the presence of a service.

(h) Granular Material for Bed and Side Fill

The material may be composed of crushed stone, clinker, quarry scalping, ballast, gravel, shingle or all-in aggregate to British Standard 882.
All material for bed and site fill shall be hard and granular passing 20mm sieve and shall contain not more than 5 per cent fines passing 3mm sieve.

The material shall have a compaction factor of 0.3 or less.

3 Valves

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

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

b) Gate Valves

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

All gate valves up to and including 65mm nominal bore shall be of Bronze construction in accordance with the requirements of BS 1952.
The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

c) Globe Valves

All globe valves up to and including 65mm nominal bore shall be of Bronze construction in accordance with the requirements of BS 3061.
The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the site of works.

d) Check or Non-Return Valves

All check or non-return valves 80mm nominal bore and above shall be of the swing check type of Cast Iron construction in accordance with the requirement of B.S.4090.
The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the Site of works.

e) Ball Valves

All ball valves for use in connection with hot and cold water services shall be of the Portsmouth type in accordance with the requirements of B.S.1212, constructed from Bronze or other corrosion resistant materials. These valves fall into three pressure classifications as follows: -

(i)	Low pressure	-	3.58 b maximum
(ii)	Medium pressure	-	7.72 b maximum
(iii)	High pressure	-	12.62 b maximum

The pressure classification required for each ball valve will be designated in the description of its associated equipment contained in section C of the Specification.

(f) Manually Operated Mixing Valves

Mixing valves for shower fittings and other appliances being provided under the sub-contractor Works shall be manufactured in accordance with the requirements of BS 1415 from Bronze or other corrosion resistant materials.

5 Waste Fitment Traps

a) Standard and Deep Seal P & S Traps

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

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

b) Anti-Syphon Traps

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

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

6 Pipe Supports

a) General

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

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

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

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

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

b) Steel and Copper Pipes and Tubes

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

An approximate guide to the maximum permissible supports spacing in metres for Steel and Copper pipe and tube is given in the following table for horizontal runs.

Size Nominal s Bore	**Copper Tube To BS 659**	**Steel Tube To BS 1387**
15mm	1.25m	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	3.0m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

The support spacing for vertical runs shall not exceed one and a half times the

distances given for horizontal runs.

c) **Expansion Joints and Anchors**

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

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

The Sub-contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.
The Sub-contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

7 Sanitary Appliances

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

8 Pipe Sleeves

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

9 Installation

9.1 General

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

9.2 Above Ground Installation

a) Water Services

Before any joint is made, the pipes shall be hung in their supports and adjusted to ensure that the joining faces are parallel and any falls which shall be required are achieved without springing the pipe.
Where falls are not shown on the Contract Drawings or stated elsewhere in the Specification, pipework shall be installed parallel to the lines of the buildings and as close to the walls, ceilings, columns, etc., as is practicable.

All water systems shall be provided with sufficient drain points and automatic air vents to enable them to function correctly. Valves and other user equipment shall be installed with adequate access for operation and maintenance. Where valves and other operational equipment are unavoidably installed beyond normal reach or in such position as to be difficult to reach from a small stepladder, extension spindles with floor or wall pedestals shall be provided.

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

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

All screwed joints to piping and fittings shall be made with P.T.F.E. tape.
The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometre per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

b) Sanitary Services

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

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

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

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

The open end of each stack shall be fitted with a plastic coated or galvanized steel wire guard.
Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

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

9.3 <u>Underground Installation</u>

a) General

All underground water and drainage service installations shall be carried out in accordance with the best standard of modern practice as described in C.P. 301 and C.P. 310 respectively and the following clause.

b) Sequence of Operation for Underground Service Installation

(i) Setting Out

As described in BS code of practice 301 Clause 502

(ii) Breaking Up Surface (If in Roads)

As described in BS code of practice 301 Clause 503

(iii) Excavation and Timbering

As described in BS code of practice 301 and 503 and the following:-

Excavation shall be made to such depths and dimensions as may be required by the Engineer to obtain prior falls and firm foundations. No permanent constructions shall be commenced on any bottom until the excavation has been examined and approved by the Engineer.
Should the Sub-Contractor in error or without the instructions of the Engineer make any excavation below the required level of the pipe or bed, as the case may be, then he shall be required to refill such excavation to the correct levels with concrete 1: 4 : 8 to 38mm maximum aggregate size.

The Sub-Contractor's prices shall have included for excavating in all materials met with, for trimming bottoms to the necessary falls and for any extra excavation required for planking, strutting and working space.

The Sub-Contractor shall keep the whole of the trenches or other excavations free from water and shall execute such works and install such pumps as may be necessary to keep the excavation dry at all times.

No sub-soil water shall discharge into the sewage system without written permission of the Engineer.

(iv) Laying of Concrete Beds or other Supports for Pipes

As described in BS code of practise 301 Clause 504 and the following:-

All drains below buildings and roads shall be encased in concrete 150mm thick.

Concrete beds and supports shall be concrete 1:3:6 to 25mm maximum aggregate size.

(v) Pipe Laying and Jointing

Drain pipes shall be laid and jointed as described under BS code of practise 301 clause 505.
Water pipes shall be laid and jointed as described under BS code of practice 310, Clause 401, 402, 403 and 404

(vi) Manholes

(a) General

All manholes provided under the Sub-Contract works shall be constructed of approved materials and in an approved manner, by the Main Contractor.

All manholes shall be watertight and if constructed of brickwork, solid block work or stone work, they shall be rendered internally with a cement mortar of at least 12mm thickness and finished with a smooth surface.

The sides of all channels in every manhole shall be ought up vertically to a height of not less than the diameter of the drain and shall be benched in good concrete from the top of the channels at an surface with a coat of 1:1 cement mortar.

In all other respects, manhole shall be constructed in accordance with BS code of practice 301

(b) Rectangular and Square Manholes

Rectangular and square straight through manholes shall be constructed from brickwork, solid blockwork, stone and concrete to comply with the following minimum internal dimensions (millimetres)

Depth below internal Ground of Access Outgoing shaft Invert	Dimension SLXW	Size of Main Shaft Diameter	Internal Chamber Dimension SLXW	Height of Chamber above Benching	wall Thickness
Up to 740		100 to 150	610x460		150
Up to 740		230 to 460	760x760		150
Up to 1200	100 to 150	760x760			150
160 to 1200		230 to 460	910x910		150
1220 to 1800		100 to 150	910x910		150
1220 to 1800		230 to 460	1070x910		150
1830 to 4550	760x760	100 to 150	1370x910	1370	230
1830 to 4550	760x760	230 to 460	1370x1070	1370	230
4570 & Over	760x760	100 to 150	1370x1140	1680	230
4570 &Over	760x760	230 to 460	1370x1140	1680	230

When branches are connected into the manhole, the length and width dimension of the chamber shall be increased as follows:-

c) Length

Branch Diameter

100mm 300mm/branch on the side with most branches

150mm 380mm/branch on the side with most branches

230and 300mm 460mm/branch on the side with most branches

460mm 610mm/branch on the side with most branches

Width

Branch Diameter

100mm to 300mm for each side with branches plug

160mm 460mm or the diameter of the main drain which ever is the greater

(c) Precast Concrete Circular Manholes

Where specified straight through precast concrete manholes shall be manufactured and constructed to comply with BS 556 and the following dimensional requirements, (Dimension: Millimetres)

Depth Ground of Outgoing Invert	**Internal Access Shaft Diameter**	**Size Main Channel Diameter**	**Chamber Diameter**	**Height Chamber Above Benching**

Up to 740	-	100 to 460	910	-
760 to 2410	-	100 to 460	1070	-
2440 to 4550	-	100 to 460	1220	1370
4570 & over	760	100 to 460	1370	2680

When branches are connected into manhole the internal diameter of the chamber shall be increased as necessary up to maximum chamber diameter 1830.

(d) Steps Iron and Covers

Access shaft to manhole of depth greater than 760mm shall be provided with approved steps iron at suitable intervals. Every manhole or manhole access shaft shall be fitted with a removable airtight cast iron cover to adequate size and strength, fixed in a manner that prevents surface water gaining into the system.

