NATIONAL BIOSAFETY AUTHORITY

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE NAIROBI COUNTY

W.P. ITEM NO. D116 NB/NB/2001 JOB NO. 10822A

TENDER DOCUMENTS

CLIENT
CHIEF EXECUTIVE OFFICER
NATIONAL BIOSAFETY AUTHORITY
P.O. BOX 28251-00100, NAIROBI

PROJECT MANAGER
WORKS SECRETARY
S.D.P.W
P.O. BOX 30743-00100
NAIROBI

ARCHITECT
CHIEF ARCHITECT
S.D.P.W
P.O. BOX 30743-00100
NAIROBI

QUANTITY SURVEYOR
CHIEF QUANTITY SURVEYOR S.D.P.W
P.O. BOX 30743-00100
NAIROBI

ELECTRICAL ENGINEER (B.S)
CHIEF ENGINEER ELECTRICAL (BS) S.D.P.W
P.O. BOX 41191-00100
NAIROBI

STRUCTURAL ENGINEER (B.S)
CHIEF ENGINEER (STRUCTURAL) S.D.P.W
P.O. BOX 30743-00100
NAIROBI

MECHANICAL ENGINEER (B.S)
CHIEF ENGINEER MECHANICAL (BS) S.D.P.W
P.O. BOX 41191-00100
NAIROBI

OCTOBER 2020

NATIONAL BIOSAFETY AUTHORITY

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE NAIROBI COUNTY

W.P. ITEM NO. D116 NB/NB/2001 JOB NO. 10822A

TENDER DOCUMENTS

Consisting

NATIONAL BIOSAFETY AUTHORITY

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE NAIROBI COUNTY

TENDER DOCUMENTS

Supplied as part of the Contract No. **W.P. ITEM NO. D116 NB/NB/2001 JOB NO. 10822A**

Issued by: -
Quantities and Contract Department
Ministry of Transport, Infrastructure, Public Works,
Housing and Urban Development P. O. Box 30743-
00100, NAIROBI

The contract for the above mentioned works entered into this ….. day of ……. 2020 by the undersigned refers to these Tender Documents and the Ministry of Transport, infrastructure, Housing, urban development and public works, General Specification dated March, 1976 (together with any amendments issued thereto) shall be read and construed as part of the said contract.

……..	……
THE CONTRACTOR	**CHIEF EXECUTIVE OFFICER** **NATIONAL BIOSAFETY AUTHORITY** **P.O. BOX 28251-00100, NAIROBI**
Date: ……	Date: ……

SPECIAL NOTES

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

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

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

SIGNATURE PAGE AND NOTES

NATIONAL BIOSAFETY AUTHORITY

RESTRICTED TENDER

FOR

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING UPPER KABETE-NAIROBI COUNTY

W.P. ITEM NO. D116 NB/NB/2001 JOB NO. 10822A

TENDER NUMBER: NBA/OFP/INT/043/2020-2021

NATIONAL BIOSAFETY AUTHORITY
LOCATED AT PEST CONTROL PRODUCTS BOARD BUILDING 2ND AND 3RD FLOOR
P.O BOX 28251-00100 NAIROBI
LORESHO OFF WAIYAKI WAY.

Email: nbaprocurement@biosafetykenya.go.ke

Tender Closing Date & Time: 6th November 2020 1200hrs(East African Time)

OCTOBER 2020

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SECTION I

INVITATION FOR TENDERS

Tender reference No. (*as per tender document*)

Tender Name (*as per tender document*)

1.1 The **Chief Executive Officer** invites sealed tenders for the **Proposed Office Partitioning for National Biosafety Authority at Nacosti Building Upper Kabete-Nairobi County.**

1.2 Interested eligible candidates may obtain further information and inspect tender documents at ***procurement office at Nairobi Biosafety Authority located at Pest Control Products Board (PCPB) Building;*** during normal working hours.

1.3 A complete set of tender documents may be downloaded from National Biosafety Authority website (www.biosafetykenya.go.ke) free of charge by interested candidates, candidates who download the tender document must register their details with National Biosafety Authority procurement department via email to the email address given above in order to receive any clarifications and/or addenda

1.4 Prices quoted should be net inclusive of all taxes, must be in Kenya shillings and shall remain valid for (**120**) days from the closing date of tender.

1.5 Completed tender documents are to be enclosed in plain sealed envelopes marked with Tender name and reference number and deposited in the Tender Box at **(*as per the tender advert*)** or to be addressed to (NATIONAL BIOSAFETY AUTHORITY) located in ***Pest Control Products Board (PCPB) Building***, P.O. Box 28251-00100, NAIROBI, KENYA**)** so as to be received on or before **(*as per the tender advert*).**

1.6 Tenders will be opened immediately thereafter in the presence of the candidates or their representatives who choose to attend at **(*as per the tender advert*)**

National Biosafety Authority
The Boardroom
Located at Pest Control Products Board
Loresho, Off Waiyaki way Road

_____

For *(Accounting Officer/Procuring Entity*

SECTION II

INSTRUCTIONS TO TENDERERS

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SECTION II

INSTRUCTIONS TO TENDERERS.

1. General/Eligibility/Qualifications/Joint venture/Cost of tendering

1.1 The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.

1.2 All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.

1.3 All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

1.4 In the event that pre-qualification of potential tenderers has been undertaken, only tenders from pre-qualified tenderers will be considered for award of Contract. These qualified tenderers should submit with their tenders any information updating their original pre-qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.

1.5 Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders, unless otherwise stated:

copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer:

total monetary value of construction work performed for each of the last five years:

experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and names and addresses of clients who may be contacted for further information on these contracts;

major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.

qualifications and experience of key site management and technical personnel proposed for the Contract and an undertaking that they shall be available for the Contract.

reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;

evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);

authority to seek references from the tenderer's bankers;

information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and

proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

1.6 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:

the tender shall include all the information listed in clause 1.5 above for each joint venture partner;

the tender shall be signed so as to be legally binding on all partners;

all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

one of the partners will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and

the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

1.7 To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria;

annual volume of construction work of at least 2.5 times the estimated annual cash flow for the Contract;

experience as main contractor in the construction of at least two works of a nature and complexity equivalent to the Works over the last 10 years (to comply with this requirement, works cited should be at least 70 percent complete);

proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;

a Contract manager with at least five years' experience in works of an equivalent nature and volume, including no less than three years as Manager; and

liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than 4 months of the estimated payment flow under this Contract.

1.8 The figures for each of the partners of a joint venture shall be added together to determine the tenderer's compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture's tender. Subcontractors' experience and resources will not be taken into account in determining the tenderer's compliance with the qualifying criteria, unless otherwise stated.

1.9 Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. A tenderer who submits or participates in more than one tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the tenderer's participation to be disqualified.

1.10 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.

1.11 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.

1.12 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.

1.13 The price to be charged for the tender document shall not exceed Kshs.5,000/=

1.14 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.

Tender Documents

2.1 The complete set of tender documents comprises the documents listed below and any addenda issued in accordance with Clause 2.4.

These Instructions to Tenderers
Form of Tender and Qualification Information
Conditions of Contract
Appendix to Conditions of Contract
Specifications
Drawings
Bills of Quantities
Forms of Securities

2.2 The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer's risk and may result in rejection of his tender.

2.3 A prospective tenderer making an inquiry relating to the tender documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will only respond to requests for clarification received earlier than seven days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.

2.4 Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all tenderers. Prospective tenderers shall acknowledge receipt of each addendum in writing to the Employer.

2.5 To give prospective tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders, in accordance with Clause 4.2 here below.

Preparation of Tenders

3.1All documents relating to the tender and any correspondence shall be in English language.

3.2The tender submitted by the tenderer shall comprise the following:

These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;

Tender Security;

Priced Bill of Quantities;

Qualification Information Form and Documents;

Alternative offers where invited; and

Any other materials required to be completed and submitted by the tenderers.

3.3 The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause relevant to

the Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the tenderer.

3.4 The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract.

3.5 The unit rates and prices shall be in Kenya Shillings.

3.6 Tenders shall remain valid for a period of sixty (60) days from the date of submission. However in exceptional circumstances, the Employer may request that the tenderers extend the period of validity for a specified additional period. The request and the tenderers' responses shall be made in writing. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.

3.7 The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price

3.8 The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.

3.9 Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as "Tenderer" all joint venture partners and list them in the following manner: a joint venture consisting of"……","……",and "……".

3.10 The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.

3.11 The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Contract Agreement and furnished the required Performance Security.

3.12 The Tender Security may be forfeited

if the tenderer withdraws the tender after tender opening during the period of tender validity;

if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;

in the case of a successful tenderer, if the tenderer fails within the specified time limit to

sign the Agreement, or

furnish the required Performance Security.

3.13 Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, tenderers wishing to offer technical alternatives to the requirements of the tendering documents must also submit a tender that complies with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. In addition to submitting the basic tender, the tenderer shall provide all information necessary for a complete evaluation of the alternative, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of
the lowest evaluated tender conforming to the basic technical requirements shall be considered.

3.14 The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender,
and clearly marked "ORIGINAL". In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as "COPIES". In the event of discrepancy between them, the original shall prevail.

3.15 The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the tenderer, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialled by the person or persons signing the tender.

3.16 Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.

3.17 The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.

3.18 The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

Submission of Tenders

4.1 The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as "**ORIGINAL**" and "**COPIES**" as appropriate. The inner and outer envelopes shall:

be addressed to the Employer at the address provided in the invitation to tender;

bear the name and identification number of the Contract as defined in the invitation to tender; and

provide a warning not to open before the specified time and date for tender opening.

4.2 Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender. However, the Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Sub-Clause 2.5 in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline will then be subject to the new deadline.

4.3 Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.

4.4 Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer's modification or withdrawal notice shall be prepared, sealed, marked,
and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked "**MODIFICATION** "and "**WITHDRAWAL**", as appropriate. No tender may be modified after the deadline for submission of tenders.

4.5 Withdrawal of a tender between the deadline for submission of
tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.

4.6 Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

Tender Opening and Evaluation

5.1The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenderers' and Employer's representatives who are present during the opening shall sign a register evidencing their attendance.

5.2The tenderers' names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted), any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.

5.3 Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of Contract shall not be disclosed to tenderers or any other persons not officially concerned with such process until the award to the successful tenderer has been announced. Any effort by a tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.

5.4 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask any tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile 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 arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.

5.5 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined
in Clause 1.7;(b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tendering documents, without material deviation or reservation. A material deviation or reservation is one (a) which

affects in any substantial way the scope, quality, or performance of the works;
which limits in any substantial way, inconsistent with the tendering documents, the Employer's rights or the tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

5.6 If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

5.7 Tenders determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows:
where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and

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 the adjustment will be made to the entry containing that error.

In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the main summary of the Bill of Quantities, the amount as stated in the Form of Tender shall prevail.

The Error Correction Factor shall be computed by expressing the difference between the tender amount and the corrected tender sum as a

percentage of the corrected Builder's Work (i.e. Corrected tender sum less P.C. and Provisional Sums)

The Error Correction Factor shall be applied to all Builder's Work (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

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 3.11.

5.8 The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5

5.9 In evaluating the tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:

making any correction for errors pursuant to clause 5.7;

excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Dayworks where priced competitively.

making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and

making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause 4.6

5.10 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in tender evaluation.

5.11 The tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Contract award may result in the rejection of the tender.

5.12 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to an
Non-indigenous sub-contractor.

Award of Contract

6.1 Subject to Clause 6.2, the award of the Contract will be made to the tenderer whose tender has been determined to be substantially responsive to the tendering documents and who has offered the lowest evaluated tender price, provided that such tenderer has been determined to be (a) eligible in accordance with the provision of Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8.

6.2 Notwithstanding clause 6.1 above, the Employer reserves the right to accept or reject any tender, and to cancel the tendering process and reject all tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for the action.

6.3 The tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Contract documents called the "Letter of Acceptance") will state the sum (hereinafter and in all Contract documents called the "Contract Price") that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract. At the same time the other tenderers shall be informed that their tenders have not been successful.

The contract shall be formed on the parties signing the contract.

6.4 The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 days of receipt the successful tenderer will sign the Agreement and return it to the Employer.

6.5 Within 21 days after receipt of the Letter of Acceptance, the successful tenderer shall deliver to the Employer a Performance Security in the amount stipulated in the Appendix to Conditions of Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form

6.6 Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.

6.7 Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.

6.8 Preference where allowed in the evaluation of tenders shall not be allowed for contracts not exceeding one year (12 months)

6.9 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

6.10 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.

6.11 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)

6.12 Where contract price variation is allowed, the valuation shall not exceed 25% of the original contract price.

6.13 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.

6.14 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

6.15 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.

6.16 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

Corrupt and Fraudulent practices

7.1The procuring entity requires that tenderers observe the highest standards of ethics during procurement process and execution of contracts. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

SECTION III

APPENDIX TO INSTRUCTIONS TO TENDERERS.

The following clauses shall be amended as follows;

Clause 1.4: Delete the entire clause

Clause 1.5: To read "This invitation to tender is open to all eligible tenderers as per the tender invitation notice"

Clause 1.5 (a) For the requirement of this clause; add the following:

Be registered with National Construction Authority, Category 4 and above (Evidence of current annual contractors practicing license is required);

Submit a Current Valid Tax Compliance Certificate;

Omit the words "each of" appearing before the 'last five years',

Attach copies of practical completion certificates for similar works undertaken in the last five years.

Clause 1.5 (d) Delete the word 'Major' and substitute with word 'Relevant' Key equipment required to carry out the works.

Clause 1.7: Add the following after the words 'As per attached evaluation criteria'

Clause 1.7: d) Delete the words 'contract manager' and 'manager' at the beginning and end of the sub clause and substitute with the words 'general foreman' and 'foreman' respectively

Delete the figure '4' and substitute with figure '2'

Introduce the following: -

Clause 1.7 (e) The following tenders shall also be considered non-responsive: - Incomplete and/ or unsigned form of tender; **Clause 3.2**: For the requirement of clause; add the following; **Clause 3.6**: Amend the first sentence to read as follows: 'Tenders shall remain valid for a period of **120 days** from the date of submission'

Clause 3.14: Delete the entire clause and substitute with the following; The tenderer shall prepare one original of the volume of **tender documents** comprising the documents as described in clause 3.2 of these instructions and clearly marked **'ORIGINAL'**

Clause 3.15: Delete the words 'original and all copies' and insert the word 'original' after the word 'the'

Clause 4.1: Delete the first paragraph and insert the words 'The tenderer shall seal the original of the tender documents in one envelop duly marked original'

SECTION IV: TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 3 stages, namely:

Preliminary evaluation,
Technical Evaluation; and
Financial Evaluation,

STAGE 1: PRELIMINARY EVALUATION

S/No	**MANDATORY REQUIREMENTS(MR)**
MR1	Valid Copy of certificate of incorporation/ Registration (for bidder and proposed subcontractors). (Certified by an advocate)
MR2	Valid Current Tax Compliance Certificate-Statement of tax compliance from Bidding Company, and if Consortium, from each member of the consortium and proposed subcontractors.
MR3	Valid copy of NCA 4 and above- registration certificate in General Building Works for bidder and respective categories and trade for proposed specialist subcontractors (see specialist subsections)
MR4	Current annual contractors practicing license from NCA for appropriate class and trade (Bidder and proposed subcontractors)
MR5	Dully filled and signed form of tender with validity of at least 120 days
MR6	Dully filled and signed confidential business questionnaire
MR7	Anticorruption pledge duly signed and stamped
MR8	Submission of original of tender document properly TAPE BOUND only and paginated in the correct sequence and all pages must be initialed/signed/stamped. NB: Use of Spiral, Spring or Box Files will not be allowed and will result in automatic disqualification.
MR9	Certificate of pre-tender site visit attendance.
MR10	Valid Copy of Current Single Business permit (certified by an advocate)
MR11	The Tender Security (Bid Bond) of 1**%** in form of Bank Guarantee from a reputable bank or insurance company approved by Public Procurement Regulatory Authority (PPRA).
MR12	Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 12 months) or National Identity Card (s) for Sole Proprietorship / Partnership.
MR13	Provide proof of Power of Attorney (of Tender Signatory if not Director of the company/ partner, signed by commissioner of oaths).
MR14	Details of any current (last five years) litigation or arbitration proceedings in which the bidder is involved as one of the parties. Indicate if None signed by commissioner of oaths.
MR15	Letter of authority to seek references from the Tenderer's bankers.
MR16	Submit certified copies of audited accounts (Signed by Auditors and Directors) for the last three (3) years (2017, 2018 and 2019) (certified by an advocate)
MR17	Non debarment form duly signed and stamped

MR19	Bidder and proposed subcontractor(s) agreement(s) for every specialist work that the bidder is not registered to perform and has proposed a subcontractor.
MR20	Duly filled and signed pre-tender site visit form

Tender Bid Document submitted without satisfying the above-mentioned Mandatory conditions shall be rejected by ***the Evaluation Committee*** and will therefore not proceed to the technical and financial Evaluation.

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

STAGE 2: TECHNICAL EVALUATION

Award of points for the **Technical Evaluation** will be as follows: -

S/No.	Parameter	Maximum Points
(a)	Key personnel	15
(b)	Contracts completed in the last five (5) years	15
(c)	Schedules of on-going projects	10
(d)	Schedules of contractor's equipment	20
(e)	Sanctity of the tender document as in accordance with clause 5 of Instruction to tenderer	5
(f)	Average annual turnover as per audited Financial Report for the for the last 3 years	15
(g)	Evidence of Financial Resources	15
(h)	Litigation History	5
	Total	**100**

The detailed scoring plan shall be as shown in Table 1 overleaf: -

Table 1: Scores for the Technical Evaluation

Item	Description	Points Scored	Max. Points	
1	**Key Personnel (Attach evidence)**			
	Director of the firm • Holder of degree or diploma in a relevant Engineering /Building construction field ---- 5 • Holder of certificate in relevant Engineering /Building construction field -- 3 • Holder of trade test certificate in relevant Engineering /Building construction field ---- 2 • No relevant certificate ---------- 0 ***(Certificates must be Certified by an advocate)***		5	
	At least 2 No. degree/diploma holders of the key personnel in relevant Engineering /Building construction **field** With over 10 years' relevant experience---------- 5 With over 5 years' relevant experience ---------- 3 With under 5 years' relevant experience ---------- 2 ***(Certificates must be Certified by an advocate)***		5	
	At least 2 No. certificate holder of key personnel in relevant Engineering/Building construction field • With over 10 years' relevant experience ---------- 5marks • With over 5 years' relevant experience ---------- 3marks • With under 5 years' relevant experience ---------- 2marks ***(Certificates must be Certified by an advocate)***		5	
			15	
2	**Contracts completed in the last five (5) years; a max of 5 No. projects (Attach evidence)** • Project of similar nature, complexity and magnitude. ---------- 3marks each • Project of similar nature but of lower value than the one in consideration ---------- --- 2 marks each			

Item	Description	Points Scored	Max. Points
	• Project of similar magnitude ---------- 1 mark each • No completed project of similar nature ---- 0 marks ***(Certified copies of completion certificates must be provided)***		
			15
3	**On-going projects (A max of 5 No. projects) (Attach evidence)** • Project of similar nature, complexity and magnitude ---------- 2 marks each • Project of similar nature but of lower value than the one in consideration ---------- --- 1 marks each • No ongoing project of similar nature ----- 0 marks each ***Certified copies of award letters must be provided)***		
			10
	Schedules of contractor's relevant equipment's and vehicles (Attach evidence / proof of ownership or lease agreement) For each specific equipment required in the construction work being tendered for. (Maximum ***No. of equipment to be considered – 10 No.)*** - ---(2 marks each for owned & 1 marks each for leased) (e.g. Excavator, loader, tipper, dumper, water tanker, trucks, hoist/ crane, concrete mixer, concrete batching plant, compactor, boom truck, concrete pump, water pump, generator set, jackhammer, etc. NB. The bidder needs variety of equipment).		
			20
	Sanctity of the tender document i.e. Having the document intact and pages consecutive as issued (not tempered with in any way) ----------5 Having mutilated or modified the tender document (as in retyping of documents or standard forms except bid security etc. ---------- 0.		**5**

6	**Financial report: Average turnover in Audited financial report (last three [3] years)- 2016-2018** • Turn over greater or equal to 5 times the cost of the project ---------- 15 • Turn over greater or equal to 3 times the cost of the project ---------- 6 • Turn over greater or equal to the cost of the project ---------- 4 • Turn over below the cost of the project ------ 2 ***(Copies must be Certified by an advocate and signed by auditors)***		
			15
7	**Evidence of financial resources (cash in hand, lines of credit, over draft facility etc.)** • Has financial resources equal or above the cost of the project ---------- 15marks • Has financial resources below the cost of the project, but over 50% of the cost of the project ---------- 10marks • Has financial resources below 50% of the cost of the project ----------5marks • Has not given evidence for the financial resources ---------- 0marks		
			15
8	**Litigation History** • Has *no* construction-related litigation or • arbitration case in the last five years ----- 5 • Has *not more than three* construction-related litigation or arbitration cases in the last five years ---------- 2 • Has *more than three* construction-related litigation or arbitration cases in the last five years --- 0.		
			5
	TOTAL		**100**

Any bidder who scores 75 points and above in this Technical Evaluation, shall be considered for further evaluation.

