



**PROPOSED CONSTRUCTION OF REGIONAL
CENTER
FOR AVIATION MEDICINE
AT
JKIA EMBAKASI, NAIROBI
TENDER NO. KCAA/011/2019-2020**

DATE OF NOTICE: TUESDAY, 12TH NOVEMBER, 2019

CLOSING DATE: THURSDAY, 28TH NOVEMBER 2019 AT 11:00AM

BILLS OF QUANTITIES

VOLUME I

(Contents page, Signature page, Invitation to tenderers, Conditions of contract, Special conditions of contract, Standard forms, Measured works - Bills Nos. 1 - 12 and final summary page)

**Mutiso Menezes International,
Architects & Planning Consultants,
P.O. Box 44934 - 00100 GPO,
Nairobi.**

**Davson & Ward, Quantity
Surveyors, Building Economists
& Project Managers, P.O. Box
46611 - 00100 GPO, Nairobi.**

**Engplan Consulting Engineers,
P.O. Box 17845 - 00100 GPO,
Nairobi.**

**Gill Consult,
Mechanical and Electrical Engineers,
P.O. Box 28341 - 00200 City Square,
Nairobi.**

NOVEMBER, 2019

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NOTES TO BIDDERS

- ***All bidders must note that KCAA communicates only in writing to all interested bidders during the entire tendering process.***
- ***A mandatory pre-bid meeting will be held on Wednesday, 20th November 2019, at 11:00 am hours at KCAA headquarters, Aviation House.***

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BILLS OF QUANTITIES

FOR

PROPOSED EAC REGIONAL CENTER FOR AVIATION MEDICINE

FOR KCAA

AT

JKIA EMBAKASI, NAIROBI

VOLUME 1

Prepared by: Davson and Ward,
Quantity Surveyors and
Building Economists,
P.O. Box 46611,
NAIROBI.

July, 2019

The Contract for the above mentioned works, entered into on theday of.....20..... by the undersigned parties refers to these Bills of Quantities comprising 270 pages numbered 'Contents', Signature Page, Invitation to Tender, Instructions to Tenderers 4 – 22, Conditions of Contract 23 – 47, Special Condition of Contract 48, Appendix to Conditions of Contract 49 – 51, Standard Form 54 – 70, 1/1 – 1/15, 2/1 – 2/43, 3/1 – 3/23, 4/1 – 4/27, 5/1 – 5/23, 6/1 – 6/21, 7/1 – 7/19, 8/1 – 8/9, 9/1 – 9/5, 10/1 – 10/5, 11/1 – 11/6, 12/1 and FS/1 inclusive, which shall be read and construed as part of the said Contract.

.....
EMPLOYER

.....
CONTRACTOR

Date: Date:

SPECIAL NOTE

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 the figures indistinct he must inform the Quantity Surveyor at once and have the same rectified.

Should the Contractor be in doubt about the precise meaning of any items or figures for any reason whatsoever he must inform the Quantity Surveyor in order that the correct meaning may be decided before the date for submission of tenders.

No liabilities will be admitted nor claim allowed in respect of errors in the Contractor's tender due to mistakes in the Bills of Quantities which should have been rectified in the manner described above.

SIGNATURE PAGE

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SECTION I: INVITATION FOR TENDERS

DATE: 12TH NOVEMBER 2019

TENDER REFERENCE: NO. TENDER NO. KCAA/011/2019-2020

TENDER NAME: PROPOSED CONSTRUCTION OF REGIONAL CENTER FOR AVIATION MEDICINE AT JKIA EMBAKASI, NAIROBI.