Cast manhole covers and frames shall be manufactured in accordance with the requirements of BS 497 and shall generally be classified into the following categories:

Heavy Duty : For Carriageway
Medium Duty : For Footpaths
Light Duty : For domestic premises or other places where they do not have to carry wheeled Traffic.

(e) Back Drop Connections

Where the level of the branch drain entering the manhole is higher than can be suitably accommodated by the normal type benching, then the branch drain shall be connected to the manhole by means of a back drop Connection.

(f) Channels

Where the branch channel connects to the main channel in the manhole, the invert of the branch channel shall be a minimum of 38mm higher than the main channel.

(g) Testing of Pipelines

After pipelines are connected up and joints have been sealed, the pipeline shall be tested before pipes are, if required haunched or surrounded in concrete

Methods of testing and inspection shall be in accordance with Clause 4 of the Specification.

(h) Concrete Bedding Hunching and Surround

Concrete 3 bedding, hunching and surrounding shall be provided as necessary o where called for by the Engineer in accordance with the requirements laid down in BS code of practice 301, Clause 310

(i) Backfilling

Backfilling of trenches, headings and around manholes shall be carried out in accordance with the methods described in BS code of practice 301, clause 508.

(j) Reinstatement of Surface

Following the final Backfilling of all trenches, headings and manhole surrounds, the surface of the

excavated areas shall be fully reinstated to the approval of the Engineer.

Where excavation have been carried out in public highways or other areas are not forming part of the site, the sub-contractor shall be deemed to have allowed in his price for all charges associated with the temporary and final reinstatement requirements of the local of highway Authority concerned.

No Claims for extra in this respect will be accepted.

(k) Sewer Connection

Sewer Sub-contractor shall pay all charges associated with the connection by the local Authority of the drainage to the main sewer, including necessary reinstatements

10 Testing and Inspection

10.1 Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

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

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

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

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

b) Underground Water Mains

After laying, jointing and anchoring, the main shall be slowly and carefully charged with water, so that all air is expelled and allowed to stand full for three days before testing under pressure.

A long main shall be tested in sections as the work of laying proceeds and all joints shall be exposed for inspection during the testing.

The open end of the main may be temporarily used for testing under moderate pressure by fitting a water pipe expanding plug, of which several types are available. The end of the main and the plug should be secured by struts or otherwise, to resist the end thrust of the water pressure in the main.

If the section of main terminates with a sluice valve, the wedge of the valve shall not be used to retain the water, instead the valve shall be fitted temporarily with a blank flange, or if a socket valve with a plug and the wedge shall be placed in the open position while testing . The Sub-Contractor shall provide suitable end supports to withstand the end thrust of the water pressure in the main.

c) Above Ground Soil Waste and Ventilation System

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

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

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

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

d) Underground Drainage System

A site test shall be carried out on all drainage pipes before concrete hunching or surrounds are applied. These tests shall be carried out preferably from manhole to manhole.

Short branch drains connected to a main drain between manholes shall be tested as one system with the main drain. In long branches a testing junction shall be inserted next to the junction with the main drain and the branch tested separately. After the test has been passed, the testing junction shall be effectively sealed.

Water tests shall be carried out in accordance with the methods described under BS code of practice 301, Clause 601 (b) and (c) and the test pressure shall not be less than 1,520mm head at the highest point in the pipe section and not more than 10,360 head at any point it the section.

The test pressure shall be maintained for a period of one hour during which time the pipe and joints shall be inspected for sweating and leakage. Any leak discovered during the tests shall be made good by the Sub-Contractor and the section re-tested.

In addition to pressure tests, drain pipe runs shall also be tested for straightness where applicable. This test shall be carried out in accordance with one of the two methods described in BS code of practice 301, clause 601 (e).

Testing of manholes shall be carried out in accordance with the methods described under BS code of Practice 301, clause 602 (f)

(e) Above Ground Soil Waste and Ventilation System

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

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

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

In all other respects, testes shall comply with the requirements of BS 5572.

10.2 <u>Site Test – Performance</u>

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

All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than

normal with the result that pipe "sweating", due to condensation will cause nuisance.

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

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

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

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

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

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

Pressure gauges should be recalibrated before the tests.
The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

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

11 Sterilization of Hot and Cold Water Systems

All underground and above ground water distribution systems cisterns, tanks, pumps etc shall be thoroughly sterilized and flushed out after the completion of all tests and before being fully commissioned for handover.

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

12 Water Mains

12.1 Piping

All piping shall be plain ended and suitable for use with flexible mechanical couplings (e.g. Viking Johnson, Dresser or Gibault). Steel pipes shall comply with BS 534-Galvanised steel pipes for distribution system shall comply with BS Galvanized steel pipes for distribution system shall comply with BS 1387-1967 medium tubes and be supplied with flanges on pipes 75mm diameter and over.
All pipes less than 75mm diameter shall be screwed and socketed, unless otherwise stated.

12.2 U.P.V.C Pipes

UPVC piping shall be in accordance with BS 3505: 1968.

The maximum sustained working pressure to which the pipes and fittings will be subjected is based on water at a temperature of 20^0 c.
The Contractor shall submit full details of the colour of the pipe he intends to supply. The Colour of the pipe shall be such as to meet the requirements of Clause 2 'material' and Clause 8.5 'opacity' of BS 3505.

The pipes up to and including 50mm diameter shall be of solvent weld type. The pipe shall be supplied with interchangeable sockets pre-formed at the factory and of such internal diameter that it takes the plain and of the pipe with same nominal diameter.

The joints shall sustain the end thrust to which the pipe shall be submitted. The contractor shall supply sufficient quality of the cleaner and adhesive which shall be required to make the joints with the pipes.

The pipes of 75mm diameter and over shall consist of a grooved socket at one end of the pipe. The socket shall be designed to give a clearance fit on the outside diameter of the parent pipe. The sealing medium that shall seat in the groove shall be a rubber ring.
If the formation of the socket and groove results in the thinning of the original wall thickness of the pipe, it shall be compensated for by shrinking the outside of the socket area as by reinforcing sleeve of the same material as the pipe.

The socket and groove shall incorporate no sharp angles where the stress points are created.

The socket and groove shall incorporate no sharp angles where the stress points are created.

The joint shall take 10% deformation of the spigot at the point where the stress points where it enters the socket without leakage from the pipe when subjected to the test pressure specified for the pipe. Thermal expansion of the pipe shall be accommodated in the joint. The joint shall be capable of lined deflection up to 30^o.

The sealing ring shall supply be of the first grade natural rubber and the physical properties of the mix shall meet the requirement of BS 2494.

The contractor shall supply sufficient quantity of any lubricant or other material that shall be needed to make the joint, which shall be assembled by hand.

The fittings shall have the same type of joint and or the pipes to be used. The contractor shall submit full lists of the materials, dimensions and test pressures of the fittings offered.

Precautions shall be taken to avoid damage of the pipes and fittings.

In handling and storing the pipes and fittings, every care shall be taken to avoid distortion, flattening, scoring or other damage. The pipes and fittings shall not be allowed to drop or strike objects. Pipe lifting and lowering shall be carried out by approved equipment only. Special care shall be taken in transit, handling and storage to avoid any damage to the ends.

All jointing of pipes and fittings shall be carried strictly in accordance with the manufacturer's instructions.

12.3 Manufacturer's Instructions

The contractor shall be responsible for obtaining copies of any manufacturer's instructions for pipe joining and shall familiarize himself and his employees with these instructions.

All necessary tools and equipment required for laying, jointing and testing of pipes and joints shall be provided by the contractor at no extra cost.

12.4 Fittings and Specials for Galvanized Steel Pipes

All specials shall be of such dimensions as will meet with piping supplied. Screw down stop valves shall

comply with BS 1010. Specials shall comply with BS 1740.

12.5 Flanged Adaptors and Flanges

Flanged adaptors shall be piece suitable for connecting a flanged sluice valve to the type of piping supplied. All flanged or special shall conform to BS 10 part 1 and shall be drill to Table 'C' and machined across the faces. The flanged adaptors shall comply with BS 78 and BS 3961. All PVC flanged shall be supplied with metal backing rings jointing of flanges shall be carried out using the joint rings, bolts and washers as necessary.