STAGE 3: FINANCIAL EVALUATION

Upon completion of the technical evaluation a detailed financial evaluation shall follow.

The evaluation shall be in **three stages**

Determination of Arithmetic errors

Comparison of Rates; and

Consistency of the Rates.

Determination of Arithmetic Errors

The Procuring Entity will correct arithmetic Errors as follows:

In the event of a discrepancy between the tender amount as stated in the form of Tender and the corrected tender figure in the Main summary of the Bills of Quantities, the amount as stated in the Form of Tender shall prevail.

Pursuant to Section 82 of the Public Procurement and Asset Disposal Act 2015, the tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity;

Error correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected contract works (i.e. corrected tender sum less P.C; and Provisional Sums);

The Error correction factor shall be applied to all contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

Tenders with big errors as to make the submitted tender sum unrealistic may be rejected based on the magnitude of the error and its effect on the submitted tender sum.

Comparison of rates

Comparison of tender rates with State Department for Public Works rates will be done to indicate balance of the tender. Too much deviation may result in payment of bulk of the tender sum based on a few items and this risk non-completion of project.

The evaluation committee shall evaluate the deviation(s) and make an appropriate recommendation to the procuring entity giving necessary evidence. Such recommendations may include but not limited to:

Recommend no adverse action to the tenderer after a convincing response;

Employer requiring that the amount of the performance bond be raised at the expense of the successful tenderer to a level sufficient to protect the employer against potential financial losses;

Recommend non-award based on the response provided and the available demonstrable evidence that the scope, quality, completion timing, administration of works to be undertaken by the tenderer, would adversely be affected or the rights of the employer or the tenderers obligations would be limited in a substantial way.

Consistency of the Rates

The evaluation committee will compare the consistency of rates for similar items and note all inconsistencies of the rates for similar items. Tenders with inconsistent rates for similar items, particularly where the higher rate is used in the first elements of the works (front loading) risks non-completion of the project.

The evaluation committee shall evaluate the inconsistency(ies) and make an appropriate recommendation to the procuring entity giving necessary evidence. Such recommendations may include but not limited to:

Recommend no adverse action to the tenderer after a convincing response;

Employer requiring that the amount of the performance bond be raised at the expense of the successful tenderer to a level sufficient to protect the employer against potential financial losses;

Recommend non-award based on the response provided and the available demonstrable evidence that the scope, quality, completion timing, administration of works to be undertaken by the tenderer, would adversely be affected or the rights of the employer or the tenderers obligations would be limited in a substantial way.

STAGE 4 – DUE DILIGENCE & RECOMMENDATION FOR AWARD

Particulars of post: **The Client, *Naitonal Biosafety Authority* may inspect the premises and under due diligence** to seek further clarification/confirmation if necessary, to confirm authenticity /compliance of any condition of the tender /qualifications of the tenderer in line with **Section 83 of the Public Procurement and Asset Disposal Act ,2015**
Award Criteria: ***The firm achieving the lowest evaluated price will be awarded the contract in line with Section 86 and Section 155(4) of the Public Procurement and Disposal Act,2015***

SECTION V: CONDITIONS OF CONTRACT

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CONDITIONS OF CONTRACT

Definitions

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

"Bill of Quantities" means the priced and completed Bill of Quantities forming part of the tender.

"Compensation Events" are those defined in Clause 24 hereunder.

"The Completion Date" means the date of completion of the Works as certified by the Project Manager, in accordance with Clause 31.

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

"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 and thereafter as adjusted in accordance with the provisions of the Contract.

"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 Project Manager upon correction of defects by the Contractor.

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

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

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

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

"Equipment" is the Contractor's machinery and vehicles brought temporarily to the Site for the execution of the Works.

"The Intended Completion Date" is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

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

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

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

"Site" is the area defined as such in the Appendix to Condition of Contract.

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

"Specifications" means the Specifications of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

"Start Date" is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with the Site possession date(s).

"A Subcontractor" is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

"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 Project Manager which varies the Works.

"The Works" are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as defined in the Appendix to Conditions of Contract.

Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no

significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.

2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).

2.3 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;

Agreement,

Letter of Acceptance,

Contractor's Tender,

Appendix to Conditions of Contract,

Conditions of Contract,

Specifications,

Drawings,

Bill of Quantities,

Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

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

Language and Law

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

Project Manager's Decisions

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

5 Delegation

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

6 Communications

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

7 Subcontracting

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

8 Other Contractors

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

9 Personnel

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

10 Works

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

11 Safety and Temporary Works

11.1 The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant

third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.

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

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

Discoveries

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

Work Program

13.1 Within the time stated in the Appendix to Conditions of Contract, the Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Work, including any changes to the sequence of the activities.

The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Manager
may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the Contractor's obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

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

15. Access to Site

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

16. Instructions

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

17. Extension or Acceleration of Completion Date

17.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Work, which would cause the Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay caused by such failure shall not be considered in assessing the new (extended) Completion Date.

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

18. Management Meetings

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

19. Early Warning

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

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

20. Defects

20.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any Work that the Project Manager considers may have 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.

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

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

21. Bills Of Quantities

21.1 The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rate in the Bills of Quantities for each item.

21.2 If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contract price, the Project Manager shall adjust the rate to allow for the change.

21.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

22.1 All variations shall be included in updated programs produced by the Contractor.

22.2 The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.

22.3 If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.

22.4 If the Contractor's quotation is unreasonable, the Project Manager may order the variation and make a change to the Contract price, which shall be based on the Project Manager's own forecast of the effects of the variation on the Contractor's costs.

22.5 If the Project Manager decides that the urgency of varying the Work would prevent a quotation being given and considered without delaying the Work, no quotation shall be given and the variation shall be treated as a Compensation Event.

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

22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.

23.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed, materials delivered on Site, variations and compensation events. Such materials shall become the property of the

Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from Site without the Project Manager's instructions except for use upon the Works.

23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.

23.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

23.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of an changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

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

On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money.

No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly
liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.

Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached.

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

$$= \frac{A(x^1 - x^{11})}{80–20}$$

Where:

R = the amount to be reimbursed

A = the amount of the advance which has been granted

X^1 = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%.

X^{11} = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80%but not less than 20%.

with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

Compensation Events

24.1 The following issues shall constitute Compensation Events:

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

The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.

The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.

The Project Manager instructs the Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.

The Project Manager unreasonably does not approve a subcontract to be let.

Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the

information issued to tenderers (including the Site investigation reports), from information available publicly and from a visual inspection of the Site.

The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.

Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

The effects on the Contractor of any of the Employer's risks.

The Project Manager unreasonably delays issuing a Certificate of Completion.

Other compensation events described in the Contract or determined by the Project Manager shall apply.

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

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

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

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

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

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

25. Price Adjustment

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

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

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

The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out
in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.

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

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

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

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

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

26. Retention

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

27. Liquidated Damages

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

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

28. Securities

28.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya Shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Dayworks

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

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

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

30. Liability and Insurance

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

The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;

use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or

negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.

The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.

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

a defect which existed on or before the Completion Date.

an event occurring before the Completion Date, which was not itself the Employer's risk

the activities of the Contractor on the Site after the Completion Date.

30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Contractor's risks.

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

loss of or damage to the Works, Plant, and Materials;
loss of or damage to Equipment;
loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
personal injury or death.

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

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

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

31. Completion and taking over

31.1 Upon deciding that the Works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the Works. The Employer shall take over the Site and the Works within seven [7] days of the Project Manager's issuing a Certificate of Completion.

32. Final Account

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

33. Termination

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

the Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Project Manager;

the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;

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

a payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate)of issue.

the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

the Contractor does not maintain a security, which is required.

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

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

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

34. Payment Upon Termination

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

34.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the Work done, materials ordered, the

reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the
Works, and the Contractor's costs of protecting and securing the Works.

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

34.4 The Contractor shall, during the execution or after the completion of the Works under this clause remove from the Site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.
Until after completion of the Works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the 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.

35. Release from Performance

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

Corrupt gifts and payments of commission

The Contractor shall not;

Offer or give or agree to give to any person in the service of the

Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.

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

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

37. Settlement of Disputes

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

Architectural Association of Kenya

Institute of Quantity Surveyors of Kenya

Association of Consulting Engineers of Kenya

Chartered Institute of Arbitrators (Kenya Branch)

Institution of Engineers of Kenya

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

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

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

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

37.5 Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Works or abandonment of the Works or termination of the Contract by either party:

37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.

37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.

37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.

37.5.4 Any dispute or difference arising in respect of war risks or war damage.

37.6 All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.

37.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

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

37.9 The award of such Arbitrator shall be final and binding upon the parties.

SECTION VI – APPENDIX TO CONDITIONS OF CONTRACT

THE EMPLOYER IS

Name: **NATIONAL BIOSAFETY AUTHORITY**

Address: **P.O. Box 28251-00100, NAIROBI, KENYA**

Name of Authorized Representative: **CHIEF EXECUTIVE OFFICER**
Address: **P.O. BOX 28251-00100, NAIROBI, KENYA**

Telephone: +254-020-2678667
Facsimile:

The Project Manager is;

Name: **WORKS SECRETARY, MINISTRY OF TRANSPORT, INFRASTRUCTURE, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT (STATE DEPARTMENT FOR PUBLIC WORKS)**

Address: **P.O. BOX 30743-00100 NAIROBI**
Telephone: **2723101**
Email: **info@publicworks.go.ke**

The name (and identification number) of the Contract is **Proposed Office Partitioning for National Biosafety Authority at Nacosti Building Upper Kabete-Nairobi County.**

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W.P ITEM NO. W.P ITEM NO. D116 NB/NB/2001 JOB NO. 10822A
TENDER NUMBER: 2020-2021

The Works: The works to be carried out comprises of **PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE-NAIROBI COUNTY**.
The works consists of partitioning and branding at 4th floor of existing NACOSTI Office Block as described in the detailed Bills of Quantities. The scope of contract generally comprises the provision of materials, labour, tools, site management and all accessories necessary in the partitioning works, windows, doors, finishes, fittings and associated Electrical Installation Works, IP P.A B.X and Structured Cabling System Installation Works, and Mechanical Installation Works.

The Start Date shall be **AGREED WITH THE PROJECT MANAGER**

The Intended Completion Date for the whole of the Works shall be **8 WEEKS FROM DATE OF POSSESSION**

The following documents also form part of the Contract:
AS LISTED IN CLAUSE 2.3 OF CONDITIONS OF CONTRACT

The Contractor shall submit a revised program for the Works within SEVEN **(7)** days of delivery of the Letter of Acceptance.
The Site Possession Date shall be **AGREED WITH THE PROJECT MANAGER**

The Site is located at NACOSTI Building, off Waiyaki Way, Upper Kabete, and approximately 16KM from the CBD-Nairobi County.

The Defects Liability period is **180** days.

Other Contractors, utilities etc., to be engaged by the Employer on the Site Include those for the execution of:-

ELECTRICAL WORKS,

AIR CONDITIONING WORKS, FIRE SUPRESSION, PLUMBING AND DRAINAGE.

STRUCTURED CABLING AND IP P.A B.X INSTALLATION,

_____

The minimum insurance covers shall be;

The minimum cover for insurance of the Works and of Plant and Materials in respect of the Contractor's faulty design is; **N/A**

The minimum cover for loss or damage to Equipment is; ------**NIL----**

The minimum for insurance of other property is; **Kshs 5,000,000.00**

The minimum cover for personal injury or death insurance

For the Contractor's employees is; **Kshs 5,000,000.00**

And for other people is; **Kshs 2,000,000.00**

The following events shall also be Compensation Events:

ONLY AS LISTED IN CLAUSE 24 OF THE CONDITIONS OF CONTRACT

The period between Program updates is **14** days.

The amount to be withheld for late submission of an updated Program is; **FULL CERTIFICATE**

The proportion of payments retained is **10%** percent.

The Price Adjustment Clause **SHALL NOT apply.**

Advance Payment _____**SHALL**___**NOT**___ be granted.

The liquidated damages for the whole of the Works is Kshs. **20,000/=** (per week)

The **Performance Security** shall be **5 percent (%)** of the Contract Price.

The Completion Period for the Works is **8 WEEKS**.

The rate of exchange for calculation of foreign currency payments is **NOT APPLICABLE**

PRETENDER INSTRUCTIONS TO TENDERERS

There will be a **mandatory** pre site visit to be held on (***as per tender advert***) …Day of……..2020.

Failure to attend this Pretender conference will lead to automatic disqualification of the tenderer.

Contractors representative's name……..

Signature……Date……

Client or Project manager's representative……..

Signature and Stamp……Date……..

SECTION VII - DRAWINGS

Architectural drawings

Electrical and mechanical drawings

SECTION VIII – STANDARD FORMS

Form of Invitation for Tenders
Form of Tender
Letter of Acceptance
Form of Agreement
Form of Tender Security
Performance Bank Guarantee
Bank Guarantee for Advance Payment
Qualification Information
Tender Questionnaire
Confidential Business Questionnaire
Statement of Foreign Currency Requirement
Details of Sub-Contractors

FORM OF INVITATION FOR TENDERS

_____*[date]*

To: _____ *[name of Contractor]*
_____*[address]*
_____
_____

Dear Sirs:

*Reference:*_____*[Contract Name]*

You have been prequalified to tender for the above project.

We hereby invite you and other prequalified tenderers to submit a tender for the execution and completion of the above Contract.

A complete set of tender documents may be purchased by you from ____
_____
[mailing address, cable/telex/facsimile numbers].

Upon payment of a non-refundable fee of Kshs _____

All tenders must be accompanied by _____number of copies of the same and a security in the form and amount specified in the tendering documents, and must be delivered to
_____
[address and location]

at or before _____*(time and date).* Tenders will be opened immediately thereafter, in the presence of tenderers' representatives who choose to attend.

Please confirm receipt of this letter immediately in writing by cable/facsimile or telex.

Yours faithfully,

_____ Authorised Signature

_____ *Name and Title*

FORM OF TENDER

TO: **……..**
……..
……..

Dear Sir,

In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of ***KENYA SHILLINGS***
…….....
……
…….. (kshs……..)

We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.

We agree to abide by this tender until _____ *[Insert date]*, and it shall remain binding upon us and may be accepted at any time before that date.

Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.

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

Dated this _____ day of _____20_____

Signature _____in the capacity of_____

duly authorized to sign tenders for and on behalf of

_____*[Name of Employer]*

of_____[*Address of Employer]*

Witness; Name_____

Address_____

Signature_____

Date_____

LETTER OF ACCEPTANCE
[letterhead paper of the Employer]

_____*[date]*

To: _____
[name of the Contractor]

_____
[address of the Contractor]

Dear Sir,

This is to notify you that your Tender dated _____
for the execution of _____
[name of the Contract and identification number,as given in the Tender documents] for the Contract Price of Kshs. _____ *[amount in figures]*[Kenya Shillings_____*(amount in words)*] in accordance with the Instructions to Tenderers is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract documents.

Authorized Signature ……

Name and Title of Signatory ……

Attachment : Agreement

FORM OF AGREEMENT

THIS AGREEMENT, made the _____ day of _____ 20 _____
between_____of [or whose registered
office is situated at]_____
(hereinafter called "the Employer") of the one part AND
_____of [or whose registered
office is situated at]_____
(hereinafter called "the Contractor") of the other part.

WHEREAS THE Employer is desirous that the Contractor executes
_____
(name and identification number of Contract) (hereinafter called "the Works") located
at_____*[Place/location of the Works*]and the Employer has
accepted the tender submitted by the Contractor for the execution and completion of
such Works and the remedying of any defects therein for the Contract Price of
Kshs_____[*Amount in figures*],Kenya
Shillings_____[*Amount in words]*.

NOW THIS AGREEMENT WITNESSETH as follows:

In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.

Letter of Acceptance

Form of Tender

Conditions of Contract Part I

Conditions of Contract Part II and Appendix to Conditions of Contract

Specifications

Drawings

Priced Bills of Quantities

In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum

as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The common Seal of _____

Was hereunto affixed in the presence of _____

Signed Sealed, and Delivered by the said _____

Binding Signature of Employer _____

Binding Signature of Contractor _____

In the presence of (i) Name_____

Address_____

Signature_____

Name _____

Address_____

Signature_____

FORM OF TENDER SECURITY

WHEREAS …….. (hereinafter called "the Tenderer") has submitted his tender dated …… for the construction of ……
…… *(Name of Contract)*

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

THE CONDITIONS of this obligation are:

If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers
Or

If the tenderer, having been notified of the acceptance of his tender by the Employer during the period of tender validity:

fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or
fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

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

This guarantee will remain in force up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the said date.

_____ _____
[Date [*[signature of the Bank]*

_____ _____
[Witness] *[Seal]*

PERFORMANCE BANK GUARANTEE

To: _____(*Name of Employer*) _____*(Date)*
_____(*Address of Employer)*

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 recognized 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 _____

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ *[name of Employer]* _____ *(Date)*
_____*[address of Employer]*

Gentlemen,

Ref: _____ *[name of Contract]*
In accordance with the provisions of the Conditions of Contract of the above-mentioned Contract, We,_____*[name and Address of Contractor]* (hereinafter called "the Contractor") shall deposit with _____*[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Contract in an amount of Kshs._____*[amount of Guarantee in figurers]* Kenya Shillings_____*[amount of Guarantee in words]*.

We, _____[*bank or financial institution*], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____[*name of Employer*] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding Kshs_____[*amount of Guarantee in figures*] Kenya Shillings _____[*amount of Guarantee in words*], such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to 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 _____[*name of Employer*] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____(*name of Employer*) receives full payment of the same amount from the Contract.

Yours faithfully,

Signature and Seal _____

Name of the Bank or financial institution _____

Address _____

Date _____

Witness: Name: _____

Address: _____

Signature: _____

Date: _____

QUALIFICATION INFORMATION

Individual Tenderers or Individual Members of Joint Ventures

1.1 Constitution or legal status of tenderer (attach copy or Incorporation Certificate);
Place of registration: _____

Principal place of business _____

Power of attorney of signatory of tender _____

1.2 Total annual volume of construction work performed in the last five years

Year	Volume	
	Currency	Value

1.3 Work performed as Main Contractor on works of a similar nature and volume over the last five years. Also list details of work under way or committed, including expected completion date.

Project name	Name of client and contact person	Type of work performed and year of completion	Value of Contract
_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____

1.4 Major items of Contractor's Equipment proposed for carrying out the Works. List all information requested below.

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?)
_____ _____ _____(etc.)	_____ _____ ____	_____ _____ ___	

1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data.

Position	Name	Years of experience (general)	Years of experience in proposed position
Project Manager _____ _____ _____ (etc.)	_____ _____ _____	_____ _____ _____	_____ _____ _____

1.6 Financial reports for the last five years: balance sheets, profit and loss statements, auditor's reports, etc. List below and attach copies.

_____
_____

1.7 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of supportive documents.