- 1.1 KCAA **invites** sealed bids from all interested candidates for **proposed construction of Regional Center for Aviation Medicine at JKIA Embakasi Nairobi.**
- 1.2 Interested eligible candidates may obtain further information from and inspect the tender documents at **KCAA Procurement Office on ground floor, Aviation House, Jomo Kenyatta International Airport** during normal office working hours (8.00am-1.00pm, 2.00pm – 5.00pm). Bidders may also view and download the bidding document from **KCAA website: www.kcaa.or.ke or tenders.go.ke** and immediately forward their particulars for records and for the purposes of receiving any further tender clarifications and/or addendums to procurement@kcaa.or.ke.
- 1.3 A complete set of tender documents may be obtained by interested candidates upon payment of a non-refundable fee of Kenya shillings One thousand (**Ksh 1,000.00**) in cash or bankers cheque payable to Director General, Kenya Civil Aviation Authority. Bidders who download the tender document will not be required to pay.
- 1.4 Prices quoted should be net Exclusive of VAT but inclusive of delivery costs and any other taxes; 16% VAT shall be added to the total on the "Grand Summary" Page, must be expressed in Kenya shillings or easily convertible foreign currency and shall remain valid for a period of 90 days from the closing date of the tender.
- 1.5 A mandatory pre-bid meeting will be held on **Wednesday, 20th November 2019, at 11:00 am** hours at KCAA headquarters, Aviation House.
- 1.6 Completed tender documents are to be enclosed in plain sealed envelopes marked with tender reference number and be deposited in the Tender Box at **Ground Floor, Aviation House, Jomo Kenyatta International Airport** or be addressed to:

**The Director General,
Kenya Civil Aviation Authority,
P.O Box 30163-00100, Nairobi**

So as to be received on or before **28th November 2019** at 1100 hours.

- 1.7 Tenders will be opened immediately thereafter in the presence of the Candidates or their representatives who choose to attend at **KCAA Auditorium on the Ground Floor, Aviation House, JKIA, Nairobi.**

**Manager Procurement
For: Director General**

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:
 - (a) 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:
 - (b) total monetary value of construction work performed for each of the last five years:

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- (c) 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;
 - (d) Major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.
 - (e) 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.
 - (f) reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;
 - (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
 - (h) authority to seek references from the tenderer's bankers;
 - (i) information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and
 - (j) 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:
- (a) the tender shall include all the information listed in clause 1.5 above for each joint venture partner;
 - (b) the tender shall be signed so as to be legally binding on all partners;
 - (c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - (d) 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

- (e) 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;
- (a) annual volume of construction work of at least 2.5 times the estimated annual cash flow for the Contract;
 - (b) 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);
 - (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;
 - (d) 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
 - (e) 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.1,000/=
- 1.14 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.

2. 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.
- (a) These Instructions to Tenderers
 - (b) Form of Tender and Qualification Information
 - (c) Conditions of Contract
 - (d) Appendix to Conditions of Contract
 - (e) Specifications
 - (f) Drawings
 - (g) Bills of Quantities
 - (h) 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.

3. Preparation of Tenders

- 3.1 All documents relating to the tender and any correspondence shall be in English language.
- 3.2 The tender submitted by the tenderer shall comprise the following:
 - (a) These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;
 - (b) Tender Security;
 - (c) Priced Bill of Quantities ;

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- (d) Qualification Information Form and Documents;
 - (e) Alternative offers where invited; and
 - (f) 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 Ninety (90) 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.

- 3.11 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
- (a) if the tenderer withdraws the tender after tender opening during the period of tender validity;
 - (b) if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;
 - (c) in the case of a successful tenderer, if the tenderer fails within the specified time limit to
 - (i) sign the Agreement, or
 - (ii) 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 authorized 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 initiated 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.

4. 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:
- (a) be addressed to the Employer at the address provided in the invitation to tender;
 - (b) bear the name and identification number of the Contract as defined in the invitation to tender; and
 - (c) 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.

5. Tender Opening and Evaluation

- 5.1 The 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.
- 5.2 The 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; (b) 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:
- (a) where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and
 - (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case the adjustment will be made to the entry containing that error.
 - (c) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in

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the main summary of the Bill of Quantities, the amount as stated in the Form of Tender shall prevail.

- (d) 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)
 - (e) 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.
 - (f) 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:
- (a) making any correction for errors pursuant to clause 5.7;
 - (b) Excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Day works where priced competitively.
 - (c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and
 - (d) 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 a non-indigenous sub-contractor.

6. 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.

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- 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 variation shall not exceed 15% 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.

7. Corrupt and Fraudulent practices

7.1 The 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.

7.2 The Procuring entity will reject a proposal for award if it determines that the tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

7.3 Further a tenderer who is found to have indulged in corrupt or fraudulent practices risks being debarred from participating in public Procurement in Kenya.

APPENDIX TO INSTRUCTIONS TO TENDERERS

The following information regarding the particulars of the tender shall complement supplement or amend the provisions of the instructions to tenderers. Wherever there is a conflict between the provision of the instructions to tenderers and the provisions of the appendix, the provisions of the appendix herein shall prevail over those of the instructions to tenderers.