12.6 Tees

The spigot ends of all tees shall be suitable for connection to the pipework supplied using the aforementioned flexible mechanical joints and branches shall be flanges drilled to BS 10 table 'C'.

12.7 Hydrants

Hydrants shall comprise a 75mm sluice valve and a 75mm Duckfoot bend with gunmetal screw connection to detailed drawings. These specials shall comply with the requirements of BS 750: 1964.

12.8 Gate Valves

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of BS 3464.
All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of BS1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of BS 1952.
The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

12.9 Air Valves

Air valves shall be of cast iron conforming to BS 14 52 Grade 14. They shall not be suitable for working pressure nor less than that specified for the class of pipe to which they are connected.

12.10 Ball Float Valves

Ball float valves shall be to BS 1212 parts 1 and 2 shall be suitable for working pressure not less than the working pressure for the class of pipe specified for connection to the ball float valve.

12.11 Non-Return Valves

Non-return valves shall be of cast iron with flanges and shall conform to BS 4090: 1966.

12.12 Stop Cocks

Stopcock up to 50mm diameter shall be brass and shall conform to BS 1010 part 1: 1959 part 2;1973.

12.13 Rubber and Insertion Jointing

Rubber and insertion jointing for flange jointed shall comply with BS 2494 part 1 and no jointing rings shall be used in the contract, which have not been supplied by manufacturers approved by the Engineer.

12.14 Bituminous paints

All bituminous or tar paints for protection of buried steel bolts, pipes specials etc. shall be the best of their respective kinds manufactured by approved makers.

12.15 Steel Pipe and Fittings for Rising Main

All piping shall be plain ended and suitable for use with flexible mechanical couplings (e.g. Viking Johnson, dresser) The grade of steel used shall comply with the requirements of BS 3601: 1964. Pipes shall be welded or seamless and shall conform to BS 534: 1966 or an equivalent acceptable standard.

All pipes shall be externally and internally protected with bitumen in accordance with clauses 5.4 and 5.5 of BS 534: 1966.

The external protection shall be reinforced with oven glass, cloth glass , tissue wrapping or by other approved material.

The ends of all bitumen lined pipes, fittings and specials shall be closed by means of discs or other suitable covers firmly held in place.

12.16 Drain-Off Taps, Stops Valves for Water Services

Fittings for mains of size 50mm or under shall comply with BS 1010. Samples must be submitted to the Engineer for approval prior to installation of fittings.

12.17 Storage of Plants and Material

The contractor shall, at his own expenses, make arrangements for dumps along the route of the pipe line for a storage of pipes, his plant and materials to suit his own convenience, but such arrangements shall be subjected to the Engineer's approval.

12.18 Loading, Handling and Conveying of Pipes

The contractor shall before commencing to lay the pipes, valves or other materials examine them and ascertain that they are in perfectly sound condition and he shall be responsible for any laying. The stocking of pipes and specials on site, loading and unloading etc. shall be carried out to the satisfaction of the Engineer.

12.19 Interferences with Fences, Drains, Pipes, Property etc.

The contractor shall ensure the proper reinstatement of fences, drains, telephone lines, KP&LC. Cables etc where affected by his work. All service shall be adequately protected and propped to the satisfaction of the Engineer. The contractor shall be liable for any damage caused to the service due to his failure to provide adequate protection.

12.20 Method of Excavation

a) The Contractor shall excavate the pipe trenches in the line and to the depths indicated by the Engineer. Except where otherwise indicated on the Drawings or indicated by the Engineer, it is intended that the trench shall be excavated to such a depth as will allow of a minimum cover of 5000mm over top of the barrel of the pipe when laid plus or minus a tolerance of 75mm either way. All trenches shall be excavated in open cuttings.

b) Where the trenches passes through grassland, arable land or garden, whether enclosed or otherwise, the turf, if any shall be pared off and stalked, and the productive soil shall be carefully removed for a width of 600mm greater than the nominated trench width or equal to the overall width of track of the excavating machine, whichever is greater, and laid aside to be subsequently used in reinstating the surface of the ground after the trench has been refilled.

c) The bottom of the trench shall be property trimmed off, and all low places or irregularities shall be where rock or large stones are encountered, they shall be cut down to a depth of at least 75mm below the level at which the bottoms of the barrel of the pipes are to be laid, and covered to a like depth with materials, so as to form a fine and even bed for the pipe.

d) Joints holes shall be excavated to suit minimum dimension as to allow the joints to be well and properly jointed.

e) The pipe trench shall be kept clear of water at all times.

f) The contractor shall whenever necessary by means of timbering, or otherwise support the sides of the trench so as to make them thoroughly secure, and afford adequate support to adjoining roads, lands, buildings and property during the whole time the trench remains open and shall remove such timbering or other work shall be deemed to be included in the rate for excavation. Incase the Contractor is instructed by the Engineer to leave any portion of such timber in position, he will be paid for it accordingly.

g) The cleared width inside the timbering in the case of single pipes shall be at least 320mm in excess of the external diameter of the pipe be laid, in order to allow it to be freely lowered into position, in the trench without damage to the external protection.

h) Where more than one pipe is to be laid parallel, then the clear width inside the timbering shall be at least 520mm in excesses of the combined external diameters of the pipes.

i) Should the excavations be taken out to a greater depth than is specified the bottom shall be made good to the correct level with mix 1:3:6 concrete or other materials approved by the Engineer. No payment shall be made for any other excavation carried out by the contractor and the coat of filling up to required levels.

j) If a mechanical excavator is used by the contractor, he shall indemnify the employer against all claims for damages that in the opinion of the Engineer, may be caused by the use of this plant. When a mechanical excavator is used the bottom 230mm of excavation shall be got out by hand to ensure an even bed for the pipes.

12.21 Main Laying

Mains shall be laid in straight lines and/or smooth curves as indicated on the drawings. The vertical profile of the pipes shall be to even gradients. Any pipes not so laid shall be removed if so directed by the Engineer, and re-laid in proper manner at the contractor’s expense.
In laying the pipes and specials, care shall be taken not to damage the protective linings and the pipes shall be handled with tackle as directed by the Engineer.

The pipes and specials shall be slug and sounded with hammer for flaws before they are lowered into trench. After the pipes or specials have been checked they shall be cleaned internally and carefully lowered into trench and set to proper gradient and line so that is a continuos rise from each washout to air valve.

12.22 Temporary Bench Marks and Sight Rails.

The contractor shall fix rails for use with boning rods at intervals of not more than 65 meters and temporary Bench mark related to the survey of Kenya Datum shall be provided at intervals as directed by the Engineer.

12.23 Curves and Bends

Large diameter curves of main shall wherever possible be formed by giving a set not exceeding 30 to each joint, bends being used only where large diameter curves are not possible.

12.24 Cutting of Pipes

The contractor shall, subject to approval of the Engineer, cut pipes to such lengths as directed. Pipes should be cut off clean and square while the axis cuts should be made with an approved cutter from rotary cutting machine, engineer may approve cutting by oxyacetylene cutters.

12.25 Flanged Joints

In laying pipes and specials with flanged joints, flanges shall be brought together and bolted with the faces absolutely parallel. A rubber jointing ring 3mm thick shall be used in each flange joint and one washer with each bolt. The ring shall be a strip ring lying within the bolt circle and full flange width ring.
The bolts shall be tightened up gradually and equally in customary manner in order to distribute the stress evenly over the flange.

12.26 Surface Boxes

Sluice valves, air valves and fire hydrants shall be covered with surface boxes in accordance with details as shown on the Drawings. In roads and footpaths the boxes shall be laid flush with the surface.

12.27 Fixing of Valves, Air Valves and Washouts Pipes

The contractor shall fix the sluice valves, air valves, washout pipes pipes complete with iron casing for spindles and surface boxes in accordance with and in position shown on the drawings. As far as possible the cutting of pipes for this should be avoided.

12.28 Support and Anchor Blocks

Concrete mix 1:3:6 shall be placed around and against bends and other specials in trenches.