_____
_____
_____

1.8 Name, address and telephone, telex and facsimile numbers of banks that may provide reference if contacted by the Employer.

_____

—

_____

1.9 Statement of compliance with the requirements of Clause 1.2 of the Instructions to Tenderers.

_____
_____
_____

1.10 Proposed program (work method and schedule) for the whole of the Works.

2 Joint Ventures

2.4 The information listed in 1.1 – 1.10 above shall be provided for each partner of the joint venture.

2.5 The information required in 1.11 above shall be provided for the joint venture.

2.6 Attach the power of attorney of the signatory(ies) of the tender authorizing signature of the tender on behalf of the joint venture

2.7 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:

all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

one of the partners will be nominated as being in charge, authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; and

the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

TENDER QUESTIONNAIRE

Please fill in block letters.

Full names of tenderer

……

Full address of tenderer to which tender correspondence is to be sent (unless an agent has been appointed below)

……

Telephone number (s) of tenderer

……

Telex address of tenderer

……

Name of tenderer's representative to be contacted on matters of the tender during the tender period

……

Details of tenderer's nominated agent (if any) to receive tender notices. This is essential if the tenderer does not have his registered address in Kenya (name, address, telephone, telex)

……

……

_____
Signature of Tenderer

Make copy and deliver to:_____(*Name of Employer*)

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 2 (d) 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 License No…… Expiring date……

Maximum value of business which you can handle at any time: K. pound……..

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……

Part 2(c) – Registered Company:

Private or public……

State the nominal and issued capital 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 …… ……(*Name of Employer)* who has interest in this firm? Yes/No……(*Delete as necessary*)

I certify that the information given above is correct.

…… …… ……
(Title) *(Signature)* *(Date)*

Attach proof of citizenship

STATEMENT OF FOREIGN CURRENCY REQUIREMENTS

(See Clause 23] of the Conditions of Contract)

In the event of our Tender for the execution of_____
_____(*name of Contract*) being accepted, we would require in accordance with Clause 21 of the Conditions of Contract, which is attached hereto, the following percentage:

(Figures)…… (Words)……

of the Contract Sum, (Less Fluctuations) to be paid in foreign currency.

Currency in which foreign exchange element is required:

……

Date: The …… Day of …….. 20…….

Enter 0% (zero percent) if no payment will be made in foreign currency.

Maximum foreign currency requirement shall be _____(percent) of the Contract Sum, less Fluctuations.

_____
(Signature of Tenderer)

DETAILS OF SUB-CONTRACTORS

If the Tenderer wishes to sublet any portions of the Works under any heading, he must give below details of the sub-contractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the tender.

(1) Portion of Works to be sublet: ……

Full name of Sub-contractor and address of head office: ……

……

Sub-contractor's experience of similar works carried out in the last 3 years with Contract value: ……

……

……

(2) Portion of Works to sublet: ……

Full name of sub-contractor and address of head office: ……

……

……

Sub-contractor's experience of similar works carried out in the last 3 years with contract value: ……

……

_____ _____

[Signature of Tenderer) Date

LETTER OF NOTIFICATION OF AWARD

Address of Procuring Entity
_____
_____

To:_____
_____
_____
_____

RE: Tender No._____

Tender Name_____

This is to notify that the contract/s stated below under the above mentioned tender have been awarded to you.

_____
_____

Please acknowledge receipt of this letter of notification signifying your acceptance.

The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.

You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

*(FULL PARTICULARS)*_____
_____

SIGNED FOR ACCOUNTING OFFICER

PREAMBLES AND PRICING NOTES- SEP

PREAMBLES AND PRICING NOTES

GENERALLY

All work to be carried out in accordance with the Ministry of Public Works General Specifications for Building Works issued in 1976 or as qualified or amended below.

MANUFACTURERS' NAMES

Where manufacturers' names and catalogue references are given for guidance to quality and standard only. Alternative manufacturer of equal quality will be accepted at the discretion of the Project Manager.

WALLING

All precast concrete blocks shall be manufactured by the methods and to the sizes specified in the Ministry of Public Works "Specification for Metric Sized Concrete Blocks for Building (1972)"

Walling of 100 mm thickness or under shall be reinforced with hoop iron every alternate course.

Prices for walling must allow for all costs in preparing, packing and sending sample blocks for testing as and when required by the Project Manager.

CARPENTRY

The grading rules for cypress shall be the same for podocarpus and all timber used for structural work shall be select (second grade).

All structural timber must conform to the minimum requirements for moisture content and preservative treatment and timber prices must allow for preparing, packing and sending samples for testing when required.

Prices must also include for all nails and fasteners.

JOINERY

Cypress for joinery shall be second grade in accordance with the latest grading rules of the Kenya Government.

Where Mahogany is specified, this refers to prime grade only. The Contractor may with the approval of the Project Manager; use either Msharagi or Mvuli in lieu of Mahogany but such approval will be given only in the case of shortages of the hardwoods specified.

Plugging shall be carried out by drilling walling or concrete with masonry drill and filling with propriety plugs of the correct sizes. Cutting with hammer and chisel will not be allowed.

Prices for joinery must include for pencil rounded arises, protection against damage, nails, screws, framing and bedding in cement mortar as required.

Sizes given for joinery items are nominal sizes and exact dimensions of doors, etc, must be ascertained on site.

IRONMONGERY

Ironmongery shall be specified in the Bills of Quantities or equal and approved.

Prices must include for removing and re-fixing during and after painting, labeling all keys, and for fixing to hardwood, softwood, concrete or blockwork.

Catalogue references given for ironmongery are for purposes of indicating quality and size of item(s). Should the Contractor wish to substitute the specified item(s) with others of equal manufacture, he must inform the Project Manager and obtain approval in writing.

STRUCTURAL STEELWORK

All structural steelwork shall comply with the Ministry of Public Works "Structural Steelwork Specification (1973) and shall be executed by an approved Sub-contractor.

PLASTERWORK AND OTHER FINISHES

All finishings shall be as described in the general specifications and in these Bills of Quantities.

Prices for pavings are to include for brushing concrete clean, wetting and coating with cement and sand grout 1:1.

Rates for glazed wall tiling are to include for a 12 mm cement and sand (1:4) backing screed unless otherwise specified in these Bills of Quantities.

GLAZING

Where polished plate glass is specified, this refers to general glazing quality.

Prices for glazing shall include for priming of rebates before placing putty.

The Contractor will be responsible for replacing any broken or scratched glass and handing over in perfect condition.

PAINTING

Painting shall be applied in accordance with the manufacturers' instructions.

Prices for painting are to include for scaffolding, preparatory work, priming coats, protection of other works and for cleaning up on completion. Prices for painting on galvanized metal are to include for mordant solution as necessary.

PRELIMINARIES

PARTICULAR PRELIMINARIES

ITEM	DESCRIPTION	AMOUNT (KSH)
	PARTICULAR PRELIMINARIES	
	EMPLOYER The Employer is **NATIONAL BIOSAFETY AUTHORITY-MINISTRY OF AGRICULTURE** The term "Employer" and "Government" wherever used in the contract document shall be synonymous.	
	PROJECT MANAGER The term "PM" wherever used in these Bills of Quantities shall be deemed to imply the project Manager as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government .	
	ARCHITECT The term "Architect" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works , State Department for Public Works, P.O Box 30743, NAIROBI.	
	QUANTITY SURVEYOR The term "Quantity Surveyor" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works , State Department for Public Works, P.O Box 30743 NAIROBI.	
	ELECTRICAL ENGINEER The term "Electrical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works , State Department for Public Works, P.O Box 41191, NAIROBI.	
	MECHANICAL ENGINEER The term "Mechanical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works , State Department for Public Works, P.O Box 41191, NAIROBI.	
	Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)
STRUCTURAL ENGINEER The term "Structural Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works , State Department for Public Works, P.O Box 30743, NAIROBI. **PRICING ITEMS OF PRELIMINARIES** Prices **SHALL BE INSERTED** against items of "preliminaries" in the tenderer's priced Bills of Quantities. The contractor is advised to read and understand all preliminary items. **SCOPE OF CONTRACT** The works to be carried out comprises of; partitioning of Wings A&B to create offices, registry, main reception, CEO'S Office, store preparatory room and laboratory. **DESCRIPTION OF THE WORKS** The works to be carried out comprises of;partitioning, doors, and finishes (ceiling, tiling and painting) and making good disturbed surfaces. Services include; electrical installation and mechanical installation works.	
Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)
MEASUREMENTS In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER in accordance with Clause 22 of the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 22 of the said Conditions. **FLOOR AREAS** Floor Area=754 square meters **LOCATION OF SITE** The sites of the proposed works is located at NACOSTI Building, off Waiyaki Way, Upper Kabete, and approximately 16KM from the CBD-N**airobi County.**The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained. **SIGNING OF THE TENDER DOCUMENTS** The bidder shall append his / her signature and / or company 's rubberstamp on each and every page of tender document.	
Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)

DEMOLITIONS AND ALTERATIONS

The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs, etc as directed by the Project Manager and as necessary for the adequate propping and protection of existing property, finishes, workmen employed on the site, employer's agents and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the works and any necessary making good consequent upon this is to be excecuted to the satisfaction of the Project Manager

The works shall be propped, strutted and supported as necessary before any alteration or demolition work commences. Prices shall include for all cleaning and preparatory work to structure and finishes and for making good to all finishes on completion whether or not specifically described.

Unless described as set aside for re-use all arising debris and surplus materials shall be carefully removed from building and carted away from site.

The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use during their removal unless it is certified by the Project Manager that such damage or breakage was inevitable as a result of the condition of the item concerned

CLEARING AWAY

The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Project Manager.

The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project Manager.

CLAIMS

It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contact period.

	Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)
PAYMENTS The tenderer's attention is drawn to the fact that the GOVERNMENT DOES NOT MAKE ADVANCE PAYMENTS but pays for work done and materials delivered to sit: all in accordance with Clause 23 of the Conditions of Contract Agreement. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements **PREVENTION OF ACCIDENT, DAMAGE OR LOSS** The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other nomal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruoption of activities beeing carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site. **WORKING CONDITIONS** The Contractor shall allow in his rates for any interferance that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed, as the facility will be operating as usual during the course of the contract. **SIGNBOARD** Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away a signboard as designed, specified and approved by the Project Manager. **LABOUR CAMPS** The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the contract. **MATERIALS FROM DEMOLITIONS** Any materials arising from demolitions and not re-used shall become the property of the client. The Contractor shall allow in his rates the cost of disposing the demolished materials as directed.	
Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)
PRICING RATES The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract. **SECURITY** The Contractor shall allow for providing adequate security for the works and the workers in the course of execution of this contract. No claim will be entertained from the Contractor for not maintaining adequate security for both the works and workers. **URGENCY OF THE WORKS** The Contractor is notified that these **" works are urgent"** and should be completed within the period stated in these Particular Preliminaries. The Contractor shall allow in his rates for any costs he/ she deems that he/she may incur by having to complete these works within the stipulated contract period. **PAYMENT FOR MATERIALS ON SITE** All materials for incorporation in the works must be stored on site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers. **EXISTING SERVICES** Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.	
Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSH)
	CONTRACT COMPLETION PERIOD The contract completion period in accordance with condition 31 of the Conditions of contract must be adhered to. The 'PROJECT MANAGER' shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the 'PROJECT MANAGER' shall inform the Contractor in writing that his actual performance on site is not satisfactory .In all such cases the Contractor shall accelerate his rate of performance production and progress by all means such as additional labour,plant, e.t.c and working overtime all at his cost. **PERFORMANCE BOND** A bond of 5% of the contract sum will be required in accordance with clause 6.00 (as amended) on award of contract of the Instructions to Tenderer's. No payment on account for the works executed will be made to the contractor until he has submitted the Performance Bond to the Project Manager duly signed, sealed and stamped from an approved Bank. **TENDER DOCUMENTS** Tender documents are as listed in Clause 2.1 of the Instruction to Tenderer's Page STD/9	
D	**DELIVERY OF TENDER** Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement. Tenders will be opened at the time specified in the letter accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the above time will not be opened.	
	Carried to collection	

	ITEM DESCRIPTION	AMOUNT (KSH)
	VALUE ADDED TAX	
	The contractor to allow for VAT for all items in the Bills of Quantities and no claims for VAT shall otherwise be entertained	
	NB: The Contractor should therefore include the tax within the rates.	
	EXISTING BUILDING MATERIALS	
	NOTE: Any materials found usable for the works shall be given to the contractor on creidit with the approval of the client	
	Carried to collection	

ITEM DESCRIPTION	AMOUNT (KSH)
PROJECT VEHICLE ***Hire of Project Vehicle*** The contractor shall provide for site trips only a vehicle of type Nissan or Toyota to comfortably seat Nine persons including maintaining licences and insuarances, competent driver; all to the satisfactiory of the Project Manager. The vehicle shall be provided specifically for and during site visits by the project management team. The vehicle shall be in perfect condition for the entire duation of the trip, i.e from State Deparment for Public works head office to site The driver shall be at the sole discretion of the proect manager for the entire duration of the trip, until released by him/her Reimbursements to the contractor for providing the transport services will be based per trip to the site and back during the currency of the contract at a rate as here below **(Contractor to insert rate - item A)** inserted. Reimbursements to the contractor for providing driver, servicing, fuels, oils, lubricants and tyres will similarly be based per trip at a rate here below **(Contractor to insert rate B)** inserted Allow for providing a vehicle above as described including; driver,maintanace, fuels, oils and lubricants, licences and comprehensive insuarance. **Allow a rate of Ksh. …… per trip x 15No. trips**	

Carried to collection

	ITEM DESCRIPTION	AMOUNT (KSH)
	PROJECT MANAGERS EXPENSES	
	Provide a Provisional Sum of Kenya Shillings Sixty Thousand (Kshs 60,000.00) only for **Clerk of works** wages and emoluments	60,000.00
	Allow for Contractor's profit and overheads (--------%)	
	Allow for Contractor's profit and overheads (--------%)	
	Provide **sum of** Kenya Shillings Hundred Thousand (Kshs. 100,000.00) only for Stationery and Equipment.	100,000.00
	Allow for Contractor's profit and overheads (--------%)	
	Provide **Mobile Phone airtime** worth Kenya Shillings Two Thousand (Kshs. 2,000.00) only per person per calender month for Ministry of Transport, Infrastructure, Housing & Urban Development and Public Works (State Department for Public Works) Officers for the duration of the contract period.	50,000.00
	Allow for Contractor's profit and overheads (-------%)	
	Provide Subsistence allowances worth Kenya Shillings Two Hundred Thousand **(Kshs. 200,000.00) only** for site visits and inspections for Ministry of Transport, Infrastructure, Housing & Urban Development and Public Works (State Department for Public Works) Officers for the duration of the contract period.	200,000.00
I.	Allow for Contractor's profit and overheads (-------- %)	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSH)
	PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEMENT The following are the insertions to be made in the appendix to the Contract Agreement: - **Period of Final Measurement** **3** Months From Practical completion **Defects Liability Period** **6** Months from Practical completion **Date for Possession** To be agreed with the Project Manager **Date for Completion** **…8..** Weeks from date of Possession **Liquidated and Ascertained** At the rate of **Kshs.. 20,000…** per week or part thereof: **Prime cost** sums for which …… The Contractor desires to tender …… **Period of Interim Certificates** Monthly **Period of Honouring Certificates** 45 days **Percentage of Certified Value Retained** 10% **Limit of Retention Fund** 5%	
	Carried to collection	

	ITEM DESCRIPTION	AMOUNT (KSH)
	COLLECTION	
	Brought forward from page PP/1	
	Brought forward from page PP/2	
	Brought forward from page PP/3	
	Brought forward from page PP/4	
	Brought forward from page PP/5	
	Brought forward from page PP/6	
	Brought forward from page PP/7	
	Brought forward from page PP/8	
	Brought forward from page PP/9	
	Brought forward from page PP/10	
	Brought forward from page PP/11	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

GENERAL PRELIMINARIES

Item	Description	Amount KSh
	GENERAL PRELIMINARIES	
	PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES	
	Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification.	
	The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all costs involved in complying with all the requirements for the proper execution of the whole of the works in the Contract.	
	ABBREVIATIONS	
	Throughout these Bills, units of measurement and terms are abbreviated and shall be interpreted as follows:-	
	C.M. Shall mean cubic metre	
	S.M. Shall mean square metre	
	L.M. Shall mean linear metre	
	MM Shall mean Millimetre	
	Kg. Shall mean Kilogramme	
	No. Shall mean Number	
	Prs. Shall mean Pairs	
	B.S. Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England.	
	Ditto Shall mean the whole of the preceding description except as qualified in the description in which it occurs.	
	m.s. Shall mean measured separately.	
	a.b.d Shall mean as before described.	

Carried to collection

Item	Description	Amount KSh

EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT

Attendance ; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted:-

Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work: clearing away rubbish; unloading checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- Contractors' work and being responsible for the accuracy of the same.

Fix Only:-

"Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.

FORM OF CONTRACT

The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building Works (2006 Edition) included herein

The Conditions of Contract are also included herein

Conditions of Contract

These are numbered from 1 to 37 as set out in pages ***18 to 37*** of these tender documents.

Particulars of insertions to be made in the Appendix to the Contract Agreement will be found in the Particular Preliminaries part of these Bills of Quantities

PLANT, TOOLS AND VEHICLES

Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.

TRANSPORT.

Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.

Carried to collection

Item	Description	Amount KSh

MATERIALS AND WORKMANSHIP.

All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.

SIGN FOR MATERIALS SUPPLIED.

The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER

STORAGE OF MATERIALS

The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made

liable for the cost of any storage accommodation provided especially for their use.

SAMPLES

The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT

MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works.

The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.

	Carried to collection	

Item	Description	Amount KSh
	GOVERNMENT ACTS REGARDING WORK, PEOPLE ETC. Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. In particular the Contractor's attention is drawn to the provisions of the Factory Act 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained. **SECURITY OF WORKS ETC.** The Contractor shall be entirely responsible for the security of all the works stores, materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public. **PUBLIC AND PRIVATE ROADS.** Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the PROJECT MANAGER **EXISTING PROPERTY.** The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER **VISIT SITE AND EXAMINE DRAWINGS.** The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries hereof. He shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from his failure to comply with this recommendation will be considered.	
	Carried to collection	

Item	Description	Amount KSh
	ACCESS TO SITE AND TEMPORARY ROADS. Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads (approximately 70 metres long) for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER **AREA TO BE OCCUPIED BY THE CONTRACTOR** The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER **OFFICE ETC. FOR THE PROJECT MANAGER** The Contractor shall provide, erect and maintain where directed on site a properly ventilated lockable office for the consultants, having a minimum floor area of 40 Square Metres complete with furniture (Tables, chairs e.t.c). Provision shall be made for artificial lighting and cleaning facilities for the duration of the works. Upon completion the Contractor shall dismantle and clear away the office. He shall also provide a strong metal trunk complete with strong hasp and staple fastening and two keys. He shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen tape. **WATER AND ELECTRICITY SUPPLY FOR THE WORKS** The Contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub--contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use.	
	Carried to collection	

Item	Description	Amount KSh
	SANITATION OF THE WORKS The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER **SUPERVISION AND WORKING HOURS** The works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract. **PROVISIONAL SUMS.** The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Such sums are net and no addition shall be made to them for profit. **PRIME COST (OR P.C.) SUMS.** The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods as stated in Condition No. 20 of the Conditions of Contract are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers. **PROGRESS CHART.** The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.	
	Carried to collection	

Item	Description	Amount KSh
	ADJUSTMENT OF P.C. SUMS. In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the allowed at the same rate as it would be if the work were executed by a Nominated **ADJUSTMENT OF PROVISIONAL SUMS.** In the final account all Provisional Sums shall be deducted and the value of the work No. 13of the Conditions of Contract, but should any part of the work be executed by a Nominated Sub-Contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added. **NOMINATED SUB-CONTRACTORS** When any work is ordered by the PROJECT MANAGER to be executed by nominated No. 20 of the Conditions of Contract and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance". **DIRECT CONTRACTS** Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.	
	Carried to collection	

Item	Description	Amount KSh

ATTENDANCE UPON OTHER TRADESMEN, ETC.