I.T TENDERERS REFERENCE	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
1.1	The Employer is the procuring entity which is Kenya Civil Aviation
1.5	The tender is open to qualified firms as specified in the tender document and
1.6	All joint venture partners must meet and submit all the information required and an agreement of intention to form a joint venture.
3.3	The tenderer shall fill in rates and prices for all items of the Works described in the Bills of Quantities.
3.5	Price shall be quoted in Kenya shillings.
3.6	Tenders shall remain valid for a period of ninety (90) days from the date of opening.
3.7	Tender security required is Kshs 3,000,000.00 in form of a bank guarantee or a banker's cheque from a reputable bank in Kenya or insurance from insurance agencies allowed by Public Procurement Regulatory Authority valid for 120 days from the date of closing date of the tender.
4.1	The bidder shall provide 1 original copy of the document and 1 other copy and be marked as copy and placed in one envelope. Tender reference and closing date must be quoted on the envelope 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.
	A mandatory pre-bid meeting will be held on Wednesday, 20th November 2019, at 11:00 am at KCAA Headquarters in Aviation House.
4.2	Deadline for Submission of Tenders Closing Date: 28th November July, 2019 at Ground floor, Aviation
5.5 – 5.8	Evaluation of the tenders shall be done using the criteria set out in this
6.5	The successful bidder shall be expected to provide a performance security of 10%
7.1	Anti-corruption Affidavit KCAA will require a contractor to swear an affidavit to the effect they will not have offered or been requested to pay an inducement to a member of the Board, Management and/or Staff of KCAA to influence

EVALUATION CRITERIA

Kenya Civil Aviation Authority will consider the following Four (4) categories of criteria to evaluate the tenders.

- a) Mandatory tender requirements
- b) Technical capability assessment including due diligence where applicable
- c) Financial Evaluation.
- d) Due Diligence

(a) MANDATORY REQUIREMENTS

The submission of the following mandatory items will be required in the determination of the completeness of the bid. Bids that do not contain all the information required will be declared non responsive and shall not be evaluated further.

NO	REQUIREMENTS
1.	Ineligibility: - Bidders and associated firms having none performing records as per their contractual obligations or terminated contracts are not eligible to participate
2.	Project commitment/plan – Bidders MUST attach a sample project work program (provide details).
3.	Certificate of incorporation / Registration
4.	Copy of CR12 certificate
5.	Valid Tax Compliance Certificate.
6.	Correctly duly filled confidential questionnaire
7.	Correctly duly filled and signed form of tender
8.	Registration with National Construction Authority in building works Minimum NCA 2. (Attach Certificate).
9.	Must be registered or have registered sub-contractor (Domestic) in Plumbing, drainage and firefighting installations; Sub - contractors must be registered in NCA (5) and above.
10.	Must be registered or have registered sub-contractor (Domestic) in Heating Ventilation and Air Conditioning; Sub - contractors must be registered in NCA (5) and above
11.	Must be registered or have registered sub-contractor (Domestic) in Backup Generator Installations: Sub - contractors must be registered in NCA (5) and above
12.	Must be registered or have registered sub-contractor (Domestic) in Backup Generator Installations: Sub - contractors must be registered in NCA (5) and above.
13.	Must be registered or have registered sub-contractor (Domestic) in Backup Generator Installations: Sub - contractors must be registered in NCA (5) and above.
14.	Must be registered or have registered sub-contractor (Domestic) in Passenger lift Installations: Sub - contractors must be registered with the relevant authority.
15.	Must be registered or have registered sub-contractor (Domestic) in PABX and Structured Cabling Installation; registered under category D with the Ministry of Energy and with Communication Commission of Kenya for telephone and Structured Cabling.
16.	Must be registered or have registered sub-contractor (Domestic) in CCTV & Access Control Installations: Sub - contractors must be registered in NCA (5) and above and category "D" with the Ministry of Energy.
17.	Must be registered or have registered sub-contractor (Domestic) in Electrical installations; Sub - contractors must be registered in NCA (5) and above
18.	Indicate the principal place of business. (Attach a current lease agreement from landlord or trade license from the respective county)