12.29 Colour Coding

All underground pipes are to be wrapped with adhesive plastic tape at each meter in colours blue for drinking water and green for untreated water. All pipework above ground and valves in valve chambers and pits are to be painted in similar colours.

12.30 Lettering

The lettering for sluice valves, fire hydrants, air valve and washout abbreviated SV FH and WO respectively shall be in accordance with the detail shown on the Drawings colour as detailed hereafter: -

Untreated water:	White lettering on green background
Drinking water:	White on blue background
Fire Hydrant:	White lettering on yellow background

12.31 Testing

a) The test pressure shall be one and a half the maximum working pressure except where a pipe is manufactured from a material for which the relevant BS specification designates a maximum test pressure should not exceed 120,180 and 240 meters/head for clause B, C, or D pipes, respectively.

The pump shall maintain the test pressure for about one hour and if there is any leakage it shall be measured by the quantity of water pumped into the main that time.

b) When a section of the mains has been jointed, the ends shall be closed with caps, plugs or flanges, which must be strongly strutted against a solid backfilled rammed as hereinafter and as shown on the Drawing, for it's whole length so as to cover the mains to a depth of not less than 500mm, except at the joint holes which shall be kept clear of all backfiring, if necessary by the use of timbering, so that each joint is left fully exposed for inspection. No backfililng will be permitted before testing of each section.

As long a section of main as possible shall be tested at one time subject to the maximum length of open trench approved by Engineer or permitted by the Highway Authority, and the test shall be carried out within 12 working days of the completion of such sections of mains.

Where a main is laid across a road or in such a position as to interfere seriously with the normal use of the road, the contractor may, with the consent of the Engineer and at his own risk, fill in such joint holes as may be necessary.

He shall at his own expense, re-excavate any or all joint holes necessary to locate a leak and carry out repair work should the results of his hydraulic test prove unsatisfactory.

The section shall then be filled with mains water, great care being taken to drive out all air through air valves, ferrules or otherwise to the approval of the Engineer.

c) After the section to be tested has been charged and all air liberated it shall standing underrate moderate pressure for several days' final airing. The leakage from the mains and connections from each section tested shall not exceed 4 litres per 25mm diameter of main, per 2Km. Length each 24 hours, every 30 meters head of pressure, and any visible individual shall be repaired.

To determine the rate of leakage, the contractor shall furnish a suitable hydraulic test pump, pressure gauge, connection and water meter or other appliance, for measuring the amount of water pumped.
If the leakage were at a greater rate than that specified, the contractor should re-excavate the trench where necessary and shall remake the joints and replace defective work until the leakage shall be reduced to the allowable amount.

d) The employer shall charge the contractor the cost of any coupling required to join up tested lengths of main if, in the Engineer's opinion, greater lengths could reasonably have been tested or if failure under test requires the pipe to be cut, or other methods of laying should have been adopted.

The contractor shall supply water used by the contractor in testing the main.
The contractor shall carry out all work, which may be necessary for making temporary connections to the existing mains to obtain water for testing at his own expense.

e) In carrying out the test for waiter tightness only the Engineer shall authorize the operation of all valves, but the contractor shall provide all the necessary labour to assists in the opening and closing of the valves to the Engineer's instructions and he shall allow in his price for all his expenses in connection with testing on completion.
The Engineer shall be the sole judge of water tightness.

12.32 Cleansing and Sterilizing the Main

When a pipeline is complete and where applicable, has successfully passed the test it shall be thoroughly washed out using, if possible, an open end. Thereafter it shall be sterilized by being filled with a suitable solution containing not less than 20p.p.m. of free available chorine or such other Sterilizing agent as the Engineer shall approve. After standing for 24 hours the main shall again be washed out and refilled with mains water prior to the taking of Bacteriological samples.

The contractor shall provide all necessary stop-ends fittings and chemicals for this work.

Emptying and washing out of the pipes shall be done in such a manner as not to damage the trench or cause due flooding of vicinity, and the contractor shall supply and use such piping, specials and/or hose as may be necessary to facilitate the flow of water to the nearest drain or watercourse. Water used for washing out and sterilizing will be supplied by the employer.

Before any section of the mains is put into use, bacteriological samples will be taken by the Engineer's representatives and only on the receipt of a satisfactory certificate from the medical Research Laboratory of the Employer will the main or section of main be permitted to be put into supply and be considered as having been substantially completed.

Any expenditure involved in Providing facilities or materials for taking of samples shall be included in the contractor's tendered rates and Engineer will specify and shall be sole judge as to the number of sample required and points at which they are to be taken.

The cost of the Bacteriological Examination will be borne by the employer but if the sample and samples are not satisfactory the cost of any subsequent analyses will be borne by the contractor.

12.33 Clearance of Site

The contractor shall remove all surplus pipes, special and other fittings from the site as directed by the Engineer. The site of works shall be leveled and all surplus excavation, debris, cut trees or bushes shall be carted to the approved tip sites.

12.34 Existing Installations

a) Cold Water

Where pipes for cold water are to be connected up to existing installations, the condition of the existing installation is to be reported to the Engineer in order to establish if part of the existing installation is to be replaced.

b) Sanitary Fittings

Where existing sanitary fittings are to be removed or replaced, the fittings are to be removed with utmost care and fittings and taps to be handed over to the client.

c) Sealing Off Existing Drains and Manholes

Existing foul, surface water and subsoil drains exposed during progress of work are to be recorded and reported for investigation by the Architects. Where not required to be removed, seal off with concrete or grout solid as directed. Seal o connection to manholes, demolish wall to 50mm below surrounding ground level and fill remainder of manhole with consolidated approved rubber and cover to level of surrounding ground as directed.

13 Cold Water Storage Tanks

Cold-water storage tanks shall include the ball valves and connectors for inlet, supply, washout, and overflow and may also include in his pricing the price of the overflow and amount pipes to a place to be indicated by the Engineer. He shall also include the washout valve.

Where paint is required the sub-contractor shall use the paints, which will not be toxic.
The tanks shall be manufactured to the following British Standards: -

(a) Galvanized Mild Steel tanks to BS 417
(b) Sectional Steel tanks to BS 1564

Where non-standard sizes shall be used, they shall be manufactured to the relevant standard but with the approval of the Engineer.

14 Water Heaters

Electricity Heated

Non-pressure and low-pressure types domestic electric water heaters shall comply with BS 843:1964. High-pressure types shall be of a standard not less than the appropriate BS

Domestic heaters shall, if nothing else is pacified with 25mm thick fibreglass lagging and enclosed in the corrosion-proofed steel, finished in white stove enamel and be similar to manufactured ' HEATRAE'

Electric thermostatically controlled immersion heaters shall comply with BS 3456 section A8:1963 and C.P. 324. 202:1948.

Purpose made storage water heaters of the specified size shall comply with BS 853 and shall be to the specified working and test pressure. The heaters shall be provided with all necessary bosses, coils etc, and shall be hot dip galvanized after manufacture. Installation shall, if nothing else is specified, be fiberglass to the specified thickness with finish suitable for painting.
Domestic heaters for floors mounting shall, if not provided with legs, be mounted on a minimum 100mm high concrete plinth.

Floor mounted purpose made heaters shall be provided with minimum 225mm high legs of sufficient strength welded to the heaters and to suitable floor plates. Before galvanizing, wall mounted heaters shall be supplied with all necessary brackets.

15.0 Electrical Services

Suitably rated control panels shall be supplied and installed as part of this section of the Contract to meet the starting and operating characteristics of the fan, and motors.

The panels shall be either wall or floor mounted to suit the specific area and requirements. Power supplies to these panels shall be extended from adjacent isolating switches to be provided under the electrical services section of this Contract. Complete co-ordination shall be maintained with the electrical services to ensure supply and termination details are satisfactorily carried out to suit the plant and installation requirements.