The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills.

INSURANCE

The Contractor shall insure as required in Conditions No 30 of the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection.

PROVISIONAL WORK

All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER

Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall if the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.

ALTERATIONS TO BILLS, PRICING, ETC.

Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored.
The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.

	Carried to collection	

Item	Description	Amount KSh

BLASTING OPERATIONS

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

MATERIALS ARISING FROM EXCAVATIONS

Materials of any kind obtained from the excavations shall be the property of the Government. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.

PROTECTION OF THE WORKS.

Provide protection of the whole of the works contained in the Bills of Quantities, including casing , casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Government.

WORKS TO BE DELIVERED UP CLEAN

Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER

GENERAL SPECIFICATION.

For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.

TRAINING LEVY

The Contractor's attention is drawn to the legal notice which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than KShs. 1,000,000.00 in value.

	Carried to collection	

Item	Description	Amount KSh
	MATERIALS ON SITE All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers. **HOARDING** The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centres with two 75 x 50 mm timber rails. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site. The contractor is advised to visit the site to aquint themselves) **CONTRACTOR'S SUPERINTENDENCE/SITE AGENT** The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	Carried to Collection	

Item	Description	Amount KSh
	COLLECTION	
	Brought Forward From Page GP/1	
	Brought Forward From Page GP/2	
	Brought Forward From Page GP/3	
	Brought Forward From Page GP/4	
	Brought Forward From Page GP/5	
	Brought Forward From Page GP/6	
	Brought Forward From Page GP/7	
	Brought Forward From Page GP/8	
	Brought Forward From Page GP/9	
	Brought Forward From Page GP/10	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY	

MEASURED BUILDERS WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO.3: BUILDING WORKS				
	ELEMENT NO.1: DEMOUNTABLE PARTITIONS				
	Birch laminated Medium Density Fibreboards (MDF)				
A	18mm thick plain linings; fixed to aluminium framing(m.s).	68	SM		
	Approved sawn softwood				
B	150 x 50mm Timber bearer; plugged to floor.	25	LM		
C	Prime back of timber surfaces 0 - 100 mm girth	25	LM		
	Powder coated aluminium standard hollow sections; frames mitred at corners including reinforcing cleats all to approval colours				
D	75 x 50 x 2 mm thick aluminium hollow sections (horizontal bottom members) screwed to receive MDF boarding.	120	LM		
E	75 x 50 x 2 mm thick aluminium hollow sections (horizontal bottom members) screwed to receive glazing	54	LM		
F	75 x 50 x 2 mm thick aluminium hollow sections (horizontal middle members) screwed to timber (m/s) and grooved to approval at both top and bottom to receive glazing and MDF boarding respectively (m/s).	120	LM		
G	75 x 50 x 2 mm thick aluminium hollow sections (horizontal middle members) grooved to approval at both top and bottom to receive glazing and (m/s).	54	LM		
H	Ditto grooved to approval at bottom to receive glazing (m/s)	198	LM		
I	Ditto horizontal top piece grooved to approval at bottom to receive glazing (m/s)	198	LM		
J	Ditto vertical studs grooved to approval at both sides to receive MDF (m/s) fixed to skirting and middle piece (m/s).	478	LM		
K	75 x 50 x 2 mm thick aluminium hollow sections vertical corner and entrance piece to approval.	188	LM		
	Beading				
L	27. 5x 17.25 x 1.5mm thick aluminium beading to glazing (m.s)	1,500	LM		
M	38 X 38 X 3.5mm Thick aluminium angle beading screwed to MDF boards (m/s)	730	LM		
N	Ditto to doors	49	LM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Rubber Gasket				
A	25x12mm Thick approved rubber lining to aluminium framing (m/s)	1,777	LM		
	8mm thick clear sheet glass to aluminium frames (m/s) with rubber gaskets (m/s)				
B	Panes 0.5 to 1.0 square meters	324	SM		
C	Decorative film to clear sheet glass	276	SM		
D	8mm Thick sheet glass panes beading to fanlight	3	SM		
	Sundries				
E	45x25mm silicon filler applied as directed and to the approval of the architect at the joints between existing concrete ceiling and aluminium top rail	173	LM		
	Carried to Collection Below				
	COLLECTION:				
	From page BW/1				
	From page above				
	Total Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2 : DOORS				
	Timber doors				
	Wrot Mahogany framed frames and framings				
A	150 x 50 mm; 2 No. labours; plugged door frame and transomes	7	LM		
B	38 x 20 mm moulded architrave	7	LM		
C	20 x 20mm moulded quadrants	7	LM		
	*50mm thick Mahogany timber **pannelled door** , comprising 150 x 50mm top, middle and bottom rails infilled with 50mm thick solid moulded timber panels in 6 No. per leave with moulded beading around panels; edges bevelled and grooved into frames; all framed, clamped and grooved together.*				
D	50mm thick single leaf door with 1No. 1000 x 300mm fanlight infilled with glass (m/s) and approved beading all round; overall size 1000 x 2500mm high	1	NO.		
	Painting and Decorations				
	On wood				
	Aluminium primer or other equal and approved wood primer before fixing: -				
E	Backs of frame, over 100mm but not exceeding 200mm girth	7	LM		
	Knot, prime and stop; prepare and apply one coat stain and two coats of clear varnish				
F	General surfaces of wood	4	SM		
G	Frames; over 200mm but not exceeding 300mm girth; internal	7	LM		
H	Frames; not exceeding 100mm girth; internal	7	LM		
	Ironmongery				
	Supply and fix the following to UNION catalogue or other equal and approved with matching screws				
I	Three lever mortice lock complete with brass handles	26	NO.		
J	100mm Stainless steel butt hinges	39	PRS		
K	Door closer as Briton CAT No. N8834SR	26	NO		
L	Indicator bolts	1	NO.		
M	Rubber door stop as Union	26	NO.		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ALUMINIUM DOORS				
	Supply and fix aluminium door; with 8mm thick clear glass panel and laminated MDF boards fix to aluminium frames and including all necessary iron mongery.				
A	Double leaf door size 2100 x 2500mm high in two equal leaves (main door)	1	NO		
B	Door size 1000 x 2150mm high	16	NO		
	Supply and fix aluminium door; with 8mm thick clear glass panels fixed to aluminium frames, including all necessary iron mongery.				
C	Door size 1000 x 2150mm high	6	NO		
	Total Carried to Collection Below				
	COLLECTION				
	BROUGHT FORWARD FROM PAGE BW/3				
	BROUGHT FORWARD FROM PAGE ABOVE				
	Total Carried to Summary		**KSHS**		

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 5: WALLING				
	Approved clay brick hollow port wall including pointing and neat flush joints: bedding and jointing in cement and sand mortar (1:3); including reinforcing with 25x3mm hoop iron in every alternative course				
A	150mm thick walling	151	SM		
	Damp proof course				
	Hessian based damp proof course bedded and levelled in cement and sand (1:4) mortar as described (measured nett allow for laps):				
B	150 mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (make allowance for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar	4	LM		
	Wall Finishes				
	Insitu finishes				
	Plaster; 15mm thick, 2 No. coatwork, 12mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base				
C	Walls; internal	302	SM		
	Prepare and apply one undercoat and three coats of first quality emulsion Vinyl Matt paint to the following surfaces				
D	Plastered walls; internal	302	SM		
	CARRIED TO SUMMARY		**KSHS**		

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3: FINISHES				
	Acoustic Celing				
A	600 x 600mm "hunter-Douglas" or any other equal and approved suspended miniature board Accoustic ceiling including all the necessary aluminium suspended framing and branderings, panels suspension hangers, flush jointing and trap doors.	74	SM		
	Floor Finishes				
	Carpet				
B	12mm thick approved jute-backed carpet to K.S 08779;1998 comprising; 80% wool, 20% synthetic fused in woven textile backing, stain resistant, fade resistant; soiling treated permanently anti-static standard carpet with and including standard underfelt complete with aluminium fixing clips metal gripperd, approved adhesive; all fixed in accordance with the manufacturer's instructions	34	SM		
	Non-slip Ceramic Floor Tiling				
	Supply and fix approved floor of different sizes with"Tilemaster adhesive tile adhesive 101" on backing renders (m.s.): jointed and pointed in approved adhesive/ underlays/ silent nailing to; or other equal and approved;-				
C	300 x 300 x 10mm thick Floors in approved pattern to Architect's details	6	SM		
D	100 x 8mm Skirting	4	LM		
	Interlocking Rubber Floor Tiles				
	Supply and fix approved floor tile of different sizes with"Tilemaster adhesive, tile adhesive 101" on backing renders (m.s.): jointed and pointed in approved adhesive/ underlays/ silent nailing to; or other equal and approved;-				
E	500 x 500 x 10mm thick Floor tiles in an approved pattern to Architect's details	90	SM		
F	100 x 8mm Skirting	56	LM		
	CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 04: JOINERY AND FITTINGS				
	Overhead Wall Cabinets				
	Medium Density Fibre (MDF) board; moisture resistant (MR) bonded; White laminate facing on both sides: hardwood lipped all round ; in 600mm wide compartments; complete with sliding/ side hung doors, shelves, divisions, hanging rails, drawers; and all necessary ironmongery; to architect's details				
A	600mm wide top and bottom panels	4	LM		
	CARRIED TO SUMMARY		**KSHS**		

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO.3: BUILDING WORKS				
	SUMMARY				
A	ELEMENT NO.1: DEMOUNTABLE PARTITIONS		Pg 2		
B	ELEMENT NO.2 : DOORS		Pg 4		
C	ELEMENT NO. 3: WALLING		Pg 5		
D	ELEMENT NO. 4: FINISHES		Pg 6		
E	ELEMENT NO. 5: JOINERY AND FITTINGS		Pg 7		
	BILL NO.3: BUILDING WORKS TOTAL CARRIED TO GRAND SUMMARY		**KSHS**		

ELECTRICAL WORKS- SEP

SECTION E

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.

The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.

The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.

Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including **V.A.T, Withholding tax and all other taxes applicable at the time of tender**).

Any bid returned with unfilled Schedule of Unit Rates shall be considered technically non-responsive, and the bidder shall automatically be disqualified.

SCHEDULE OF UNIT RATES
(MUST be completed by the Tenderer)

Item	Description	Unit	Qty	Rate (KShs)
	The rates entered in the schedule unless otherwise stated shall be the complete cost of supply, transportation, Insurance, Installation etc, to be added or deducted from the sub-contract Price in respect to variations ordered during the course of the work. The rates entered below shall be used in conjunction with and not in place of the rates entered within the BoQ. The rates below are intended to complement the BoQ where sections have been priced on lump sum basis Where any conflict occurs between the rates entered below and the rates entered in the BoQ the lowest rate shall be applied throughout. Certain items entered below may not be applicable to the Sub-contract requirements as at present designed. However, the sub-contractor shall enter a rate against these items as future designed/alterations may include Some or all of the items scheduled			
	Cables:			
	a) Single Core PVC Cables			
	a) 4mm2	M	1	
	b) 10mm2	M	1	
	c) 16mm2	M	1	
	d) 25mm2	M	1	
	PVC/SWA/PVC Armoured Copper cables per metre			
	a) 10.0mm sq. 2 core	M	1	
	b) 10.0 mm sq 4 core	M	1	
	c) 16.0 mm sq 2 core	M	1	
	d) 35.0 mm sq 4 core	M	1	
	IP 65 rated Isolators as KATKO, 3 Phase			
	a) 20A	No	1	
	b) 63A	No	1	
	c) 100A	No	1	
	IP 65 rated Isolators as KATKO, single phase			
	a) 32A	No	1	
	b) 63A	No	1	
	c) 100A	No	1	

Item	Description	Unit	Qty	Rate (KShs)
	Cable Trunking and Tray			
	a) Trunking			
	Two compartment powder coated steel trunking manufactured in 14 SWG galvanized mild steel sheet and finished in cream powder coating with the following dimensions;			
	a) 50x25mm	M	1	
	b) 75x50mm	M	1	
	c) 150x50mm	M	1	
	b) Cable Tray			
	Supply & install sheet steel cable tray complete with all necessary supports, fixings and dividing			
	a) 100mm	M	1	
	b) 200mm	M	1	
	LED Fittings			
	a) Slim circular luminaire in brass finish with 13W LED 2D lamp as Pearlite	No	1	
	b) Recessed 8W LED downlight with 100mm diameter c/w Opal glass cover.	No	1	
	c) Surface 8W LED downlight with 100mm diameter c/w Opal glass cover.	No	1	
	d) Square Panel 15W W/W Recessed as Pearlite	No	1	
	e) 32W 600 x600mm led Dimmable Panel Light as Pearlite	No	1	
	f) 45W 600 x600mm led Dimmable Panel Light as Pearlite	No	1	
	Conduit			
	Heavy Guage PVC conduits of the following sizes:			
	a) 32mm	M	1	
	b) 40mm	M	1	
	c) 50mm	M	1	
	Distribution Boards			
	16 Way TP&N with 100A Integral isolator switch as EATON	No	1	
	Miniature Circuit Breakers			
	Supply and installation into distribution board of triple pole MCB of the following ratings:			
	a) 63A	No	1	
	b) 100A	No	1	
	c) 125A	No	1	
	48 port Patch Panel	No	1	
	2000VA UPS	No	1	

Item	Description	Unit	Qty	Rate (KShs)
	9U Ground Mounted cabinet 22U Ground Mounted cabinet 12 port edge switch with POE+ capabilities CAT6A STP Cable as Siemon	No No No M		

SECTION F

BILLS OF QUANTITIES

SPECIAL NOTES TO THE BILLS OF QUANTITES

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

The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including **14% VAT** and all taxes applicable at the time of tender.)

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

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

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

The grand total of prices in the price summary page must be carried forward to the **Form of Tender**.

Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE, NAIROBI

W.P. ITEM NO. D116 NB/NB/2001 JOB NO. 10822A

BILL NO.1: SUB-CONTRACT PRELIMINARIES

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
1	Discrepancies clause - Sub-contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.	1	Item		
2	Payments clause - Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Domestic Sub-contractor. All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site.	1	Item		
3	Scope of contract works clause - The sub-contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing	1	Item		
4	Extent of contractors duties clause - The Sub-contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.Shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer.	1	Item		
5	Variation clause - Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.	1	Item		
	Sub Total carried to next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	Sub-Total B/F from Previous Page				
6	Government legislation and regulations clause - Sub-contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements. The Sub-contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.	1	Item		
7	Import duty and VAT clause- (Note this clause applies for materials supplied only whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes	1	Item		
8	Samples and materials generally clause - The Sub-contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.	1	Item		
9	Bills of quantities clause - All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed there under shall be measured and valued by the Engineer in accordance with the contract. All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub-contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.	1	Item		
	Sub Total carried to next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	Sub-Total B/F from Previous Page				
10	Builders work clause 1- All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.	1	Item		
11	Setting to work and regulating system clause- No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted). It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required.	1	Item		
12	Identification of plant components clause - Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment etc with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled.	1	Item		
13	Working drawings clause - Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub-contract Works.	1	Item		
14	Records Drawings (As Installed) and instructions clause - Record Drawings, will be subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works.	1	Item		
	Sub Total carried to next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	Sub-Total B/F from Previous Page				
15	Maintenance Manual clause - Upon Practical Completion of the Sub-contract Works, the Sub-contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub- contract Works.	1	Item		
16	Hand over clause - The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub- contract Works shall be coincident with the handing over of the Main Contract Works.	1	Item		
17	Testing and inspection - manufactured plant clause - The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture. Sub-contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections	1	Item		
18	Initial Maintenance Clause - The sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer. Shall allow in the sub-contract Sum of the initial maintenance, inspection and break-down service	1	Item		
	Any other preliminaries				
	Total for Bill No 1- Sub-Contract Preliminaries carried forward to price summary page				

BILL NO.2 - ELECTRICAL INSTALLATION WORKS ESTIMATES

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, Install, test and commission the following :				
2.01	Lighting points wired in 3x1.5mm ^{2} PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	(a) One Way Switching.	106	No.		
	(b) Two Way Switching.	26	No.		
2.02	10A moulded ivory switch plates as MK, Clipsal, BG, Crabtree or approved equivalent as follows:				
	(a) 1 gang 1 way Architrave	18	No.		
	(b) 1 gang 2 way Architrave	4	No.		
	(c) 2 gang 1 way Architrave	2	No.		
	(d) 2 gang 2 way Architrave	2	No.		
	LIGHTING FITTINGS				
2.03	Lighting fittings complete with all accessories including lamps of appropriate wattage and colour rendering and fixing materials as follows:				
	48W, 6500K, 600mm Square, Recessed LED Panel Light, 4100lm, as PHILIPS or equal and approved equivalent - **Type P**	71	No.		
	28W, 6500k, slim recessed LED downlight, 2000lm, as Phillips or approved equivalent - **Type D**	26	No.		
	6x1.2W, 3000k, LED downlight, 2000lm, as Phillips or approved equivalent - **Type C**	34	No.		
	15W/m, warm white, low voltage LED strip light as Elekron or approved equivalent - **Type S.** Allow for change in color temperature to architects detail	25	Lm		
	Self-contained double sided EXIT sign with 8W LED lamp for non-maintained emergency lighting for 3 hour duration as Sapphire or approved equivalent.- **Type E**	4	No.		
	SUB TOTAL C/F TO NEXT PAGE				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub- total B/f previous page				
	POWER POINTS				
2.04	Ring mains socket outlet points comprising wiring in 3x2.5mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	64	No.		
2.05	13A switched white moulded case twin socket outlet plates as MK, Clipsal, BG, Crabtree or an approved equivalent.	64	No.		
2.06	Projector power points comprising wiring in 3 x 2.5mm^2 PVC/SC/CU cables drawn in 25mmØ HG/PVC conduits complete with all necessary accessories	1	No.		
2.07	20A, DP Satin Chrome finish control switch with neon light and cord outlet for item above as Crabtree or approved equivalent	1	No.		
2.08	Projector signal conduiting only from the ceiling to presentation table in 25mmØ HG/PVC conduits complete with all necessary accessories	1	No.		
2.09	**Air Conditioner's Power Point,** comprising wiring drawn in 3x4mm2 PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits/trunking complete with all accessories but excluding the D.P switch	6	No.		
2.10	**Autoclave power point** comprising wiring in 3 x 4mm2 PVC/SC/CU cables drawn in 25mmØ HG/PVC conduits complete with all necessary accessories	1	No.		
2.11	**Instanteneous water heater power points** comprising wiring in 3 x 4mm2 PVC/SC/CU cables drawn in 25mmØ HG/PVC conduits complete with all necessary accessories (Cylinder)	1	No.		
2.12	**Extract fan power point** comprising wiring in 3 x 4mm2 PVC/SC/CU cables drawn in 25mmØ HG/PVC conduits/trunking complete with all necessary accessories	1	No.		
	SUB TOTAL C/F TO NEXT PAGE				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub- total B/f previous page				
2.13	**Fume chamber power point** comprising wiring in 5 x 2.5mm2 PVC/SC/CU cables drawn in 25mmØ HG/PVC conduits/trunking complete with all necessary accessories	1	No.		
2.14	20A TPN, 50Hz moulded isolator switch c/w waterproof housing for item 2.14 above as Legrand or approved equivalent	1	No.		
2.15	20A DP Control Switch marked 'As Per Application' with neon light and cord outlet for items 2.09, 2.10, 2.11 & 2.12 above as MK, Crabtree or approved equivalent.	9	No.		
	ACCESS CONTROL POINTS				
2.16	Access control points comprising draw wire in concealed 20mm Ø HG PVC Conduits all emanating from the server room/security office	3	No.		
	DATA&TELEPHONE POINTS				
2.17	Data/Telephone outlet point concealed in trunking complete with all necessary accessories.	42	No.		
2.18	White moulded case dual data/telephone outlet plate as siemon, MK, Crabtree or approved equivalent.	42	No.		
	TELEVISION POINTS				
2.19	TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed 20mm diameter HG/PVC conduits and linked to the antenna	2	No.		
2.20	TV outlet plate with polished brass finish as MK, Clipsal, Crabtree or approved equivalent.	2	No.		
	POWER DISTRIBUTION				
2.21	12 Ways TPN, surface mounted Distribution board complete with 125A integral isolator as SHCNEIDER or approved equivalent complete with all accessories but excluding MCBs.	1	No.		
	SUB TOTAL C/F TO NEXT PAGE				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub- total B/f previous page				
2.22	MCB's for above item:-				
	i) 10A, SP	7	No.		
	iii) 20A, SP	9	No.		
	iv) 25A, SP	1	No.		
	iv) 32A, SP	8	No.		
	v) 6A TP	1	No.		
	vi) Blanking plates	7	No.		
2.23	Carry out concise permanent traffolyte labelling for all the sub-circuits in item 2.21 above.	1	Item		
2.24	200mm x 50mm galvanised steel cable tray concealed inside ceiling for data and power points	25	Lm		
	TRUNKING				
2.25	i) 160mm x 50mm two compartment metal trunking constructed from heavy gauge powder coated steel, complete with bends, outlet plates for power and data/telephone and other necessary accessories all accessories for coupling and earthing for power cables. As schneider or equal and approved equivalent.	145	Lm		
	Carry out bonding throughout the entire length of the trunking and cable tray and connect to earthing.	1	Item		
2.26	25mm sq. 4-core PVC/SWA/PVC Copper Cable from the Switchboard to DB2 complete with appropriate cable lugs (Provisional Length)	60	Lm		
2.27	Relocation of existing fire alarm detectors from slab to the new false ceiling and associated works	1	Item		
2.28	Outlet for fire alarm smoke detectors comprising concealed 20mm HG PVC conduit, wiring in 3 x 2.5mm2 "firetuff" cables and all accessories. To be connected and programmed to the existing fire detection and alarm system	10	No.		
2.29	Addressable Photometric Smoke Detector as MENVIER or equal and approved.	10	No.		
	TOTAL FOR ELECTRICAL INSTALLATION WORKS C/F TO GRAND SUMMARY PAGE				