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NO	REQUIREMENTS
19.	Provide 1 ORIGINAL copy of the tender document clearly marked ORIGINAL and 1 other copy marked COPY and all placed in one envelope
20.	Duly signed Sworn Anti-corruption affidavit
21.	Written power of attorney of the signatory of the tender to commit the tenderer.
22.	Bidders to provide evidence of at least three similar contracts completed in the last five years with a value of Kshs Two Hundred Million and above . At least one of the contract must be ongoing. Attach copies of certified contracts and their respective completion certificates.
23.	Audited reports of financial statement for the last three (3) years.
24.	Signed site visit and pre-bid meeting form
25.	Ensure serialization of all pages of the bid submitted
26.	Written power of attorney of the signatory of the tender to commit the tenderer.
27.	Submit a statement in the letterhead of the bidder indicating that the company is not insolvent, in receivership, bankrupt or in the process of being wound up
28.	Submit a statement in the bidder's letter head indicating that the person or his or her sub-contractor, if any is not debarred from participating in procurement proceedings.

(b) SUMMARY OF TECHNICAL EVALUATION CRITERIA – 100%

Bidders who will be responsive under the mandatory evaluation criteria shall be evaluated as per the Technical Evaluation Criteria set out in the table below.

Bidders are required to score at least 80% to qualify for further evaluation under the Commercial/Financial Evaluation Criteria.

TECHNICAL EVALUATION CRITERIA

NO.	PARAMETERS	MAXIMUM SCORES
i	Evaluation based on compliance with the Technical specifications (Duly filled Bill of Quantities)	7
ii	<p>Experience as main contractor:</p> <ul style="list-style-type: none"> • Experience as main contractor in three (3) completed projects of a similar nature and complexity for the past five (5) years with a value of Kshs Two Hundred Million and above. • Attach corresponding completion certificates, recommendation letters and certified copies of the contracts from previous clients with names and addresses of the 3 companies who may be contacted for further information on these contracts. • At least one of the projects stated above will be from the public sector. <p><i>(Ten (10) marks for one (1) public sector project and the other two 7.5 marks each subject to submission of complete documents stated above. Zero (0) marks for incomplete project support documents stated above)</i></p>	25
iii	<p>Qualifications and experience of key staff:</p> <p>Qualifications and experience of at least five (5) key site management and Technical personnel proposed for the Contract and must individually provide an undertaking that they shall be available for the Contract.</p> <ul style="list-style-type: none"> • The staff must include and not limited to an Architect, Quantity surveyor, Mechanical Engineer, Electrical Engineer, Structural Engineer. • Attach signed Curriculum Vitae {CV} and copies of relevant certificates of the five (5) technically qualified staff and attach organizational structure of the firm. • Contract/Project manager MUST have at least seven years' experience in works of an equivalent nature and volume, including not less than five years as project Manager. • All other technical personnel MUST have at least five years' experience in works of an equivalent nature and volume. 	25
iv	<p>Major construction equipment:</p> <p>Provide list of major construction equipment proposed to carry out the works and an undertaking that they will be available for the Contract. The equipment should include and not limited to concrete mixers, hoist/ cranes, lorries and trucks, pickups, excavator, earth moving equipment, concrete pump, and generator. Bidders to attach the applicable ownership documents and or evidence of leasing the equipment.</p>	10
v	<p>Working capital:</p> <p>Evidence of adequacy of working capital for this Contract or access to line(s) of credit facilities, from major relevant material suppliers, manufacturers or dealers all to a minimum facility (ies) of Kshs 150,000,000.00 and above</p>	10
vi	<p>Financial Resources:</p> <p>Financial capability of the firm based on information provided in the last Three (3) years audited accounts</p> <ul style="list-style-type: none"> • Current assets : Current liabilities (5 marks) (Liquidity ratio of 2:1-5 marks; 1:1 -3 marks; 0.5:1 -2 marks; less than 0.5 no Marks) • Working capital ration (3 marks) • Positive profit trends for the last three years (5 marks); (A margin above 10% will score 5 marks, 5-9 % 3 marks, 1-5% 2 marks and below 1% Nil marks) • The aggregate turnover for Kshs 700,000,000.00 for each of the last 3 years - (10 marks to be prorated) 	23
TOTAL		100 %

(C) FINANCIAL EVALUATION:

This will include checking for any arithmetic errors, comparison of the responsive bids taking into account any financial discounts stated in the bid document. The winning bidder will be the lowest bidder among those who will have passed the technical evaluation as outlined in (a & b) above except where the bidder has not satisfied all other requirements stated in the bid document.