15.1 Motor Control Panels

All starters, control equipment and the like shall be enclosed in purpose made sheet panels. The panels shall be installed within the plant rooms to suit the dimensions of the actual panels. All details of the panels and layouts within the plant shall be to the approval of the Engineer and shall include:

- Triple pole isolating switch removable neutral link and HRC fuses.
- Control circuit fuses of the HR cartridge type
- Under voltage release, adjustable and complete tower to allow for voltage associated with the electrical supply and motor starting.
- Over voltage protection, details to be agreed.
- Ammeter of the moving iron mounted on panel with selector switch.
- Pilot lamp, green.
- Rotary switch for HAND/OFF/AUTO operation, where required. Removable neutral link of heavy section copper.
- Motor winding over-temperature release. The Contractor shall provide this feature in conjunction with the specified thermistor protection
- Duty selection switches.
- Manual stop-start button units to operate in conjunction with rotary switch.
- Hours run meter/counter.

The Contractor shall allow at present for the contractors to re-close automatically on the restoration of the mains voltage. This requirement shall be subject to further discussions with the Employer to suit the Diesel plant and the mode of operation of electrical supplies.

All starter panels shall include sufficient miniature circuit breakers, with neutral bar, to supply auxiliary or associated equipment. One 30TP and one spare 15TP MCBs shall be included as spares.

All starter panels, motor starters and controllers shall comply with BS 587. Enclosures shall be rigid, at least 1.6mm thick, with rolled corners stiffened as necessary, dust-proof, vermin-proof, damp and corrosion protected with a grey colour stone enamel or other approved finish, fully tropicalised, with washable air filters. Instruments, gauges, ammeters, indicator lamps, etc shall be flush mounted. Panel doors shall include isolating switches to prevent them being opened unless the switches are in the off position. Each door shall be provided with a lock, and three sets of keys for all panel door locks shall be handed over to the Engineer.

Terminals for all outgoing main and control cables shall be marked and positioned so that the cables may be carried to the outlet from the panel without crossing or being carried round the panel. Terminal numbers and markings shall correspond to those used on connected equipment and wiring diagrams. All internal interconnecting wiring between individual units and the terminal chamber shall be carried out by the panel manufacturer.

Each panel shall be provided with a main isolator so that the whole panel may be completely isolated.

The Contractor shall determine all motor starter requirements and associated auxiliaries and controls prior to manufacture and shall submit the design and circuit diagrams to the Engineer for approval.

Contractors shall determine all motor starter requirements and associated auxiliaries and controls prior to manufacture and shall submit the design and circuit diagrams to the Engineer for approval.

Contractors shall be of air-break type BS 5424 Part 1 and/or BS 587, and shall be provided as follows:

- Magnetic blow-outs and air chutes on each pole.

- Renewable hard drawn copper contacts.

- Auxiliary contacts for remote control.

- Continuously rated operating coils, (Max 240V)

- Thermal overload protection device incorporating single phasing protection.

Starters shall be rated as follows:

Ordinary duty - For motors which will run continuously for periods in excess of two hours.

Intermediate duty - For motors under automatic control other than time controls. When the intervals of operation are greater than two hours.

Starters shall be of the following type:

- Up to and including 4KW motor: Single phase on/off with overload protection (D.O.L.).
- Over 4 kW and up to 15 kW: Star Delta starter.
- For starters incorporating reduced voltage starting the changeover of voltage shall be automatic.

Terminals shall be accessible and shall be provided with adequate clearance between phases and between phases and earth. Where starters are not enclosed in a composite panel, an integral isolating switch as specified for control panels shall be provided. Where electric motors are either not visible from the control panel or are located more than 10m distance they shall be provided with a local lock-off stop control circuit switch, or a main circuit isolator where there is no control circuit. A weatherproof lock-off stop control circuit switch shall be provided for motors located externally or otherwise exposed to the weather.

15.2 Motors

Motors shall comply with BS 816 Part 1 and shall be arranged for conduit entry.

Motors shall be fitted with locating type bearings and/or heavy thrust bearings at the non-driven and collar type at the drive end. Motors shall be of the totally enclosed fan cooled type, tropicalised to BS 5000 Part 99 suitably finished to resist corrosion by fluids or fumes. The rating of all motors shall be chosen to provide continuously the maximum power requirements of the plant. The motors shall be of the standard induction type. They may be of the squirrel cage, horizontal or vertical spindle type of all to the approval of the Engineer.

Vertical spindle type motors shall be provided with substantial canopies of approved design.

The locked rotor current shall be stated on the name plate of each motor and shall be not more than six times the full load current.

Thermistors shall be fitted to all motors above 5 kW. They shall be fitted during manufacture and their ends shall be brought out to additional terminals on the connector block of the motor.

All motors shall be rated 3 phases. 415 volt or single phase, 240 volt. high power factor continuous maximum rating complying with BS 5000 Part 99 and Class F insulation complying with BS 2757 unless otherwise specified. All motors larger than 4 kW shall be three phase.

All three phase motors shall be supplied with six stud terminals with each end of the stator phase windings connected, terminals shall be of suitable size to accept the cable lugs of the feeding cables. Terminal blocks shall be mounted on the side of the motor case in an approved box complete with lid, gasket and tapped ET entry hole.

Rubber installation shall not be used on coil connections. Each motor shall be fitted with cable terminals and glands to accept the specified types of cable.

No motor shall run at a speed higher than 1500 rpm unless otherwise specified. Motors driving through Vee-belts shall be fitted with slide rails. The power factor shall not be less than 0.9 lagging. All motors shall be from the same

manufacturer as far as possible.

15.3 Cabling and Wiring

The Contractor shall carry out all power and control wiring including LV and ELV or any other voltage for the control equipment and alarm systems and interconnecting wiring between starter panels, remote control items, and motor units as required.

Cabling shall be carried out in PVC insulated, PVC sheathed, single wire armoured and PVC sheathed overall cable, using compression type glands provided with means of securing armoured wires within the body of the gland, under armour moisture seal and outer sheath seal.

Each core termination shall be fitted with a plastic ferrule engraved with an identification corresponding to the wiring diagrams.

Multicore control cables to the remote stop, start allow water cut-out/ alarms shall be 0.62mm^2 PVCSWAPVC where external to the pump station and PVC/PVC or similar, where internal. All cables, whether internal or external being suitably protected.

All conductors shall be copper and the installations, both internal and external being carried out in accordance with the regulations and by-laws previously stated. Trenching and the fixing of cables shall be in accordance with locally specified standards details of which have been specified within the subcontract documents for the electrical services. These details can be made available upon request should the Contractor not be familiar with these requirements.

Details of the ratings, types and methods for all cables and wiring to be supplied under this sub-contract shall be submitted with the tenders, wiring, PVC single core shall be run in either galvanised conduit or galvanised trunking of suitable sizes where surface in plant rooms and heavy gauge PVC were cast into walls, slabs etc.

PART G

PARTICULAR SPECIFICATIONS

FOR

PLUMBING AND DRAINAGE INSTALLATIONS

PART G : PATICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE INSTALLATIONS

PART G

PARTICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE INSTALLATIONS

1 Introduction

The specifications cover the execution of Plumbing and Drainage installations and should be read in conjunction with other relevant specifications, drawings and contract documents issued to the contractor in conjunction with the sub-contract.

2 Included in the Sub-Contract

The works include, unless otherwise specified, supply delivery, installation, testing and commissioning, cleaning-up and setting to work all the installations described in the specifications and as shown on the contract drawings.

The provisions of all labour, materials, tools instruments testing apparatus and scaffolding necessary to execute the work in a first class manner, even such labour materials instruments or apparatus which are not specifically mentioned in the contract but are necessary for the satisfactory completion of the work, including such elements as:-

- Cold water supply pipework and fittings to the water storage tanks from the existing water mains.

- Water storage tanks complete with all necessary covers, fittings, washout and overflow pipes and supports. The subcontractor is expected to take the overflow and washout pipes to a reasonable discharge point.

- The water supply pipework to the functional and sanitary as shown on the drawing plus the necessary fixing support and jointing materials from the water storage tanks.

- The sanitary and operational fittings together with the fixing supports and jointing of the supply and discharge pipes.

- The waste and soil pipework from the sanitary and operational fittings to the first manhole including all fixing, supports and jointing materials.

- All cutting away and all making good will if nothing else is specified, be carried out by the main contractor but it will be the responsibility of the sub-contractor to ensure that this work is kept to a minimum, be responsible for the correct marking out of all chasers and holes; and will provide also necessary details to the main contractor.