BILL NO.3 - STRUCTURED CABLING WORKS ESTIMATES

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, Install, Test and Commission the following :-				
	HORIZONTAL CABLING				
3.01	Cat 6, UTP 4-pair cable as Siemon or its equal and approved equivalent pulled between cabinet and outlet plates.(for data)	1260	Lm.		
3.02	Cat 6, UTP 4-pair cable as Siemon or its equal and approved equivalent pulled between cabinet and outlet plates.(for telephone)	1260	Lm.		
3.03	3M, RJ45-RJ45 Cat 6, UTP factory terminated patch cords as Siemon or its equal and approved equivalent for use between workstation and data outlets.	42	No.		
3.04	1M, RJ45-RJ45 Cat 6, UTP factory terminated patch cords as Siemon or its equal and approved equivalent to be used in cabinet.	84	No.		
3.05	RJ45 Cat 6, UTP dual Data outlets complete with faceplates and labelling as Siemon or its equal and approved equivalent.	42	No.		
	BACKBONE CABLING AND GENERAL REQUIREMENTS				
3.06	6 core Multimode (50/125um) OM3 10G Unitube UnArmoured indoor/outdoor Fibre Optic Cable as data backbone complete with connectors and all terminations to active components.	30	Lm.		
3.07	24 Port Fibre Optic Patch Panel as Siemon or its equal and approved equivalent.	2	No.		
3.08	10GBASE-SR SFP+ fibre modules as Avaya or approved equivalent.	2	No.		
3.09	Dual Fibre optic patch cords	2	No.		
3.10	Cable Ties and Self Adhesive Labels for Cable Labelling	1	Item		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
	ACTIVE COMPONENTS				
3.11	48 Port RJ45 Cat 6, Data Patch Panel for UTP termination as Siemon or its equal and approved equivalent.	2	No.		
3.12	2U WM series rack mount cable managers as siemon or its equal and approved equivalent	2	No.		
3.13	240V, 50Hz,3000VA, (240V) (UPS), Rack Mountable, with USB and Serial Port as APC or an approved equivalent.	1	No.		
3.14	Grounding and bonding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire. The Earthing of the system is to be to the approval of the Engineer.	1	Lot		
3.15	Supply, install and configure wall/ceiling mounted dual band Wireless Indoor long range Access Point with Wi-Fi 802.11ac high power wireless technology and virtual management controller software package and is PoE to cover at least 50M radius complete with antennae, power adaptor and all accessories as Ubiquiti or an approved equivalent.	2	No.		
	TOTAL FOR STRUCTURED CABLING WORKS C/F TO GRAND SUMMARY PAGE				

GRAND SUMMARY

Item	Description	Amount (Kshs)
	Sub total B/F from Bill No. 1 : - Preliminaries	
	Sub total B/F from Bill No. 2 : -Electrical Installation works	
	Sub total B/F from Bill No. 3 : Structured cabling Installation works	
	TOTAL COST FOR ELECTRICAL SERVICES CARRIED FORWARD TO MAIN WORKS GRAND SUMMARY PAGE	

Total Amount in Words (Kenya Shillings) .....

.....

Bidder's Name & Official Stamp (Domestic Sub-Contractor).....

.....

P.O. BOX .....

Signature..... Date.....

PIN NO..... V.A.T Certificate NO.....

Witness..... Address.....

Signature of Witness..... Date.....

SECTION G

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.

The filling of this schedule forms part of Technical Evaluation of the tenders, and bidders shall therefore be required to indicate the type/make and country of origin of all the materials and equipment they intend to offer to the employer in this schedule.

This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered responsive.

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED
(To be Completed by the Tenderer as a Mandatory Requirement)

ITEM	DESCRIPTION	TYPE/MAKE	COUNTRY OF ORIGIN
1	LIGHTING FITTINGS ❖ LED Downlight (Type C) ❖ 600x600mm LED Panel Light (Type P) ❖ Circular recessed LED Luminaire (Type D) ❖ Recessed Circular LED (Type C) ❖ Strip Light (Type S)		
2	Lighting switches		
3	DP switches		
4	TPN Isolator switch		
5	Cable Trunking & Tray		
6	Socket Outlets (13 Amperes)		
7	Distribution Board		
8	Miniature Circuit breakers		
9	Cables ❖ Single Core PVC Copper ❖ Armoured Copper (PVC/SWA/PVC)		
10	Cable Accessories		
11	HG PVC Conduits		
12	Smoke Detectors		
13	CAT 6 cables		
14	Fibre Optic Patch panels		
15	Data Patch Panel		
16	Fibre Optic Cable		
17	UPS		
18	Wireless Access Point		

SECTION H

STANDARD FORMS

CONTENTS OF SECTION H

NOTE:

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

KEY PERSONNEL

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

POSITION	NAME	HIGHEST QUALIFICATION *(Attach proof)*	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

I certify that the above information is correct.

…….. ……. …….

Title Signature Date

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature, complexity and volume over the last 5 years.

PROJECT NAME	NAME OF CLIENT	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

…… …… ……

Title Signature Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

I certify that the above works are currently being carried out by ourselves.

…… …… ……

Title Signature Date

SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS (Attach proof of ownership)

ITEM OF EQUIPMENT	DESCRIPTION, MAKE AND AGE (Years)	CONDITION (New, good, poor) and number available	OWNED, LEASED (From whom?), or to be purchased (From whom?)

DETAILS OF LITIGATION OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER HAS BEEN INVOLVED AS ONE OF THE PARTIES IN THE LAST 5 YEARS

Code: E/CG/01

REPUBLIC OF KENYA

MINISTRY OF TRANSPORT, INFRASTRUCTUTRE, PUBLIC WORKS, HOUSING & URBAN DEVELOPMENT

STATE DEPARTMENT OF PUBLIC WORKS

(ELECTRICAL DEPARTMENT)

PROPOSED OFFICE PARTITIONING FOR NATIONAL BIOSAFETY AUTHORITY AT NACOSTI BUILDING, UPPER KABETE, NAIROBI

W.P. ITEM NO. D116 NB/NB/2001JOB NO. 10822A

TESTING & COMMISSIONING GUIDE

FOR

ELECTRICAL INSTALLATION WORKS ON SITE

Issued by:

The Chief Engineer (Electrical),
State Department for Public Works,
P.O. BOX 41191 – 00100 GPO,
NAIROBI.

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING, URBAN DEVELOPMENT & PUBLIC WORKS

STATE DEPARTMENT OF PUBLIC WORKS
ELECTRICAL DEPARTMENT

TESTING AND COMMISSIONING OF ELECTRICAL INSTALLATION WORKS ON SITE.

PROJECT NAME:
.....

W.P. NO. ..... JOB NO.....

PROJECT SITE.....

CLIENT.....

The Sub contractor shall test in accordance with the relevant section of IEE regulations, Rule 3 of the Electrical Power Act for additional tests not covered by the regulations, Government Electrical specifications I & II and the Kenya Power & Lighting Co. Ltd by-laws.

A PRELIMINARY CHECKS

The Engineer shall check to establish the following data:-

ITEM	DESCRIPTION			REMARKS
(i)	Type of installation (New/Renovation/Addition/ to existing installation)			
(ii)	a) Power supply 240V/415V/11KV b) Frequency of the mains supply c) Installation power factor			....
(iii)	Method of Metering (New /Monitoring/Existing meter)			
(iv)	Are Testing/Measuring instruments available			
(v)	Are there maintenance/operational manuals for specialized systems (if any)			
(vi)	List of 'as installed drawings'	Drg No.	Description	

B TESTS

ITEM	TEST DESCRPTION	OBSERVATIONS/ RESULTS	REMARKS
1	**Tests shall be carried out to ensure:**		
	a) All fuses and single pole switches are installed in live conductor		
	b) All outlets and switched socket outlets are connected to 'LIVE' conductor in the Terminal marked so and each earth pin effectively bonded to earth continuity system		
	c) Verify continuity of all final conductors of each 'Ring' circuit. **(0.05 to 0.8Ω)**	.....Ohms	
	d) All radial circuits emanate from respective distribution boards/consumer units and that they do not supply any other Equipment		
	e) The correct phase sequence is maintained throughout the installation		
	f) Effective 'Discrimination' in the arrangement of protective devices. i.e. a fault in the furthest power point/Lighting point should not blow or trip Fuses/MCBs respective in the Meter board.		
	Inspect to ensure:		
	No terminal in the Ceiling Rose is 'LIVE' when the corresponding switch is in the off position.		
	All conduit termination conduit boxes, Consumer unit, DB's and Adaptable boxes have smooth edges and are properly bushed.		
	All fixed metal works close to Electrical installation are bonded to earth continuity conductor.		
	All Fuse ways and Circuit breakers for final sub circuits are properly labeled		

B TESTS CONT'D

ITEM	TEST DESCRPTION	OBSERVATIONS/ RESULTS	REMARKS
	Carry out the following tests:		
	Insulation Resistance tests Between phases a) R -Y b) R -B c) B-Y Phase to Neutral a) R - N b) R - N c) B - N Phase to Earth a) R - E b) R -E c) B -E **Minimum thresholds for above and for:** ELV circuits (SELV & PELV) = 0.25 M_{Ω} LV Circuits up to 500V = 0.5 MΩ LV Circuits above 500V = 1 MΩ	……. ……MΩ ……MΩ ……MΩ ……MΩ ……MΩ ……MΩ ……MΩ ……MΩ ……MΩ	
	Earth continuity conductor impedance **(0.005 to 2Ω)**	……Ohms	
	c) Earth fault Loop impedance **(0 - 2000 Ω)**	……Ohms	
	d) Earth Electrode resistance **(Less than 4Ω)**	……Ohms	
	e) Earth Lead resistance **(Less than 4Ω)** The operation of protection MCCBS	……Ohms	
	MCBS (Tripping under faulty conditions) Check the mechanical toggling (make		
	break) of all the switches to installed accessories. **Underground cabling, Check for:**		
	Continuity of the phases		
	Factory tests done (avail certification)		
	Proper termination		
	Route markers		

TESTS CONT'D

ITEM	TEST DESCRPTION			OBSERVATIONS/ RESULTS	REMARKS
5	Installed load i) Lighting points (No.) ii) Socket outlets (No.) iii) Motors (Give rating) iv) Other machines (Attach list if more)				
	Item	Description	Rating		
6	Type of Earthing: TN-C/TN-S/ TN-C-S/TT/IT.				
7	LV switchboard: The board shall be checked to ascertain the following				
	i) Rating of the switchboard				
	ii) Rating of main incomer MCCB				
	iii) Form of construction (1/2B/3B/4)				
	iv) Degree of protection (IP rating)				
	v) Nameplates for identification of all circuits entering/leaving switchgear				
	vi) Proper Electrical & Mechanical operation of functional parts i.e MCCBs, Indicating meters, CTs & VTs .				
	vii) Check cable terminations, type & terminals				
	viii) General comments on the appearance of the finished mechanical assembly including welding, full nuts & tightness of bolted parts.				
8	Fireman's switch.				
	i) Make and manufacturer				
	ii) The rating of the switch				
	iii) Test for the Electrical and Mechanical operation of the switch				
	iv) State the types of loads supported by the maintained board on the switch.				
	** see foot note				

General comments on the Electrical installation:-

Testing and Commissioning witnessed by:

S.D.P.W REPRESENTATIVE/ PROJECT ENGINEER:-

Name …….....Designation…….....

Sign…… Date……..……..

CONTRACTOR'S REPRESENTATIVE:-

Name …….....Designation…….....

Sign…… Date……..……..

**If there are other defects noted, list them on a separate sheet and attach.

STATEMENT OF COMPLIANCE

I confirm compliance with all clauses in this tender specification.

I confirm that I have not and will not make any payment to any person which can be perceived as in inducement to enable me win this tender.

Signed ……for and on behalf of the Tenderer.

Date ……

MECHANICAL WORKS

SECTION B:

GENERAL MECHANICAL SPECIFICATION

2.01 General

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

2.02 Quality of Materials

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

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

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

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

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

2.03 Regulations and Standards

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

The Kenya Government Regulations.

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

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

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

The Local Council By-laws.

The Electricity Supply Authority By-laws.

Local Authority By-laws.

The Kenya Building Code Regulations.

The Kenya Bureau of Standards

2.04 Electrical Requirements

I.

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

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

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

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

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

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

2.05 Transport and Storage

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

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

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

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

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

2.06 Site Supervision

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

2.07 Installation

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 Testing

2.08 General

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

2.08.2 Material Tests

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

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

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

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

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

2.08.3 Manufactured Plant and Equipment – Work Tests

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

The Sub-contractor shall give two 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.

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

2.08.4 Pressure Testing

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

2.09 Colour Coding

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

2.10 Welding

2.10.1 Preparation2

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

2.10.2 Method

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

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

2.10.3 Welding Code and Construction

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

Pipe Welding

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

General Welding

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

2.10.4 Welders Qualifications

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

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

SECTION C:

PARTICULAR SPECIFICATIONS
FOR
PLUMBING AND DRAINAGE

SECTION C:

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

SECTION C:

PARTICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE

3.1 GENERAL

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

3.2 MATERIALS AND STANDARDS

3.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

Galvanized Steel Pipework

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

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

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

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

Polypropylene Pipes –Random (PP-R) Type 3

PP-R type3 pipe work shall be manufactured in accordance with B.S. 7291part 2001.Dimesnsions and quality of PP-R Pipes shall be in accordance with DIN 8077 and pipelines in plastics materials joints, Components parts, Installation to be in accordance DIN 16928. joints And fittings to be in accordance DIN16962.

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

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

Jointing

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

Testing

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

A.B.S. Waste System

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

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

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

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

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

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

PVC Soil System

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

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

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

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

Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres.

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

3.2.2 Valves

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

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

Gate Valves

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of B.S. 3464. All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218. All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952.
The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

c) Globe Valves

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

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

3.2.3 Waste Fitment Traps

Standard and Deep Seal P & S Traps

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

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

Anti-Syphon Traps

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

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

3.2.4 Pipe Supports

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.

Steel and Copper Pipes and Tubes

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

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

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

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

Expansion Joints and Anchors

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

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

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

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

3.2.5 Sanitary Appliances

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

3.2.6 Pipe Sleeves

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

3.3 INSTALLATION

3.3.1 General

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

3.3.2 Above Ground Installation

Water Services

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

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

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

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

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

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe 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 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

Sanitary Services

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

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

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

Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

The vent stacks shall terminate above roof level and where stack passes through roof, a weather skirt shall be provided. The Sub-contractor shall be responsible for sealing the roof after installation of the stacks.

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

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

Sanitary Appliances

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

1.1. TESTING AND INSPECTION

3.4.1 Site Tests – Pipework Systems

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.

Above Ground Soil Waste and Ventilation System

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

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

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

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

3.4.2 Site Test – Performance

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

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

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

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

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

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

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

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

Pressure gauges should be recalibrated before the tests.

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

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

3.5 STERILISATION OF COLD WATER SYSTEM

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

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

SECTION D:

PARTICULAR SPECIFICATIONS
FOR
AUTOMATIC FIRE SUPPRESSION SYSTEM

PART E: PARTICULAR SPECIFICATIONS FOR

ProInert Inert Gas Fire Suppression System

5.1 General

The ProInert Gas shall be used to extinguish fires in the Server Rooms section where valuable data exist, all as specified herein and as shown on contract drawings. It shall be the responsibility of the bidder to confirm the dimensions at site before tendering.

The gas shall be stored under pressure in liquefied form inside cylinders and piped to fire protected areas. Each ProInert system in a given zone shall be supplied complete with its control Unit that shall receive the signal from smoke detector or break glass and automatically release the gas after switching off the Ventilation system and sounding an alarm bell. The fire detection system in all areas where ProInert gas pipe is not installed shall be supplied and installed by the Electrical Contractor but the Contractor shall liase with him and extend detection signal outputs into the Master Alarm Control Panel in the Security Office.

5.1.1 The Design and installation shall be made in accordance with these specifications, drawings, all applicable National Fire Protection Association Standards and the requirements of the local authority having jurisdiction.

5.1.2 The fire suppression systems shall be designed by competent personnel who are trained and authorized by the equipment manufacturer for design of total flooding ProInert gas systems and the integrated detection systems.

Working Drawings shall be in sufficient detail to indicate the type, size, and arrangement of component materials and devices; and the dimensions needed for installations and correlation with other materials and equipment.

All Working Drawings shall be submitted for review and approval prior to installation.

5.1.3 The Contractor shall furnish detailed literature outlining the operation, recharge and service of the system. Maintenance procedures for the owner shall be outlined. In addition, the contractor shall furnish the equipment manufacturer's recommended spare parts lists with information regarding availability and ordering instructions.

5.1.4. The contractor shall utilize an equipment manufacturer that will provide a 12-month warranty against false discharges when all conditions of the equipment manufacturer are fulfilled for this type of warranty. Details of this warranty be furnished upon request.

5.2 SYSTEM ARRANGEMENT

5.2.1. **The ProInert fire suppression system shall be of the engineered, permanently piped, fixed nozzle type with all pertinent components of the same manufacturer. The system shall have one common bank of cylinders to discharge into the room at a time through the use of selector valves. All agent storage containers shall be centrally located as vertical, free-standing cylinders with wall mounted retaining brackets. Where multiple cylinders are required for the same hazard, a common manifold should be employed.**

Manifolded cylinders shall employ a flexible discharge hose to facilitate installation and system maintenance.

Each cylinder on a manifold shall also include an agent check valve installed to the manifold inlet.

5.2.2 Detection system shall be of the engineered type, suitable for direct interface with the Proinert fire suppression system. All pertinent components shall be of the same manufacturer or approved for use with the control/release panel.

Detection network shall be cross-zoned or counting zone for positive and accurate response to fire condition.

For each hazard, both Ionization and Photoelectric type smoke detectors shall be used to provide automatic input to the control panel.

In addition, manual pull station(s) shall be provided for the direct electric release of the Argon Fire Suppression System.

The sequence of operation for the control panel shall be as follows: -

Activation and annunciations of general alarms.

Activation of shutdown and / or startup of auxiliary function.

Activation and annunciation of the time delay

Release of agent.

Alarm bells shall be used for general alarm for visual/ audible signal of system discharge.

An adjustable time delay shall be used prior to Argon release (with) manual abort capability.

5.3 DESIGN PARAMETERS

5.3.1 **Design of the total flooding ProInert gas system shall be based upon the enclosure being sufficiently tight against agent leakage with all ventilation shut down and / or fire dampered or provide for static air condition upon discharge.**

ProInert gas quantity calculations shall be determined from dimension furnished on the construction drawings and in this specification for a design concentration of 34.2% at the minimum anticipated hazard temperature of 22.5 ^{0} C.

Calculation for the maximum design concentration shall be based upon maximum anticipated hazard temperature of _____ 0 F (_____ 0 C).

When applicable, agent quantity shall be adjusted for:

- **Altitudes of more than (915m) above sea level.**
- **Non-flooded false ceiling volume.**
- **Multiple hazards from a common agent supply.**
- **Manufacturer standard tanks and fill increments**
- **Duct volume for HVAC system.**

5.3.2 **The system shall be designed to discharge the calculated agent quantity in a nominal 60 second period.**

5.3.3 **Nozzle spacing shall be in accordance with the listed approved coverage for each nozzle type. In all cases, the need for additional nozzle shall be considered based upon site conditions and manufacturer's recommendations.**

5.3.4 **Hydraulic calculations for each system shall be used upon two-phase flow equations for unbalanced systems as defined by NFPA –2001 regardless if a single nozzle or balanced piping network is used.**

Computerized verification of hydraulic calculations shall be submitted for ProInert system and include the following data as a minimum.

- **Quantity if Agent a Per Nozzle.**
- **Type of Nozzle.**
- **Pressure at Nozzle (bar)**
- **Nozzle Body Nominal Size (mm).**
- **Nozzle Drill Size (64'/inch).**
- **Number and size of Tanks.**
- **Tank Fill Weight.**
- **Tank Filling Density.**
- **Total Agent Weight.**
- **Pipe Size Per Pipe Section.**
- **Pipe schedule Per Pipe Section.**
- **Number, Size and Type of Fitting Per Pipe Section**
- **Actual Length Per Pipe Section (m).**
- **Equivalent Length Per Section (m).**
- **Elevation Change Per Pipe Section (m).**
- **Piping Volume (m_3).**
- **Discharge Time (sec).**
- **Percent of Agent in Pipe.**
- **Pressure at Start of Network (bar)**

Pressure Available at the Start and End of Each Pipe Section (bar).

Density at the Start and End of Pipe Section (kg/m_3).

Flow rate Per Pipe Section (litres/sec.).

Pressure Drop Per Pipe Section (N/m_2)

Y and Z Factors at the Start and End of Each Pipe Section.

5.3.5 The contractor shall provide data to indicate the free venting area required per NFPA-2001 for each hazard volume.

5.3.6 DESIGN PARAMETERS – DETECTION

5.3.6.1 The design of the detection/control system shall be based on a clean, vibration free, electrical non-hazardous environment

5.3.6.2 As a minimum detector spacing shall be based upon NFPA recommended practices for ceiling construction, air flow and manufacturer recommendations.

At least one smoke detector of each type (ionization and photoelectric) shall be used in each protected area. Where multiple detectors are sued, detection shall alternate such that ionization are adjacent to photoelectric.

5.3.6.3 Unless otherwise stated on the drawings manual pull station(s) shall be located at all points of aggress from the protected area.

otherwise stated on the drawings at least one alarm device shall be located within the protected area for the general alarm function.

Battery capacity shall be sufficient to permit normal non-alarm condition for 24 hours with subsequent general alarm for 5 minutes after loss of primary line power.

5.3.7 EQUIPMENT AND MATERIAL

5.3.7.1 General

All materials and equipment furnished by the contractor shall be of new, unused, and undamaged condition in strict accordance with the requirement of this section. Equipment shall be required to meet the following standards; ISO 14520, UNE 23575, NFPA 2001 AND CEA 4008.

Where items are specified to a nationally recognized standard of manufacture, any component meeting this standard will be considered equal.

Manufacturer's equipment other than as specified shall be bid as an alternate with the base as an alternate with the base bid furnished as specified.

All equipments and materials shall only be used for their intended application, in locations for which they were designed, and installed in accordance with the manufacturer's instructions and /or recognized standard trade practice.

5.3.7.2. Pipe Material

ProInert gas fire system piping shall be of non –combustible materials having physical and chemical characteristics such that its integrity under stress can be predicted with reliability. Materials other than listed below , such as stainless steel or nonferrous piping or tubing , may be used if the materials satisfy the applicable requirements of NFPA-2001.

As a minimum, piping materials shall be black galvanized seamless steel pipe conforming To BS specifications and capable of 65 bar operating pressure (ASTM Grade A-106B). Under no conditions shall ordinary cast iron pipe, steel pipe or non- metallic pipe be used.

ProInert gas fire system piping joints shall be suitable for the design conditions and shall be selected with consideration of joint tightness and mechanical strength.

As a minimum, fittings shall be black galvanized ANSI 300lb. Class malleable iron, ASTM A-197, m ANSI 300lb. Class ductible iron, ASTM A-395; or steel ASTM A-234.

Ordinary cast iron fittings shall not be permitted. Piping shall be installed accordance with good commercial practice to the appropriate codes, securely supported with Listed hangers, and arranged with close attention to the design layout since deviations may alter the design flow performance as hydraulically calculated.

All Piping must be reamed, blown clear, and swabbed with appropriate solvent to remove mill varnish and cutting oils before assembly. The piping shall also be finished off with two coats of red paint after testing.

Muilti- outlet fittings other than tees shall not be permitted.

Assembly of all joints shall conform to the appropriate standards. Threaded pipe joints shall utilize Teflon tape applied to male thread s only.

5.3.7.3 Agent Storage Tank

ProInert gas fire storage containers shall be of high strength alloy steel construction in accordance with NFPA 2001 finished in (baked red enamel) (red epoxy) paint.

Tank assemblies shall be filled with ProInert gas pressurized to 200 bar at (21 ^{0}C).

Filling of the tank assembly shall be by a factory authorized U.L listed filing station. Initial filling and recharge shall be done in accordance with the manufacturer's established procedures and shall not require replacements components for normal service.

The size and fill weights of all cylinders shall le based on computer verified system design requirements and shall be of the following nominal sizes:_

80 kg

ii)140kg

Nominal 270kg tank assembly shall be equipped with an internal liquid level measuring rod, marked in inch increments to allow direct reading of the liquid level and conversation to the weight of ProInert gas within the tank.

Tank assembles shall be vertical, free standing modules employing suitable wall mounted retaining brackets. Tank assemblies shallbe listed or approved to perform in the temperature range of – 650F tp 1300F (-540°C to 540°C).

Aluminum name plates indicating manufacturer's name and part number , agent fill weight , total charged weight date of fill, and U.L. Listed fill station case shall be permanently bonded to each tank.

Each tank assembly shall have the means to accommodate lifting devices to facilitate weighing removal and replacing.

Tank assembly shall include a low pressure switch that operates at approximately 225 (1551kpa) to facilitate continuous supervisions of tank pressure.

5.3.7.4 Tank Valve

Agent storage tank assemblies shall include an intergral, high flow valve assembly connected to the tank by a machined thread and sealed by an 0-ring.

Valve outlet sizes shall be based on the nominal tank capacity with a a one inch size for 18,33,54 and 72 pound assemblies, and three inch for 600 pound assemblies.

The valve design shall be of the differential pressure type which utilizes tank pressure to seal the valve assembly. The valve shall be compatible with separate, removable, stackable type actuators for electric, pneumatic, and/or manual actuation.

Operation of the valve by the stackable type actuator shall be such actuation. Operation of the valve by the stackable type actuator shall be such that pressure is relieved from the upper chamber of the valve causing the valve to open. Valves shall be forged brass construction with an o-ring sealed brass spool incorporating the main elastomeric seal surface.

The valve assembly shall include recessed pressure gauge 0 to 250 bar, overpressure safety relief disc assembly, normally pressurized connection port for an optional low pressure switch, normally unpressurized connection port used as pneumatic source for a salve cylinder valve actuation, and brass shipping caps on exposed thread connection.

When pneumatically operated main/reserve systems are used, pilot valves shall be equipped with actuation isolators.

All 3 inch valve assemblies shall be equipped with a removable pressure gauge feature. This gauge shall be capable of being removed from the valve assembly when the tank is pressurized.

5.3.7.5 Tanks Brackets

Each ProInert gas tank shall be furnished with a stainless steel, two part, strap type retaining bracket designed foe installation with standard 15/8n continuous slotted channel.

5.3.7.6 Valve Actuators

Argon valve actuators shall be of brass construction stackable design, with swivel connections to allow removal of actuators for maintenance or testing.

Operation of actuators neither shall nor require replacement of components. No electro-explosive devices may be used to actuate the valve assembly.

Electric actuators shall be of the continuous duty solenoid type with a maximum power requirement of 7 watts for 24VDC operation.

Pneumatic actuators shall be designed to operate from either ProInert gas tank pressure with appropriate interconnections or by nitrogen pressure from a separate listed or approves source.

Manual override actuators shall be designed to attach to electric actuator or directly to the valve assembly and permit manual operation of the pilot ProInert gas tank assembly. This actuator shall incorporate a detent action with a red phenolic palm bottom and safety ring pin.

Where actuation hose (s) are required stainless steel braid covered types shall be used.

5.3.7.7 Discharge Hose/Check Valve

When manifolding, all tank assemblies shall include a flexible discharge hose and check valve for connection to manifold inlet.

Nominal one and two inch hosed shall be elastometric with standard NPT male threads and be compatible with a the manufacturer's check valve.

Nominal three inch hosed shall be braided stainless construction and incorporate and intergral check valve provising a 1 ½ inch height adjustment to compensate for the height variance between cylinder and manifold connection.

A swivel connection at valve outlet shall be provided on all tank installation to facilitate removal for service and testing.

5.3.7.9 Discharge Nozzles

Gas discharge nozzles shall be of one-piece (brass) construction sized to provide flow rates in accordance with system design hydraulics.

Orifice (s) shall be machined in the nozzle body to provide a horizontal discharge in 90 ^{0}, 180 ^{0}, or 360 ^{0} patterns based upon the approved coverage arrangements. Separate, interchangeable orifice plates are not acceptable.

Nozzles shall be permanently marked with the manufacturer's part number, number of orifice and orifice code. The nozzle shall be threaded directly to the discharge piping without the use of special adaptors.

5.3.7.10 Warning Signs

Etched aluminium Warning Signs shall be provided at all Entrance and Exits of the protected area.
Entrance sign shall read: "WARNING \DO NOT ENTRE ROOM WHEN ALARM SOUNDS, PROINERT GAS BEING RELEASED."
Exit sign shall read: "WHEN ALARM SOUNDS, VACATE AT ONCE, PROINERT GAS BEING RELEASED..."

5.3.8 EQUIPEMENT AND MATERIAL –ELECTRICAL

5.3.8.1 General Materials

All electrical trunkings and conduits shall be employed in accordance with applicable codes and intended use and contain only those electrical circuits associated with the fire detection and control system and shall not contain any circuit that is unrelated to the system.
Unless specifically provided otherwise in each case, all conductors shall be enclosed in steel conduit, rigid or thin walled as conditions dictate, except in computer room where they shall be PVC conduit concealed in building fabrics electrically hazardous classification shall be observed and any equipment for materials installed shall be must meet or exceed the requirements of service.
All wiring shall be of the proper size to conduct the circuit current shall not smaller than No.18 AWG unless other wise specified for a given purpose . Wire that has scrapes nicks, gouges, or crushed insulation shall not be used.
The use of aluminum wire is strictly prohibited.
Splicing of circuits shall be kept to a minimum and are only to be found in an electrical device suited for the purpose.
Wire spliced together shall have the same colour insulation. Wire splices shall be made with appropriate devices suited foe the purposes.
All wire terminations shall be made with crimp terminals unless the device at the termination is designed foe bare wire termination.
All electrical circuits shall be numerically tagged with suitable devices at its terminating point and/ or splice.
All circuits' numbers shall correspond with the installation drawings.
The use of coloured wires is encouraged. White coloured wire shall be used exclusively for the identification of the neutral conductor of an alternating current circuit.

Green coloured wire shall be used exclusively for the identification of the earth ground conductor of an AC and DC circuit.

5.3.8.2 Control Panels – General

All control panels shall be F.M Approved and be utilized with listed or approved operating devices shall be capable of the following features:

- **Ground Fault Indication**
- **Supervised Detection Circuits (s).**
- **Supervised Alarm Circuit**
- **Supervised Release Circuit**
- **Supervised Manual Pull Circuit**
- **Supervised Line Power Circuit**
- **Alarm Overides Trouble Logic.**
- **Battery Standby**
- **Front Panel Indicating Lamps**
- **Key Lock Steel Enclosure**
- **Programmable Time Delay**

Programmable Detection Logic

Prioritized Trouble Logic

Solid State Integrated circuitry

5.3.8.3 Control Panel – Dual Zone Unit

In addition to the general requirements foe control panels, dual zone control units shall meet the requirements of this section.

The control unit shall consist of power supply, programmable zone actuation, five supervised circuits and six auxiliary relays.

The internal power supply shall operate from 240V 50Hz A.C power supply.

The control unit shall provide provisions foe housing its own set of "on-line" float charged emergency batteries within the enclosure.;

The control unit shall provide two supervised detection (input circuits) programmable for:

Independent Zoning

Priority Zoning

Cross-Zoning

A supervised dedicated manual pull circuit designated for immediateoperation of the release circuit shall be provided.

Abort function (if used) shall be programmed foe (immediate Release) (timed release) after abort.

A programmable time delay of 0.60 seconds in 5 seconds increments shall be provided between verification of a fire situation and suppression system release.

A fused polarity reversing , 1 amp, 24VDC supervised dedicated release circuit for use with approved fire suppression system releasing devices shall be provided.

Battery supervision shall be provided for condition and placement of the batteries.

An auxiliary trouble circuit for supervision of other normally closed accessory devices shall be provided.

Six plug in relays shallbe provided for auxiliary function. Each of the following actions shall cause one of the six relays to transfer.

System Discharge

Zone 1 Alarm

Zone 2 Alarm

Pre-Discharge Alarms

General Alarm

System Trouble

LED indicators shall be provided on the front door to annunciate the following conditions:

Power – (Green)

Sytem Trouble - (Red)

Zone 1 Alarm – (Red)

Zone 2 Alarm – (Red)

Pre-Discharge Alarm – (Red)

System Fired – (Red)

A prioritized LED troubleshooting code shall be provided in Oder to restore the control unit to normal condition as quickly as possible.

The control unit shall be housed in steel cabinet of approved type with conduit knockouts in a (red) (beige) enemel finish.

The door shall have a continuous hinge a 180 0 swing. Wiring connections shall be screw terminal blocks. A trim ring shall be supplied for semi-flush installations. When two dual zone control units are required, they shall be available in a single enclosure, if this feature simplifies the installation and system arrangement.

The control unit shall be F.M Approved as an alarm/releasing control unit

5.3.8.4 Smoke Detector - Ionization

Ionization type smoke detector shall be dual chamber type and compatible with the control unit. The detector shall have an LED in its base which is illuminated in a steady "on" mode when in alarm. Reset of the detector shall be performed by the control init reset se\witch.

The design of the ionization detector compensating circuits shall provide stable operation with regard to minor changes in temperature, humidity, and atmosphere conditions.

The sensitivity voltage shall be factory ser per U.L 268. A special locking screw shall be provided to lock the head to the base; the head to base connection shall be by use of bifurcated contracts. Terminal connections to the base shall be of the screw type.

Where specifically identified on the contract drawings, detector vases shall incorporate a relay with Form C contacts rated at 1 amp 120 VAC or 28VDC for remote LED alarm annunciation of the detector.The detector shall be F.M Approved.

5.3.8.5 Smoke Detector - Photoelectric

Photoelectric detector shall be a solid-state sensing chamber unit providing stable operations (sensitivity) and compatible with the control unit. The detector shall utilize a light sensing photodiode and a pulse signal processor to measure the density of the combustion products within the sensing chamber. The detector head shall have a stainless steel mesh to prevent foreign objects from entering the sensising chamber.

The sensitivity voltage shall be factory set.

A special locking screw shall be provided to lock the head to the base. The head to base connection shall be by use of bifurcated cont\acts. Terminal connections to the base shall be of the screw type.

Where specifically indentified on the contract drawings, detector bases shall incorporate a relay with Form C contacts rated at 1 amp 120VAC or 28VDC for remote LED alarm annunciation of thee detector.

The detector shall be U.L. Listed or F.M Approved.

5.3.8.6 Alarm Bells

The vibrating Alarm Bell shall be approved foe use with the listed control unit. The polarized alarm bell shall be rated at 24VDC and draw no more than .063 amps and shall contain a series diode foe use in supervised systems.

It shall have a dB level of 86 – 90 at 3 metres.

The bell shallbe constructed of high quality materials to ensure reliability and long life and have a baked red enamel finish.

The device shall be F.M Approved.

5.3.8.7 Manual Pull Stations (Fire man's switch)

The Manual Pull Station shall be provided for the release (electrical) of the ProInert gas in case of an emergency. The unit shall be contained within a metal body having a (single) (double) pole switch.

[The device shall be that approved by Fire Authority.]

5.3.8.8 Abort Switch

The abort switch shall be used where an investigation delay is desired between detection and actuation of the ProInert gas System.

This switch shall be a momentary contact "dead-man" type switch requiring constant pressure to transfer one set of normally open and one set of normally closed contacts on each contacts on each contact block. Clear operating instruction shall be provided at the abort switch.

The terminal connections shall be of the screw type.

The device shall be U.L listed of F.M Approved for a delay switch.

5.3.8.9 Pressure Switch

This pneumatically actuated switch shall be used to give positive identification of release of ProInert gas in the piping system.

The switch shall have one set of normally open and one set of normally closed contacts.

5.3.8.10 Selector Switch – Key Operated

The key operated selector switch shall be approved for use with the listed control unit and provide an electrical means of transferring the release circuit signal to the Argon system from the main supply to the reserve supply.

The switch contracts shall provide a set of normally open and normally closed contacts.

5.4 SYSTEM INSPECTION AND TESTING

The completed installation shall be inspected by authorized personnel and shall include a full operational test of all components per the equipments manufacturer recommendation including agent discharge.

This shall be done in the presence of the owner's representative and other insuring authority having jurisdiction.

All mechanical and electrical components shall be tested according to the manufacturer's recommended procedure to verify system integrity.

An inspection shall be provided by the contractor. Inspection shall include a complete checkout of the electronic system, and certification of weight and cylinder pressure. A written report shall be filed with the owner.

Two copies of drawings shall be provided by the Contractor indicating the installed details. All routing or piping and electrical conduit and accessories shall be noted.

Equipment, Installation and Maintenance Manuals shall be provided in additions to the as-built drawings. Prior to final acceptance, the contractor shall provide operational training in all concepts of this system to the owner's key personnel. Training shall consist of :-

System Control Unit Operation

Trouble Procedures

Abort Procedures

Emergency Procedures

Safety Requirements

A functional test shall be completed prior to the concentration test consisting of detection, release alarm, accessories related to system, control unit, and a review of the tanks, piping, fittings, hangers and cylinder pressure.

Concentration test shall be provided under the supervision of the contractor's authorized personnel in the presence of the owner's representative, local authorities and any other insuring authority.

ProInert gas test procedures shall be recommended by equipment manufacturer and the ProInert gas supplier. The contractor shall provide a 3 chart thermal conductivity gas analyzer capable of automatically recording three sampling points. Concentration recording shall continue until authorities are satisfied with hazard integrity or 10 minutes have elapsed.

The sampling points shall be located at strategic areas but no higher than the highest combustible contents. If the tests results indicate that the design concentration was not achieved and/or held, the contractor shall determine the cause of failure.

After determination of cause, the system should be recharged and again placed in operation. The contractor shall only be responsible to retest based on equipment failure.