- The sub-contractor shall also be responsible for ensuring that runs for floor or wall chases, holes ton be cut or left will be marked out at the appropriate stage of structural work.

- The sub-contractor shall undertake all notifications demanded by the Authorities in order to comply with current regulations and produce all certificates, if any, the authorities without extra charge.

- The sub-contractor shall as part of his tender supply all necessary information such as manufacture, catalogue or type numbers, bronchures or copies of catalogue pages, weight and all other relevant information which are necessary to classify the equipment tendered for.

- All other material labour, tools instruments, scaffolding, etc, which are necessary for completion in a first class manner of the plants to the Engineer satisfaction. Excluded are only materials and workmanship especially mentioned herein as " Excluded from this Sub-contractor"

- The sub-contractor shall include for cables, pipes etc from central facilities to working area.

- Provide the Engineer for his approval complete working and manufacturing drawing as specified.

- Commissioning and testing of the plants as specified.

- Supply of complete operation and maintenance manuals as specified as well as adequate instruction of the client's maintenance personnel as specified.

- The sub-contractor shall include for full maintenance during initial maintenance period as specified.

3 Excluded from the Sub-Contract

- All concrete works, inclusive of necessary holes, plinths etc

- All block work inclusive of necessary holes (to be marked by the Sub-contractor) etc

- All electrical wiring up to and inclusive of isolators and switchboards.

- The main contractor will provide central located facilities for supply of water and power during the construction period.

4 Extent of the Sub-Contractor's Duties

At the commencement of the work, 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 others, are available locally. If not available, the subcontractor shall at this stage place orders for the materials in question and copy the orders to Architects and/or the Engineer. Failure to do so shall in no way relieve the sub-contractor from supplying the specified materials and equipment in time.

Any item or material found to be defective shall be replaced by the sub-contractor within seven days of his being notified and any result of defective workmanship shall be repaired including supply of new parts if necessary, immediately upon being notified.

The sub-contractor shall furnish at his own cost any samples of material or workmanship required for the sub-contract works, that may be called for by the Engineer for his approval, and the Engineer may reject materials or workmanship not in his opinion up to the approved standard. The sub-contractor shall allow in his prices such samples.

The sub-contractor shall when authorized in writing by the Architect or the Engineer, make variations from the specifications and drawing. No profit will be allowed on omitted items or works.

The sub-contractor shall submit to the Architect or to the Engineer claims for any work for which he considers demanding extra payments before the beginning of such work.

The sub-contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken in the site.

The sub-contractor shall request any alteration to the building structures within 30days of the awarding of the sub-contractor. Only such alteration as deemed unavoidable by the Engineer will be considered.

The sub-contractor shall collaborate with the Engineer and the main contractor in planning the installation before work is commenced. Particular care shall be taken to ensure that there is close collaboration with the other sub-contractors when installing services.

The Engineer and Architects shall have full rights to inspect the work in progress and all materials equipment for use in the installation prior to it's erection whether these are on site or the sub-contractor's workshop.

The sub-contractor shall allow for all reasonable access to the works for this purpose.
Where large items of equipment are to be installed, the sub-contractor shall advise the main contractor in good time so that access is provided for installation before work is commenced on site.

The sub-contractor or his responsible representative shall be in all site meetings as and when required in order to discuss the works, make necessary decisions, receiving relevant instructions and to confirm fulfillment of time schedules.

5 Finish Painting

When all the installations have been set to work, tested and commissioned, the sub-contractor shall prime the pipework with an undercoat and paint 2 No. coats of paints in accordance to BS 1710 Colour coding and to the satisfaction of the Engineer and the Architect.

PART H

PARTICULAR SPECIFICATIONS

FOR

PORTABLE FIRE EXTINGUISHERS

PART H: PARTICULAR SPECIFICATION FOR PORTABLE FIRE EXTINGUISHERS

PART H

PARTICULAR SPECIFICATION FOR THE SUPPLY AND INSTALLATION OF PORTABLE FIRE EXTINGUISHERS

1. General

The particular specifications details the requirements for the supply, installation and commissioning of the portable fire extinguishers which shall conform to BS 5423:19 77. The sub-contractor drawings but which are necessary for the completion and satisfactory function of the equipment.

2. Scope of works

The sub-contractor shall supply, deliver, erect, test and commission all the portable fire extinguishers which are called for in this specification and shown on the contract Drawings and listed in the Bills of Quantities.

3. Water/CO_2 Fire Extinguishers

The portable 9-litre water filled CO_2 cartridge operated portable fire extinguishers shall comply with BS 1382: 1977.Unless manufactured with stainless Steel, bodies shall all have internal surfaces completely coated with either a less tin, lead alloy, or zinc applied by hot dipping. There shall be no visibly unallocated areas.

The extinguishers shall be clearly marked with the following: -

a) Method of operation

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

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

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

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

f) The year of manufacture

g) A declaration to the effect that the extinguisher has been tested to a pressure of 350 lb/sq in (24.1 bar).

h) A declaration to the effect that the extinguisher has been tested to a pressure of 350 lb/sq in 24.1 Bar)

i) The number of the British Standard "BS 1382" or " BS 5423"

4. Portable Carbon Dioxide Fire Extinguishers

The portable carbon dioxide fire extinguishers shall comply with BS 3326: 1960 and BS 5423: 1977

The body of the extinguishers shall be a seamless steel cylinder manufactured to one of the following British Standards, BS 1287 or BS 1288.

The filling ratio shall comply with BS 5355 with Valves fittings for compressed gas cylinder to BS 341. Where a hose is fitted it shall be flexible and have a minimum working pressure of 300 lb/sq in (206.85 bar), the hose is not to be under internal pressure until the extinguisher is operated.

The nozzle shall be manufactured of brass gunmetal, Aluminium or Stainless Steel and may be fitted with a suitable valve for temporarily stopping the discharge if such means are not incorporated in the operation head.

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

The extinguishers shall be clearly marked with the following:

a) The words; 5kg carbon dioxide fire extinguishers and to include the appropriate nominal gas content.

b) Method of operation

c) The word "Re-charge immediately after use"

d) Instruction for periodical checking

e) The number of the British Standard BS 3326: 1960

f) The manufacturer's name or identification markings.

5. <u>Dry Powder Portable Fire Extinguishers</u>

The portable dry powder fire extinguishers shall comply with BS 3465: 1962 and BS 1449 or aluminium to BS 1470: 1972 and shall be suitably protected against corrosion.

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

The discharge tube and gas tube if either is fitted shall be made of steel, brass, copper or other not less suitable materials. Where a hose is provided it shall not exceed 1.060m and shall be acid and alkali resistant. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information: -

a) The words " Foam Spray Fire Extinguisher"

b) Method of operation in prominent letters

c) The working pressure and the capacity of the foam charge in litres

d) Manufacturer's name or identification mark

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

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

g) The year of manufacture

h) The pressure to which the extinguisher was tested.

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

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

6 Foam Spray Portable Fire Extinguishers

The portable foam spray fire extinguishers shall comply with BS 3465: 1962 and BS 5423. The body shall be constructed of Steel not less than the requirements of BS 1449 or Aluminium to BS 1470: 1972 and shall be suitably protected against corrosion.

The foam spray charge shall be non-toxic and retain its free flowing properties under normal storage conditions. Any pressurizing agent used as an expelling shall be in dry state; in particular compressed air.

The discharge nozzle and gas tube if either is fitted shall be made of Steel, Brass, Copper or other not less suitable material. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information:-

- The words ‘ Foam Spray Fire Extinguisher’
- Method of operation in prominent letters
- The working pressure and the capacity of the foam charge in letters
- Manufacturer’s name or identification mark
- The words ‘**RECHARGE AFTER USE’** if rechargeable type
- Instructions to regularly check the weight of the pressure container or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.
- The year of manufacture
- The pressure to which the extinguisher was tested
- The number of this British Standard BS 3465 or BS 5423:1977
- Appropriate complete instructions for recharging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

7 Fire Blanket

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

PART I:

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

PART I: BILLS OF QUANTITIES WITH SUMMARY AND SCHEDULE OF UNIT RATES

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

1. General Note to Tenderers

1.1 The total of the prices in the summary of prices shall include for the whole of the Contract works in accordance with the specifications as defined before and shall be carried forward to Form of Tender.