SECTION E:

PARTICULAR SPECIFICATIONS
FOR
AIR CONDITIONING INSTALLATIONS

SECTION E:
PARTICULAR SPECIFICATIONS FOR AIR CONDITIONING SYSTEMS

SCOPE OF WORKS

The works to be carried out comprises of the supply, delivery, installation, setting to work, testing and commissioning of all materials and equipment called for in this specification and/or shown in the contract drawings.

The tenderer shall include for all appurtenances and appliances not particularly called for in this specification or on the contract drawings but which are necessary for the completion and satisfactory functioning of the system.

No claim for extra payment shall be accepted from the contractor for non-compliance with the above requirements.

If in the opinion of the tenderer there exists difference between the specification and the contract drawings, the tenderer shall clarify the difference with the engineer before tendering.

The Works to be installed under the contract shall comply with the Ministry of Public Works requirements for contract works under "GENERAL MECHANICAL SPECIFICATION".

CLIMATIC CONDITIONS

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

PARAMETERS	(CONDITIONS) NAIROBI TOWN
Maximum mean outdoor dry bulb Temperature, t_o	28˚C
Minimum Temperature	11.5˚C
Relative Humidity	42% - 94%
Altitude	1795m
Longitude	36˚ 8219' E
Latitude	1. ˚ 2921' S
Max. solar radiation occurs during the month of February	

SYSTEMS DESIGN DATA

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

Internal Temperature **23 ± 1ºC**

Relative Humidity **50± 10%**

The equipment described here under covers the specific requirements of equipment to be used for this contractor work and shall be used in conjunction with the accompanying contract drawings.

It shall be deemed that the tenderer has based his tender on plant and equipment which is equal in performance to that stated within the specification.

SPLIT AIR CONDITIONING SYSTEM/ VRF SYSTEMS

This shall be installed in the

The system shall be complete with;

Indoor wall mounted cooling unit (Evaporator)

Each coil unit shall consist of a cooling coil, air circulating fan, fan-guard and a thermostatic expansion valve. A timer unit shall be mounted in the control panel to both the de-frosting intervals and defrosting periods, both of which shall be variable.

The evaporator unit shall be of capacity as specified under the specified conditions, and shall be of the dry expansion type, and preferably of similar make as that of the condensing units. The unit shall be cassette type, high wall mounted or ceiling mounted as will be specified by the Engineer.

The coil shall be manufactured from seamless copper tubing with aluminium fins mechanically bonded to the tubes.

The panel shall be interlocked such, that on energizing the heater, the compressor, condenser and evaporator fan shall be de-energized and only re-energized when the heater is switched off by a evaporator mounted thermostat. A manual overriding switch shall by-pass the timer switch.

The air-circulating fan shall be manufactured from rigid aluminum sheet and finished in white casing. A drip tray with 25mm diameter connections shall be incorporated in the base of the casing.

The Unit shall be complete with the following:

- **1 No. air purifying filter.**
- **Built in drain pump to automatically drain water.**
- **Refrigeration pipe work with flared connections**
- **Fixing brackets/wall mounting kit/ground mounting kit**
- **Thermostat to control room temperature**
- **High and low pressure units**
- **Condensate discharge pipe work in Black PVC, 15mm diameter**
- **Service access valves**
- **Voltage Surge Protector**

The system shall be suitable for 240V, 1 – Phase, 50Hz power supply

The split air-conditioning system shall be designed to maintain room inside temperature of 23±1º C and relative humidity of 50±10%.

Outdoor Units.

The outdoor units shall be installed and mounted on the wall using appropriate and approved mounting brackets. They shall be complete with hermetically sealed compressors. Safety devices shall include overload/surge protection among others.

The unit shall be connected to power provided by others. It shall also be connected to refrigerant piping and control wiring. It shall have adequate charge of refrigerator oil and R 407 refrigerant.

The air conditioning units shall be as York or approved equivalent and shall be provided with approved mounting brackets.

The Unit shall be complete with the following:

Casing constructed of 18-gauge zinc coated mild steel, zinc phosphate bonderized, coated with oven baked polyester paint and weatherized for outdoor installation. It shall have weep holes on base to allow ease of drainage.

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

Refrigeration pipe work with flared connections

Distributor with refrigeration control

Fixing brackets/wall mounting kit/ceiling mounting kit

Heat exchanger capacity controls

Precise inverter frequency controls

New oil returning system (refrigerant oil control system)

High and low pressure units

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

Condensate discharge pipe work

Service access valves

Voltage Surge Protector

Refrigeration Piping

Refrigerant pipe work shall be approved copper tubing and fittings, and shall be properly sized in conformity with the system manufacturer specifications. Pipework shall be joined together by soldering/brazing and shall be complete with all necessary joints, reducers and accessories.

The Ozone friendly refrigerant flow shall be controlled with either a capillary tube or thermostatic expansion valve. Installation shall be carried out by competent and qualified craftsmen. The Engineer may demand proof of qualifications and experience in installation of refrigeration systems.

Pipe work shall be tested for leaks after installation to the Engineers satisfaction. It shall be properly anchored, insulated and no vibration of pipes shall be allowed during the running of the systems. An electronic leak detector shall be used to test for leaks.

Testing and Commissioning Standards

The system shall be balanced to the satisfaction of the project engineer. It shall be run under complete automatic controls for 72 hours' continuous operation to ascertain any faults in operation before acceptance and handover.

Any faults discovered during this time shall be corrected and a further test or tests of 72 hours' duration shall be carried out to ensure satisfactory operation, all at the expenses of the contractor.

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

As-Built-Drawings and maintenance manuals

Once the air conditioning system has been tested and commissioned, drawings and maintenance manuals shall be provided. They shall be a true and accurate representation of what has been commissioned.

Training

Adequate personnel shall be trained to perform normal operations and routine maintenance of the air conditioning system. The number of personnel to be trained shall be specified for particular pool.

TESTING & COMMISSIONING

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

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

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

ELECTRICAL WORKS

The tenderer shall include for supply, installation and commissioning of all starters, control apparatus, control panels and interconnecting wiring and conduits for equipment that the tenderer is supplying. Power points shall be provided within 5 metres of the equipment installation point and the tenderer shall connect his equipment from this point.

BUILDERS WORKS

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

SECTION F:

BILLS OF QUANTITIES

AND

SCHEDULE OF UNIT RATES

SECTION F:

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

5.01 SPECIAL NOTES

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

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

In accordance with Government policy, 6% withholding VAT and 3% Withholding Tax shall be deducted from all payments made to the Tenderer, and the same shall be forwarded to the Kenya Revenue Authority (KRA).

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

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

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

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

Tenderers must enclose, together with their submitted tenders, detailed manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

5.02 STATEMENT OF COMPLIANCE

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

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: ……

5.03 BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS.

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

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

Preliminaries – Bill 1

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However, the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

Installation Items – Other Bills

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

The unit of measurements and observations are as per those described in clause 3.05 of the section

Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contract shall insert his totals and enter his grand total tender sum in the space provided below the summary.
This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

BILL No. 1 PRELIMINARIES

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

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
22	**Supplies clause 1.20** **Bills of Quantities clause 1.23** **Contractor's Office in Kenya clause 1.24** **Builder's Work clause 1.25** **Setting to work and Regulating system clause 1.29** **Identification of plant components clause 1.30** **Working Drawings clause 1.32** **Record Drawings (As Installed) and Instructions clause 1.33** **Maintenance Manual clause 1.34** **Hand over clause 1.35** **Painting clause 1.36** **Testing and Inspection – manufactured plant clause 1.38** **Testing and Inspection – Installation clause 1.39** **Storage of Materials clause 1.41** **Initial Maintenance clause 1.42**				
SUB-TOTAL CARRIED TO PAGE…… F-6					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	Attendance Upon Tradesmen, etc. (Insert percentage only) clause 1.58 **Local and other Authorities notices and fees clause 1.60** **Temporary Works clause 1.63** **Patent Rights clause 1.64** **Mobilization and Demobilization Clause 1.65** **Extended Preliminaries Clause 1.66(see appendix on page C- 17)**				
37	**Supervision by Engineer and Site Meetings Clause 1.67** **Allow for profit and Attendance for the above** **Amendment to Scope of Sub-contract Works Clause 1.68** **Contractor Obligation and Employers Obligation clause 1.69(see appendix page C- 18)** **Any other preliminaries;**				**400,000.00**
	Subtotal above				
	Sub-total brought forward from page…… F-4				
	Sub-total brought forward from page…… F-5				
TOTAL FOR BILL NO. 1- PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE…… F-29					

	SERVER ROOM AIR SUPRESSION SYSTEM				
Item	**Description**	**Qty**	**Unit**	**Rate (Kshs)**	**Amount (Kshs)**
	Supply and install fire suppression system c/w gas and the following items to the satisfaction of the Engineer. The bulk store room volume is 50m^3. The tenderer to submit the technical brochures and working calculations together with the tender for evaluation. Alternative and approved systems utilising inert gases or a mixture of such gases may be provided.				
A	**40litre (22.8Kg) normal charged capacity Argonite specified containers charged with Argonite gas at 200bar with dimensions 267mm diameter and 1910mm high when fitted with valve cylinders to be complete with discharge valves gauges and hoses for connection to the manifold. All to be as "Fike" or approved equivalent.**	**2**	**No.**		
B	**40litre (22.8Kg) normal charged capacity Argonite specified containers charged with Argonite gas at 200bar for testing.**	**1**	**No**		
C	**Cylinder support bracket system**	**1**	**Item**		
D	**25mm schedule 2 cylinder manifold kit comprising of gauges, pressure relief valve, connection hoses to the gas cylinders and any other necessary accesory. All to be as "Fike" or approved equivalent.**	**1**	**Item**		
E	**25mm selector switch**	**1**	**No**		
F	**Actuation package**	**1**	**Item**		
G	**Solenoid valve/ manual release valve assembly inclusive of hoses, connectors etc.**	**1**	**Item**		
H	**25mm pressure reducing valve**	**1**	**No.**		
	25mm Argonite discharge Nozzles V type 6 orifice, Nozzle coverage 360 degrees pattern and a radius of 7m. The Nozzle will be located less than 300mm below the ceiling as "Fike" or approved equivalent.	**2**	**Nozzle No.**		
J	**Wall mounted remote controller**	**1**	**No.**		
K	**Pressure relief/vent**	**2**	**No**		
L	**Low pressure switch**	**1**	**No.**		
	Pipework				
M	**25mm diameter seamless black steel pipe Schedule 40**	**12**	**Lm**		
	Bends				
N	**25mm diameter pipe bend/elbow**	**4**	**No.**		
	Equal Tee				
O	**25mm equal tee.**	**4**	**No.**		
P	**Controls, addresable Control panel and wiring complete with standby batterries**	**1**	**Item**		
Q	**Maintenance switch**	**1**	**No.**		
R	**Double Action manual /electric releasing switch**	**1**	**No.**		
S	**Abort switch**	**1**	**No.**		
T	**Ionization sensors**	**2**	**No.**		
Total For Fire suppression Carried to Summary Page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Thermal sensors		No.		
	Photo electric sensors		No.		
	Audible alarms Visual alarm		No.		
	Allow for pipework anchorage/hangers Z		No.		
	Allow for painting system pipework		Item		
AA	Electrical works and earthing		Item		
AB	Labelling and warning signs inside and outside the rooms		Item		
AC	Testing and commissioning of the system with 1 No. pilot test cylinder.		Item		
AD	Calculations and working drawings and as installed drawings		Item		
			Item		
	Total For Fire suppression Carried to Summary Page				

SUMMARY PAGE

DESCRIPTION		Amount (Kshs)
Total for Preliminaries B/F From Page……F -6		
Total for Automatic Fire Suppression B/F from Page……F -7		
3 Total for Automatic Fire Suppression B/F from Page……F -8 4 Allow for associated Builders work		
5 Contigency Sum		150,000.00
Total Amount for Server Room Automatic Fire Suppression System carried forward to Summary Page F-29		

SANITARY FITTINGS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors.				
	All sanitary fittings shall be in approved colour.				
	The Model and Ref No. indicated is only a guide to the type and quality of fittings.				
	Equivalent and Approved models may be acceptable.				
	Close-Coupled Water Closet (WC) **Elegantly designed close-coupled washdown Vitreous China WC suite in white comprising WC Bowl with horizontal outlet, 9 Litres cistern with chrome plated dual flush fittings, bottom inlet and overflow, seat and cover, 300mm dia flexible pipe and WC connector. As Duravit 2118090000 or approved equivalent**		**No**		
	Wash hand basin (WHB) Vanity **Elegantly designed wash hand basin with single tap hole and of size 540mmx440mm in approved colour and complete with a cabinet and "Aztec monobloc quarter turn basin mixer, 32mm dia pop-up waste chrome plated bottle trap as Duravit 9654 or approved equivalent**		**No**		
	Shower Fittings **Concealed shower fitting consisting of 15mm chrome plated riser pipe to connect the concealed three way diverter single lever shower mixer as of Cobra Model "Trini TR 856" or approved equivalent for hot and cold water to a 100mm diameter swivel/ adjustable shower rose as Cobra model P-0681 CAT No. 101.001.78 or approved equivalent, shower arm and other necessary fittings and accessories. All to be as Cobra or equal and approved.**		**No.**		
	Toilet Roll Holder **Chrome plated wall mounted toilet roll holder as ideal standard or equal and approved**		**No**		
	Bath room shelf **One tier bathroom shelf. The frame to be chrome plated while the shelf is 6mm thick smoked glass. Preffered dimension to be 600mmx200mm**		**No**		
	Soap dispenser **Press type Liquid soap dispenser made out of enamal coat mild steel as Mediclinic or Equal and approved. Allow for initial soap supply**		**No**		
	Total Carried Forward to Sanitary Fittings Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Hand Drier Automatic hand drier in white colour, operating on an infra-red automatic sensing system with heating element safety cut-out complete with a 30 seconds safety timer, plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 2.1kw and performance flow rate of 135cfm (3.82m3/min) and to be of size 270x264x143mm deep It shall have a noise level below 72.5 dBA at 1.5m. It shall be as Heatrae Sadia or approved equivalent.		No		
	Under sink heater 10 Litres instanataneous undersink Heater complete with 2.2 Kw element, iternal thermostat adjustable up to 60°. The heater to be suitable for under the counter installation and to serve both the hand basin and the shower. Heater to be as 'Ariston-Europrism' or eaqual and approved		No.		
	Soap dispenser Press type Liquid soap dispenser made out of enamal coat mild steel as Mediclinic or Equal and approved. Alow for initial soap supply		No.		
	Toilet Brush and Holder Wall mounted toilet brush holder and brush coloured as Duravit 0099031000 or approved equivalent. Towel rail		No.		
	20mm diameter x 600mm long approved towel rail in Chrome plating finnish complete with anchorages,wall mountings and flanges as GROHE "Atrio accessories.Tier:G5 prestige.model- 40 309" or equal and approved.		No.		
	Bathroom wastpaper bin 10 Litres stainless steel waster paper bin Paper Towel/Surviette Dispenser		No.		
	Wall Mounted Paper/ towel dispenser for dispensing interfolded paper tissue. The dispenser shall include a casing having a narrow dispensing slot in the bottom surface. The dispenser should have a proper mechanism to prevent excessive quantities of tissue. The paper towel dispenser shall be in approved colour.		No.		
	Robe hoke Chrome plated robe hook mounted with concealed screws. To be as Ideal Standard or equal and approved.		No.		
	Total Carried Forward to Sanitary Fittings Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Mirror **6mm thick polished plate glass silver backed mirror with bevelled edges, size 600x 450mm, plugged and screwed to wall with 4No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam.**	**No.**			
	Mirror **6mm thick polished plate glass silver backed mirror with bevelled edges, size 1500 x 600mm, mounted on wall with appropiate material of approved specifications. The mirror to be as 'Impala' or approved equivalent.**	**No.**			
	Arabic shower **Chrome plated arabic hand held shower/shattaf set c/w controller angle valve wall bracket, grooved metal handle shower and fittings**	**No.**			
	Flexible Tubing **15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve for connecting the sanitary fitting to water supply. To be as Cobra or equal and approved.**	**6No.**			
	Total Carried Forward to Sanitary Fittings Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	INTERNAL PLUMBING				
	CPVC Pipes				
	Supply, deliver and install chlorinated polyvinyl chloride (CPVC) pipes, tubing and fittings as described and shown on the drawings. The pipes and fittings shall be produced as per SDR 11 and shall meet or exceed the requirements of ASTM D 2846, current European standards for CPVC installations and to the Engineers approval. All joints shall be assembled employing solvent cements that meet or exceed the requirements of ASTM F442 and ASTM F441 . Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, supporting brackets, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	Internal Plumbing Works				
A	**25mm diameter pipework**	**48**	**Lm**		
F	**32mm ditto**	**12**	**Lm**		
	Bends				
G	**20mm diameter male threaded bend**	**12**	**No.**		
H	**25mm ditto**	**16**	**No.**		
I	**20mm diameter female threaded bend**	**8**	**No.**		
J	**20mm Equal bend**	**6**	**No.**		
K	**25mm ditto**	**6**	**No.**		
	Tees				
L	**20mm equal tee**	**8**	**No.**		
M	**25mm ditto**	**8**	**No.**		
N	**32mm ditto**	**8**	**No.**		
	Reducers				
O	**25x20mm diameter reducer**	**6**	**No.**		
P	**32x20mm ditto**	**6**	**No.**		
	Valves				
Q	**25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.**	**6**	**No.**		
	Total Carried Forward to Sanitary Fittings Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Cobra Angle valves or approved equivalent	4	No.		
B	15mm diameter x 300mm long flexible tubing	2	No.		
	MuPVC and uPVC Waste and Soil pipework				
C	100mm diameter heavy gauge grey UPVC pipe	12	Lm		
D	100mm diameter WC connector	1	No.		
V	100 x 50mm diameter floor trap and grating	2	No.		
E	50mm diameter waste pipe	6	Lm		
F	40mm diameter waste pipe	6	Lm		
G	32mm diameter waste pipe	6	Lm		
	Bends				
H	50mm diameter sweep bend	4	No.		
I	40mm diameter sweep bend	4	No.		
J	32mm diameter sweep bend	4	No.		
	Tees				
K	50mm diameter sweep tee	4	No.		
L	40mm diameter sweep tee	4	No.		
M	32mm diameter sweep tee	4	No.		
	Total for Sanitary fittings, Plumbing and Drainage installation carried forward to collection page				

	COLLECTION PAGE	
Item	**Description**	**Amount (Kshs)**
	Total For Sanitary Fittings Brought Forward from page……..F-10 **Total For Sanitary Fittings Brought Forward from page……. F-11** **3 Total for Plumbing and Draiange Brought Forward from page……. F-12 4** **Total for Plumbing and Draiange Brought Forward from page……..F-13 5** **Total for Plumbing and Draiange Brought Forward from page……..F-14**	
Total Amount for Sanitary Fittings, Plumbing and Drainage carried forward to Summary Page F-29		

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	LABORATORY FITTINGS FOR MICROBIOLOGY LAB				
	Laboratory sink				
	Laboratory sink to be 492x419x165mm deep manufactured from polypropylene black in colour.The sink to be coplete with 38mm diameter BSP waste,and black nut,Butyl rubber				
A	**gasket,Water taps to be as Laboratory sink two-way mounting fitting tap with inlets concealed supply,one swivel outlet with nozzle as Vultex Labline equipment.To be Vulcathane laboratory sinks No. or equal and approved.**	**2**	**No.**		
	Fume Cupboard Lamina Flow Type/BSC-1003IIA2				
	Supply, deliver and install a Fume Cupboard of Overall/ exterior dimensions of 1200mm wide x 790mm deep x 2050mm high. Fume Cupboard to be complete with sliding plexiglass face with a 12" work opening running full width of cabinet, counterbalance weight at the back, base cabinet with sliding doors, an 8" diameter exhaust collar				
B	**connections,extract fan, fan flexible connectors overhead instrument control panel, and shall incorporate a Vulcathene Sink, L.P. gas outlet and a non-corrosive bulkhead light.Fume Cupboard to be lined with epoxy coated Aluminium on working surface and sides. Fume Cupboard to be as 'Nimrod F 3000" or equal and approved equivalent**	**1**	**No.**		
	Fume cupboard extract fan				
	Fume Cupboard extract fan capable of 0.4m3/s against a system pressure drop of 50N/m2. Casing of the fan to be in rigid PVC, impellers moulded in phenolic resin and motor protected by sealing coat of polyurethane compound. Fan to be complete with motor starter, Electrical control panel fixed near the Fume cupboard with ON/OFF and trip and a manual overide in the plant room, flexible connections anti-vibration mountings, supports. Fan to be as "WOOD$" fume cupboard fan size 12" running at 1400 RPM or equal and approved equivalent.				
	Total Carried Forward to Sanitary Fittings Collection Page F-19				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Power surge protector as Solatek to suite or equal and approved.		**No.**		
	Air curtain **Air curtain capable of achieving differential pressure of 6pa and air throw velocity of 6m/s. It should be of dimensions 127mm high x 450mm deep and with 350 watt three-speed motor, Factory installed Intelliswitch digital controller and with White aluminum exterior panel, High efficiency, washable-low noise Pro-V Nozzle Filter. To be as Berner Series Architectural Recessed 12 (ARC12) air curtains or equivalent**		**No.**		
	Electrical Works **Allow for associated electrical works from the local isolator provided by others within one meter to the equipments.**		**Item**		
	Balancing of the Systems **The systems shall be balanced such that the air conditioned spaces shall be balanced as per the designed flowrates indicated in the drawings. It will be the onus of the tenderer to make sure that the inflows are adjusted to meet these requirements.**		**Item**		
	Testing and Commissioning **Testing & commissioning of the whole air conditioning system.**		**Item**		
	Total Carried Forward to Sanitary Fittings Collection Page F-19				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Laboratory vulcathene Pipework and				
	fittings Dilution Recovery Traps				
	Dilution Recovery Traps with a capacity of 4.5 litres with a trap seal of 76mm and a three top inlet connections.To be made of heat resistant borrosilicate glass base and supplied complete with horizintal inlet adapter,vertical inlet,glass dip tube and blanking off plug together with suitabler support and nut couplings for screwing to waste inlets and outlets as Vulcathane W681 or equal and approved.		**No.**		
	Traps				
	Vulcathene Pipes				
	38mm diameter vulcathene pipe C		**Lm**		
	51mm diameter vulcathene pipe		**Lm**		
	Bends				
D	**38mm dia Sweep bend**	**12**	**No**		
E	**51mm dia sweep bend**	**10**	**No**		
	Tees				
F	**38mm equal sweep tee**	**4**	**No**		
G	**51mm equal sweep tee**	**4**	**No**		
	Reducer coupler				
H	**51-38mm Reducer coupler**	**4**	**No**		
	Access Caps				
I	**38mm dia access caps**	**4**	**No**		
J	**51mm dia access caps**	**4**	**No**		
	Testing and Commissioning				
K	**Testing & commissioning of the whole Plumbing and Drainage system.**	**1**	**Item**		
	Total Carried Forward to Plumbing and Drainage Collection Page F-19				

	COLLECTION PAGE	
Item	**Description**	**Amount (Kshs)**
	Total For Lab Fittings Brought Forward from page…….. F-16 **2 Total For Lab Fittings Brought Forward from page…….. F-17 3** **Total For Plumbing and Drainage Brought Forward from page…… F-18**	
Total Amount for Lab Fittings carried forward to Summary Page F-29		

AIR CONDITIONING INSTALLATIONS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	CONFERENCE/BOARDROOM AIR-CONDITIONING WORKS				
	Supply, deliver and install the following equipment as described. Prices to be inclusive of all taxes. Equipment to be approved before installation.				
	Indoor Unit (Ceiling Casstete): (24,000Btu/hr).				
	Four Way ceiling cassette type direct expansion indoor unit of coooling capacity 5.6Kw (18,000 BTU/HR) & complete with the following: *Air flow rate of 17 Cubic metres per minute *A wireless remote control *Refrigerant (R410a) initial charge *Thermostat to control room temperature *Inbuilt condensate pump *decoration panel *ceiling mounting Kit *Sound pressure level of 31 dBA *Neoplasma purifying filter The indoor unit to be mounted on the ceiling with prefabricated autoelevation grill brackets or any other approved anchoring method. The indoor unit to be as LG model ARNU24GTPC2 or equal and approved		**No**		
	Outdoor Unit (capacity to match the indoor unit).				
	1 No. Outdoor unit with capacity to match the Indoor unit connected to it. It shall operate on R410a refrigerant. The outdoor unit shall be connected to indoor units as shown on the working drawings. The entire system shall be able to start automatically after power failure with a 3 minute delay. The outdoor unit shall have a capacity matching the total cooling load of the indoor units when all units are operational under extreme conditions. The unit shall be "LG " type " or equal and approved. equivalent	**2**	**No**	**135,000**	**270,000.00**
	Wall Mounted Wired Remote Controller				
	Fully wired wall mounted remote controller panel, wiring and conduit works included but not limited to interconnecting cable between the indoor and outdoor units. It shall have a programmable function for access control. The wired remote controller unit to match the units installed.		**No**		
	Sub Total for Boardroom Airconditioning C/F to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Mounting Brackets Mounting bracket for the both the indoor and outdoor units complete with a burglar proof cage for the outdoor made steel iron, and other accessories including rawl bolts and anti-vibration rubber mountings to approval.	2	Item		
	Refrigeration Pipework Refrigeration pipework for all the air conditioning systems of assorted sizes as dictated by the systems capacity. The pipework to come complete with 25mm Amaflex insulation for both the liquid and gas lines.	30	LM		
	Refrigerant Allow R410A refrigerant charge for the air conditioning system. This is to cover all processes necessary for optimum functioning of the whole system including but not limited to vacuuming leakage tests etc.	1	Item		
	Drain Pipe 25mm PVC condensate drainage pipework including bends, clips, joints and tees in the running lengths of the pipe. Pipework to be leakproof and sufficiently jacketted.	15	LM		
	Surge Protector Power protection unit as "Solatek" or equal and approved.	2	No		
	Trunking Allow for 100 x 50mm powder coated steel sheet trunking mounted on the wall and ceiling as shall be directed on site for 15 LM concealing the refrigerant and drain pipes.				
	Electrical Connections Allow electrical cabling from the isolator provided by the others, switchgear and any other items necessary for optimum 1 Item functioning of the systems.				
	Testing and Commissioning Allow for testing and commissiong of the air conditioning system to the satisfaction of the Engineer.	1	Item		
	Sub Total for Boardroom Airconditioning C/F to Collection Page				**Amount (Kshs)**
Item	**Description**				
	Total brought forward from page F-20 B				
	Total brought forward from page F-21				

Total Amount for Air Conditioning Installation Works

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	CEOs Office				
	Supply, deliver and install the following equipment as described. Prices to be inclusive of all taxes. Equipment to be approved before installation.				
	Indoor Unit (Ceiling Casstete): (24,000Btu/hr).				
	Four Way ceiling cassette type direct expansion indoor unit of coooling capacity 7.1Kw (24,000 BTU/HR) & complete with the following: *Air flow rate of 17 Cubic metres per minute *A wireless remote control *Refrigerant (R410a) initial charge *Thermostat to control room temperature *Inbuilt condensate pump *decoration panel *ceiling mounting Kit *Sound pressure level of 31 dBA *Neoplasma purifying filter The indoor unit to be mounted on the ceiling with prefabricated autoelevation grill brackets or any other approved anchoring method. The indoor unit to be as LG model ARNU24GTPC2 or equal and approved	**No**			
	Outdoor Unit (capacity to match the indoor unit).				
	1 No. Outdoor unit with capacity to match the Indoor unit connected to it. It shall operate on R410a refrigerant. The outdoor unit shall be connected to indoor units as shown on the working drawings. The entire system shall be able to start automatically after power failure with a 3 minute delay. The outdoor unit shall have a capacity matching the total cooling load of the indoor units when all units are operational under extreme conditions. The unit shall be "LG " type " or equal and approved. equivalent	**No**			
	Wall Mounted Wired Remote Controller				
	Fully wired wall mounted remote controller panel, wiring and conduit works included but not limited to interconnecting cable between the indoor and outdoor units. It shall have a programmable function for access control. The wired remote controller unit to match the units installed.	**No**			
	Sub Total for CEOs Office Airconditioning C/F to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Mounting Brackets Mounting bracket for the both the indoor and outdoor units complete with a burglar proof cage for the outdoor made steel iron, and other accessories including rawl bolts and anti-vibration rubber mountings to approval.	Item			
	Refrigeration Pipework Refrigeration pipework for all the air conditioning systems of assorted sizes as dictated by the systems capacity. The pipework to come complete with 25mm Amaflex insulation for both the liquid and gas lines.	15	LM		
	Refrigerant Allow R410A refrigerant charge for the air conditioning system. This is to cover all processes necessary for optimum functioning of the whole system including but not limited to vacuuming leakage tests etc.	Item			
	Drain Pipe 25mm PVC condensate drainage pipework including bends, clips, joints and tees in the running lengths of the pipe. Pipework to be leakproof and sufficiently jacketted.	LM			
	Surge Protector Power protection unit as "Solatek" or equal and approved.	1No			
	Trunking Allow for 100 x 50mm powder coated steel sheet trunking mounted on the wall and ceiling as shall be directed on site for concealing the refrigerant and drain pipes.	15	LM		
	Electrical Connections Allow electrical cabling from the isolator provided by the others, switchgear and any other items necessary for optimum functioning of the systems.	Item			
	Testing and Commissioning Allow for testing and commissiong of the air conditioning system to the satisfaction of the Engineer.	Item			
	Sub Total for CEOs Office Airconditioning C/F to Collection Page				

Item	Description	Amount (Kshs)
	Total brought forward from page F-23 B	
	Total brought forward from page F-24	
	Total Amount for Air Conditioning Installation Works	

SERVER ROOM AIR CONDITIONING INSTALLATIONS WORKS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	The air conditioning system shall be split type for server room.				
	SERVER ROOM HIGH WALL SPLIT AC				
A	**12,000BTU/HR(3.6KW) high wall remote controlled split air conditioner inclusive of wall mounted outdoor unit complete with purpose made protective steel angle iron frame support brackets with anti vibration mountings. The indoor unit shall have automatic air deflection dampers, a wireless remote control and should operate on R410A refrigerant or any other non ozone depleting refrigerant. The entire system shall be able to start automatically after power failure with a 3 minute delay. The unit shall be as Carrier or approved equivalent**	2	No.		
C	**Refrigeration pipework including insulation**	15	Lm		
	25mm pvc condensate drainage pipework	15	Lm		
D	**Power protection units as Solartek or equal and approved**		No.		
	Electrical Works				
	Allow for associated electrical works from the local isolator provided by others within one meter to the air conditioning units and from indoor unit to outdoor unit.		Item		
	Mounting Bracket				
	Mounting bracket for the outdoor unit complete with a cage and provided with purpose-made protective steel iron angle frame and all other anchoring accessories including rawl bolts and anti-vibration rubber mountings to engineer's approval.		Item		
	Trunking				
	75x50mm approved PVC trunking for concealing the refrigerant pipework.		LM		
	Wall Mounted Wired Remote Controller				
	Fully wired wall mounted remote controller panel, wiring and conduit works including but not limited to interconnecting cable between the outdoor and indoor units.	1	No.		
	Testing and Commissioning				
I	**Allow for testing and commissiong of the air conditioning system to the satisfaction of the Engineer.**	1	Item		
	Sub Total for Server Room Airconditioning C/F to Collection Page				

SUMMARY PAGE FOR LABORATORY BLOCK AIR CONDITIONING WORKS

Item	Description	Amount (Kshs)
	Total for BOARDROOM AC brought forward from page F-22	
B	Total for CEOs Office AC brought forward from page F-25	
C	Total for SERVER ROOM AC brought forward from page F-26	
D	Add contigency Sum	150,000.00
	Total Amount for Air Conditioning Installation Works C/F to Summary Page F-29	

MECHANICAL VENTILATION INSTALLATION WORKS FOR LAB.					
Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
	SECOND FLOOR MECHANICAL VENTILATION UNITS				
	Supply , Installation, testing and commissioning. Prices to be inclusive of all taxes. Equipment to be approved before installation.				
	Laboratory Extract Fan				
A	**Aerofoil axial fan capable of extracting 0.55 m^3/s of air against a static pressure of 100N/m^2. The fan to come complete with mounting brackets, anti vibration mountings and flexible connector. Fan to be as 'WOODS' Model or equal and approved.**	**No.**	**1**		
	Extract air grilles				
	4-way supply air grille of size 200x200mm, each capable of extracting 0.045m^3/sec. As "Xpelair,FW200" or equal and approved.	**No.**	**4**		
	Ductwork				
C	**Galvanized mild steel ductwork 0.8mm thick (s.w.g 22) complete with bends, hangers, supports, sleeves, flexible connectors, branch duct take-offs, flanges, access doors, test reducers, splitters, turning vanes and accessories. All painted both externally and internally with suitable walt black paint.**	**Sm**	**20**		
	Transformation Pieces				
	Allow for various sizes of transformation pieces in galvanized mild steel thickness 1.0mm as indicated on the contract drawings and necessary for complete ductwork installation.	**Item**	**1**		
	Ductwork Thermal/Acoustic Insulation				
E	**Line the air supply duct with 25mm thick attenuated fibre glass or polystyrene bonded with thermal setting frame with suitable lining outside the duct to act as thermal and acoustic insulation..**	**Sm**	**10**		
F	**Allow for painting (2 No coats) of the ductwork internally and externally with suitable matt black paint.**	**Sm**	**20**		
	Total carried forward to next Page				

Item	Description	Qty	Unit	Rate	
	Total B/D from previous page				
A	**Electrical Works** **Allow for all electrical works including wiring to the fans from the local isolators and connection to the control panel.**	**Item**	**1**		
A	**Control Panels** **splash proof fan control panel complete with operational switches shall be installed in a room remote from the fan. It shall incorporate isolator, contactors, phase failure relay, overheat safety controls and fuses and pilot lamps to enable operating conditions to be checked. The panel shall be cut of mild steel and anodized after manufacture. It shall include volt free contacts for on-off and audible signal connection to a central indicator pan**	**No.**	**1**		
C	**Testing and Commissioning** **Allow for setting work, balancing testing and commissioning of the air extract systems.**	**Item**	**1**		
	Total for Mechanical Ventilation System Carried Forward to Summary page F-29				

SUMMARY PAGE

	DESCRIPTION	Amount (Kshs)
1	Total for Preliminaries Brought Forward From Page F-6	
2	Total for Automatic Fire Suppression B/ F from Page F-9	
3	Total for Sanitary, Plumbing and Drainage B/ F from Page F-15	
4	Total for Laboratory Fittings B/ F from Page F-19	
5	Total for Air Conditioning B/ F from Page F-26	
6	Total for Mechanical Ventilation B/ F from Page F-28	
	Contigencies	**500,000.00**
	Total amount for Mechanical Works carried Forward to Summary Page.	

5.05 SCHEDULE OF UNIT RATES

ITEM	DESCRIPTION	UNIT	RATE (KShs)
1.	65mm PP-r pipe	LM	
	25mm –ditto-		
3.	50 mm Pressure Reducing valve (Pegler)	LM	
4.	Close coupled water closet, white (Dual flush 4/6 L "Twyford")	No.	
	Half Pedestal "Twyford" Wash Hand Basin (Chrome pop up waste)		
5.	Stainless Steel Squatting Water Closet Pan as "Franke"	No.	
	100mm PVC WC P-trap		
7.	Electronic sensor activated Faucet for Wash Hand Basin "Geberit"	No.	
8.	Foot Pedal Flush valve for squatting water closet as "Sloan"	No.	
	Electronic sensor activated Flush Valves for water closet as "Sloan"		
	VRF Indoor Air conditioning unit capacity: 7.1kW (24,000 Btu) of High Static Concealed Ducted type complete with plenum boxes, ducting, diffusers and grilles	No.	
10.	VRF Indoor Air conditioning unit capacity: 5.2kW (18,000 Btu) of High Wall mounted type complete with mounting and controller	No.	
11.	VRF Indoor Air conditioning unit capacity: 7.1kW (24,000 Btu) of High Wall mounted type complete with mounting and controller	No.	
12.	VRF Indoor Air conditioning unit capacity: 5.2kW (18,000 Btu) of 4-way ceiling cassette type complete with mounting and controller	No.	
	Schedule 40 pipe 40mm	No	
13	32mm –ditto-	Lm	
	32 mm Pressure Reducing valve (Pegler)	Lm	
14	40mm - ditto	No	
		No.	

SECTION G:

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

SECTION G:

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

CONTENTS

6.01 General Notes to the Tenderer

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

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

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

6.02 TECHNICAL SCHEDULE

The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer MUST SUBMIT comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule (fill forms attached).

ITEM	DESCRIPTION	MANUFACTURER	COUNTRY OF ORIGIN	REMARKS (Catalogue No. etc.)
1.	Water Closet			
2.	Concealed Cistern WC			
3.	Wash Hand Basin			
4.	CPVC pipe work			
5.	PVC pipe work			
6.	Gate Valve			
7.	Fire Suppression Cylinder			
8.	Fire Suppression Nozzle			
9.	Four Way Ceiling Cassette Air Unit			
10.	Copper Pipe			
11.	PVC Drainage Pipes			
12.	Simple Central Unit Controller			
13.	Surge Protector			
14	High Wall Split Air Conditioning			
	Thermal Sensors			
	Audible Alarm			

SECTION H:

DRAWING SCHEDULE

CONTENTS

7.01 DRAWING SCHEDULE:

As shall be provided during project implementation.

SECTION I:

STANDARD FORMS

NOTE:

ALL FORMS IN THIS SECTION MUST BE FILLED AS THEY SHALL BE PART OF THE EVALUATION CRITERIA

STANDARD FORMS

CONTENTS

1 KEY PERSONNEL

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

POSITION	NAME	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

I certify that the above information is correct.

……..	…….. ……..	…….. ……
Title	**Signature**	**Date**

2 CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature and volume over the last five years.

PROJECT NAME	NAME OF CLIENT	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

…… **……** **…….**
Title **Signature** **Date**

3 SCHEDULE OF 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**

3 DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER IS INVOLVED AS ONE OF THE PARTIES

1. ._____.

2. ._____

3. ._____.

4. ._____.

5. ._____.

6. ._____.

7. ._____.

8. ._____.

9. ._____.

10 ._____.

4 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?)

ITEM	DESCRIPTION	UNIT	RATE	AMOUNT
	BILL NO. 4: PROVISIONAL SUMS *The following provisional sums are to be measured on completion and priced in accordance with the rates contained in these bills of quantities or prorata thereto or deducted in whole if not required*			
A	Allow a Provisional Sum of Kenya Shillings One Million Five Hundred Thousand **(Kshs. 1,500,000.00)** only for **Contigencies to be expended in whole or on the instruction of the project manager and with approval of client**	SUM		1,500,000.00
	BILL NO. 4: PROVISIONAL SUMS TOTAL CARRIED TO GRAND SUMMARY			

ITEM	GRAND SUMMARY	Page	FOR TENDERER USE ONLY	FOR OFFICIAL USE ONLY
			KSHSCTS	KSHSCTS
A	PARTICULAR PRELIMINARIES FROM PAGE	PP/12		
B	GENERAL PRELIMINARIES FROM PAGE	PP/11		
C	BUILDERS (PARTITIONING) WORKS FROM PAGE	BW/8		
D	ELECTRICAL WORKS FROM PAGE	ELECT-F/12		
E	MECHANICAL WORKS FROM PAGE	F-29		
F	PROVISIONAL SUMS FROM PAGE	PS/1		
	TOTAL CARRIED TO FORM OF TENDER	**KSH**		

AMOUNT IN WORDS :
……..……..CENTS ……

TENDERER'S NAME ……
ADDRESS ……..……

DATE ……..

TENDERER'S SIGNATURE ……

WITNESS'S NAME ……..
ADDRESS ……..……

DATE ……..

WITNESS SIGNATURE ……..