1.2 Any prices omitted from any item, section or part of the price schedule shall be deemed to have included in another item, section or part.

1.3 The prices shall include for all obligations under the Contract including and not limited to:

a) Supply of any materials, equipment, apparatus, fittings, spares and tools

b) Insurance

c) Clearing and forwarding

d) Delivery, handling and storage at site

e) Packing for storage

f) Replacing any defective or damaged item

g) Installation

h) Testing

i) Painting

j) Commissioning

k) Maintenance during the defects liability period

1.4 The unit rates shall include import duty and VAT where applicable, and shall be expressed in Kenya Shillings.

1.5 Any tenderer whose firm uses the title “Engineer” or “Engineering” must provide evidence of registration of at least one of the directors by the Engineers Registration Board of Kenya to avoid disqualification.

1.6 Any tenderer who fails to price the General items will be deemed to have allowed 5% of his tender price to cover these items.

2. Statement of Compliance

a) I confirm compliance of all clauses of the General Conditions, General Specifications, Particular Specifications, Technical 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 NO. 1: SANITARY FITTINGS GROUND FLOOR

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing **Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
1.01	'Armitage Shanks' CAMEO BTW Washdown WC pan in vitreous china or approved equivalent	12	No.		
1.02	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	12	No.		
1.03	Concealed push button type flush valve as '**COBRA**'. Flush valve to be concealed back entry type with integral non-hold open, vacuum breaker and shut-off valves complete with flush pipe	12	No.		
1.04	Arabian shower: Nimbus 1/2in inclined bib tap with flexible hose to jet and wall hook	12	No.		
1.05	Anti-theft lockable type, **toilet roll holder** complete with screws for wall fixing in Satin Aluminium S.	12	No.		
1.06	Eurobath Double Robe Hook as LEV-186 or an approved equivalent	12	No.		
1.07	Eurobath Double Towel Rail as LEV-184A or an approved equivalent	4	No.		
	Soap Dispensers				
1.08	Sensor Activated Electronic **Soap Dispenser** Touch-free operation as **mediclinic** or an approved equivalent. The dispenser is to be complete with wall mounting brackets. key and initial discharge	8	No.		
1.09	Plain size bevelled 6mm thick glass plate **mirror** size 750 x 750mm complete with dome headed chrome plated fixing Screws	20	No.		
	Wash Hand Basin				
1.10	'Armitage Shanks' Wash Hand Basin with single tap-hole mixer taphole, basin white size 650 x 470mm complete with the following: - Chrome plated waste fitting. - Wall hangers - Chrome plated bottle trap - Pedestal complete with screws for fixing on the floor. - Pedestal complete with screws for fixing on the floor. - Chrome plated bottle trap - Pedestal complete with screws for fixing on the floor.	20	No.		
	Whb tap				
1.11	Chrome plated basin monobloc mixer as Cobra or an approved equivalent	20	No.		
	Total C/F to Page I/6				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Total B/F from Page I/5				
	Hand Driers				
1.12	Fast hot air hand & face drier with automatic operation by touch-free infra-red control with sensor range of 150mm vertically under air inlet. As **'MEDICLINICS'**	8	No.		
	Urinals				
1.13	"Armitage Shanks" urinal bowl in white vitreous china back inletcomplete grating and wall hangersbottle trap (P trap) with 75 mm seal (Cat. No. WF8461CP). And **URINAL DIVISION**	3	No.		
	Shower Fittings				
1.14	Concealed Three way shower fittings as 'Cobra' or an approved equivalent	5	No.		
	Soap Tray				
1.15	Recessed into wall soap dish in approved colour in vitreous china.	5	No		
	Urinal Flush				
1.16	Front access box complete with flush valve, stainless steel face plate with chassis and pam press button as **' COBRA SANS 1240'**	3	No		
	Portable Fire Extinguisher				
1.17	9 Litre water/carbon dioxide gas fire extinguisher complete with pressure gauge, initial charge and mounting brackets for banking hall.	4	No.		
1.18	4.5 Kg carbon dioxide gas fire extinguisher complete with pressure gauge, initial charge and mounting brackets for banking hall.	4	No.		
	Undersink Heater				
1.19	"Heatrae Sadia" UTC under-sink automatic electric hot water heater capacity 7.0 Litres with a 3.0 Kw heating element and a thermostatic adjustable between 5°C 90°C and complete with pressure-vented mixer tap.	1	No.		
1.20	Franke Quinline ref # QLX 622 1500 x 500mm double bowl double drainer stainless steel sink made out of 18 SWG stainless steel sheet and complete with all accessories	1	No.		
	Total C/F to Summary Page				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected.** Equal and approved brands shall be accepted only with the Engineers approval. **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
2.01	a) 25mm diameter PP-R pipe	700	LM		
	b) 32mm ditto	360	LM		
	c) 40mm ditto	210	LM		
	d) 50mm ditto	180	LM		
	Elbow and Bends				
2.02	a) 25mm diameter PP-R elbow/bend	150	No.		
	b) 32mm ditto	150	No.		
	c) 40mm ditto	80	No.		
	d) 50mm ditto	60	No.		
2.03	**Reducers**				
	a) 32x25mm diameter PP-R reducer	80	No.		
	b) 40x32mm ditto	80	No.		
	c) 50x40mm ditto	75	No.		
	Total C/F to Page I/8				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Total B/F from Page I/7				
2.04	**Tees**				
	a) 25mm diameter PP-R equal tee	45	No.		
	b) 32mm ditto	55	No.		
	c) 40mm ditto	35	No.		
	d) 50mm ditto	25	No.		
2.05	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	40	No.		
	b) 32mm ditto	35	No.		
	c) 40mm ditto	35	No.		
	d) 50mm ditto	20	No.		
2.06	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	40	No.		
	b) 32mm ditto	35	No.		
	c) 40mm ditto	35	No.		
	d) 50mm ditto	20	No.		
2.07	**Isolation Valves**				
	(a) 25mm diameter Isolation valve (Pegler)	25	No.		
	(b) 32mm ditto	14	No.		
	(c) 40mm ditto	10	No.		
	(d) 50mm ditto	5	No.		
2.08	Euro Bath angle valves	40	No.		
2.09	Cobra c.p flexible connector	60	No.		
	Total C/F to Summary Page				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adapters, socket reducers, etc				
3.01	**Pipes**				
	a) 100mm diameter UPVC Grey pipe (heavy duty)	360	LM		
	c) 50mm ditto	120	LM		
	d) 32mm diameter ditto	90	LM		
	e) 100mm UPVC golden brown pipe(heavy duty)	300	LM		
3.02	**Bends**				
	a) 100mm diameter UPVC sweep bend	35	No.		
	b) 50mm ditto	25	No.		
	c) 40mm ditto	15	No.		
	d) 32mm ditto.	12	No.		
3.03	**Tees**				
	a) 100mm diameter sweep tee	35	No.		
	b) 50mm diameter tee	20	No.		
	c) 40mm ditto	20	No.		
	d) 32mm ditto	25	No.		
	e) 100mm diameter cross tee	35	No.		
3.04	**Boss Connectors**				
	a) 100x50mm diameter boss connector	35	No.		
3.05	**Inspection Plugs/Access caps**				
	a) 100mm diameter access caps ditto	20	No.		
	b) 40mm diameter inspection plugs	40	No.		
	c) 32mm ditto	60	No.		
3.06	100mm diameter weathering slate	8	No.		
3.07	100 diameter vent cowl	8	No.		
3.08	Four-way 100 x 50mm floor trap complete with Stainless steel grating.	35	No.		
	Total C/F to Page I/10				

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Total B/F from Page I/9				
3.09	100mm diameter gulley trap complete with chamber and cover.	10	No.		
3.10	100mm diameter WC connectors	20	No.		
3.11	Standard 600x400mm Inspection Chamber complete with cover.	20	No.		
3.12	**Reducing sockets.**				
	a) 100 x 32mm reducer	12	No.		
	b) 100x40mm ditto	10	No.		
	c) 100x50mm ditto	18	No.		
	d) 50x40mm ditto	15	No		
	e) 50x32mm ditto	12	No		
	f) 40x32mm ditto	22	No		
	Total C/F to Summary Page				

BILL NO. 4: GENERAL ITEMS

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSH CTS.
4.01	Acquire and submit a Bank Guarantee for 10% of the sub-contract sum, as a Performance Guarantee.		Item		
4.02	Acquire and submit Insurance for the contract work.		Item		
4.03	Allow for presentation of all the required samples as per specifications, Bills of Quantities and Drawings.		Item		
4.04	Prepare and submit Working Drawings comprising the following to the satisfaction of the Engineer both in hard and soft copy. All drawings to be in Autocad® 2000 format or an approved higher version: i) Fully dimensioned drawings of all plants and apparatus. ii) General arrangement drawings of equipment, plant etc. iii) Routes – types and sizes and arrangement of all pipework. iv) Wiring and piping diagrams of plant and apparatus. v) Schematic diagram of individual plants and switch and control boards. vi) All the required operating instructions for all panels, boards, control panels etc **(Note: Full set of drawings to be presented as per drawing list).**				
Total C/F to Page I/12					

BILL NO. 4: GENERAL ITEMS

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSH. CTS.
	Total B/F from Page I/11				
4.05	As item no. 4.04, but for Record (As-Installed) Drawings comprising: i) Fully dimensioned drawings of all plants and apparatus. ii) General arrangement drawings of equipment, plant etc. iii) Routes – types and sizes and arrangement of all pipework. iv) Wiring and piping diagrams of plant and apparatus. v) Schematic diagram of individual plants and switch and control boards. vi) All the required operating instructions for all panels, boards, control panels etc.				
4.06	Prepare and submit Maintenance Manuals for all items installed.		Item		
4.07	Provide a year's (12 months') initial maintenance upon expiry of the Defects Liability Period. The maintenance to be carried out every quarter (3 months) for a period of 12 months.		Quarter		
4.08	<u>All other items</u>of general preliminary to cover, but not limited to:- ii. Hiring and keeping a Supervisor/Foreman on site iii. Constant supervision of the works. iv. Provision of all the required spares. v.Testing and Inspection of materials/works. vi. Provision of labour camps. vii. Storage of materials. viii. Initial maintenance (During Defects Liability) ix.Providing water/electricity for the works. x. Protection of the works/materials xi. Clearing away on completion. xii. Preparing Final Account. xiii. Providing all Test Certificates, etc.				
	Total C/F to Summary Page				

SUMMARY PAGE

ITEM No.	DESCRIPTION	AMOUNT (KShs Cts)
1	Total for Bill No.1 B/F from Page I/6	
2	Total for Bill No.2 B/F from Page I/8	
3	Total for Bill No.3 B/F from Page I/10	
4	Total for Bill No.4 B/F from Page I/12	
6	Sub-Total	
7	Contingency (10% of sub-Total Item No. 6)	
	Total for Plumbing and Drainage Installations C/F to form of Tender	

Total Amount in words _____

_____

Tenderer's Name and Stamp _____

(as in form of tender)

Signature_____ Date _____

ADDENTUM

***NOTE: FILL IN THE 'RATES ONLY' FOR THIS SECTION**

CENTRAL BANK OF KENYA

PROPOSED OFFICE MODERNIZATION AND CREATION OF WORKSTATIONS - PHASE III

BILLS OF QUANTITIES FOR PLUMBING, DRAINAGE AND ASSOCIATED WORKS

BILL NO. 5: SANITARY FITTINGS THE CLINIC

ITEM NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT KSHS. CTS
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing **Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
5.01	'Armitage Shanks' Clinical Rimless Wall Hang WC Pan or an approved Equivalent complete with top fix toilet sea	7	No.		
5.02	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	7	No.		
5.03	Concealed push button type flush valve as '**COBRA**'. Flush valve to be concealed back entry type with integral non-hold open, vacuum breaker and shut-off valves complete with flush pipe	7	No.		
5.04	Arabian shower: Nimbus 1/2in inclined bib tap with flexible hose to jet and wall hook	7	No.		
5.05	Anti-theft lockable type, **toilet roll holder** complete with screws for wall fixing in Satin Aluminium S	7	No.		
	Soap Dispensers				
5.06	Sensor Activated Electronic **Soap Dispenser** Touch-free operation as **mediclinic** or an approved equivalent. The dispenser is to be complete with wall mounting brackets, key and initial discharge	5	No.		
5.07	Plain size bevelled 6mm thick glass plate **mirror** size 750 x 750mm complete with dome headed chrome plated fixing Screws	5	No.		
	Wash Hand Basin - Toilet Areas				
5.08	'Armitage Shanks' Wash Hand Basin with single tap-hole mixer taphole, basin white size450 x 470mm complete with the following:				
	No overflow or Chain Hole				
	- Chrome plated waste fitting, Wall hangers, Chrome plated bottle trap, Pedestal complete with screws for fixing on the floor, Chrome plated bottle trap				
	Whb tap				
5.09	Chrome plated basin monobloc mixer as Cobra or an approved equivalent	10	No.		
	Total C/F to Page I/8				

BILL NO. 2: SANITARY FITTINGS THE CLINIC

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Total B/F from Page I/7				
	Wash Hand Basin -Consultation Rooms				
5.10	'Armitage Shanks' **Clinical Wash Hand Basins** with single tap-hole mixer taphole, basin white size 650 x 470mm complete with the following **No overflow or Tap Hole** - Wall hangers - Chrome platedbottle trap - Chrome plated bottle trap - Pedestal complete with screws for fixing on the floor.	8	No.		
	Whb tap				
5.11	Wall mounted chrome plated Elbow action lever taps with 15cm levers. as Cobra or an approved equivalen	8	No.		
	Laboratory Sinks				
5.12	' Hychem Polypropylene Sinks' Model No. MS 505 Complete size 457 x 305 x 210 mm. complete with matching anti-siphon bottle trap & sink waste	6	No.		
5.13	Hychem screwed taps' 1 way swivel swanneck tap with removable serrated nozzle	6	No.		
5.14	' CLADON S.H.S'. Complete with Hopper at right hand with outlet grating Slop hopper Stainless steel bucket grating 6 litre cistern valveless fittings and chain pull Cistern supporting brackets White plastic flushpipe and clip inlet connection Drainer, legs and bearers for sink & drainer Sink size 760 x 455mm Chain waste Waste pipe to hopper ½''bip taps Lever action tap with flexible hose and hand spray	3	No.		
	Handriers				
2.15	Fast hot air hand & face drier with automatic operation by touch-free infra-red control with sensor range of 150mm vertically under air inlet. As **'MEDICLINICS'**	8	No.		
	Total C/F to Summary Page				

PART J:

STANDARD FORMS

CONTENTS OF SECTION J

NOTE:

Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part of the evaluation criteria.

PERFORMANCE BANK GUARANTEE

To: Central Bank of Kenya,
Haile Selassie Avenue,
P O Box 60000-00200,
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 ……

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

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……

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:

	Name in full	*Nationality*	*Citizenship Details*	*Shares*
1.	……	……	…….	……..
2.	……	…….	…….	……
3.	……	……	……	……
4.	……	……	……	.....…

Part 2(c) – Registered Company

Private or Public ……

State the nominal and issued capita of the company:

Nominal KShs. ……..

Issued KShs. ……..

Give details of all directors as follows:

	Name in full	*Nationality*	*Citizenship Details**	*Shares*
1.	……	……	…….	……..
2.	……	…….	…….	……
3.	……	……	……	……
4.	……	……	……	.....…

Part 2(d) Interest in the Firm:

Is there any person/persons in the employment of the Government of Kenya who has interest in this firm? Yes/No ……. (Delete as necessary)

I certify that the above information is correct.

……..	……	…….
Title	Signature	Date

* *Attach proof of citizenship*

KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

POSITION	NAME	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

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

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. _____

BIDDERS BANK INFORMATION
(This should be for banks that may provide reference if contacted by the employer)

NAME OF BANK	BANK BRANCH	ACCOUNT NAME	ADDRESS	TELEPHONE

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?)