(D) DUE DILIGENCE/POST-QUALIFICATION

The Authority may conduct a due diligence on the lowest evaluated bidder as required in PPADA 2015 to verify information provided. If a bidder fails under due – diligence the bidder will not be considered further and the next lowest evaluated bidder will be considered for further evaluation.

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CONDITIONS OF CONTRACT

1. 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.

“**Day works**” 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.

2. 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;

- (1) Agreement,
- (2) Letter of Acceptance,
- (3) Contractor’s Tender,
- (4) Appendix to Conditions of Contract,
- (5) Conditions of Contract,
- (6) Specifications,
- (7) Drawings,
- (8) Bill of Quantities,

- (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

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

3. 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.

4 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.

12. Discoveries

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

13. 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

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from the date upon which the increased amount would have been certified in the absence of dispute.

- 23.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.
- 23.7 In the event that an advance payment is granted, the following shall apply:-
- a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money.
 - b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.
 - c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It

shall have been completed by the time 80% of this amount is reached.

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

$$R = \frac{A(x^1 - x^{11})}{80 - 20}$$

Where:

R = the amount to be reimbursed
A = the amount of the advance which has been granted
X¹ = 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%.

X¹¹ = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80% but not less than 20%.

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

24. Compensation Events

24.1 The following issues shall constitute Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Appendix to Conditions of Contract.
- (b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.

- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the Site investigation reports), from information available publicly and from a visual inspection of the Site.
 - (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.
 - (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
 - (i) The effects on the Contractor of any of the Employer's risks.
 - (j) The Project Manager unreasonably delays issuing a Certificate of Completion.
 - (k) Other compensation events described in the Contract or determined by the Project Manager shall apply.
- 24.2 If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.
- 24.3 As soon as information demonstrating the effect of each compensation event upon the Contractor's forecast cost has been provided by the 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;
- (i) 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.

- (ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.
- (iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.4 The 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. Day works

- 29.1 If applicable, the Day works rates in the Contractor's tender shall be used for small additional amounts of Work only when the Project

Manager has given written instructions in advance for additional work to be paid for in that way.

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

30. Liability and Insurance

- 30.1 From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:
- (a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
 - (ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.
- 30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer's risk except loss or damage due to;
- (a) a defect which existed on or before the Completion Date.
 - (b) an event occurring before the Completion Date, which was not itself the Employer's risk

- (c) the activities of the Contractor on the Site after the Completion Date.
- 30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Contractor's risks.
- The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;
- (a) loss of or damage to the Works, Plant, and Materials;
 - (b) loss of or damage to Equipment;
 - (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
 - (d) Personal injury or death.
- 30.4 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.
- 30.5 If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 30.6 Alterations to the terms of insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. 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;

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

- (f) the Contractor does not maintain a security, which is required.

- 33.2 When either party to the Contract gives notice of 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.

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.

Release from Performance

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.

Settlement of Disputes

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 {IEK}

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

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.

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.

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.

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:

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

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

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

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

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.

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.

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.

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

SECTION IV - SPECIAL CONDITIONS OF CONTRACT

4.1 Special conditions of contract shall supplement the General Conditions of Contract, wherever there is a conflict between the GCC and the SCC, the provisions of the SCC herein shall prevail over those in the GCC.

4.2 Special Conditions of Contract with reference to the General Conditions of Contract.

General conditions of contract reference	Special conditions of contract
18.1	The employer will be informed of all management meetings in order to send a representative.
22	All variations shall be treated in accordance with PPADA 2015.
23.1	The contractor shall submit monthly payment applications; The project manager will certify the payment after 14 days and the employer will pay after 30 days
23.7	Under exceptional circumstances advance payment may be granted and shall not exceed twenty percent (20%) of the price of the tender paid upon submission of advance bank payment guarantee
24.5	Price adjustments not allowed
26	The amount of retention to be deducted for each payment shall be 10% of the amount payable
28	Performance security shall be 10% of the Contract price
37	As per the laws of Kenya

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SECTION V – APPENDIX TO CONDITIONS OF CONTRACT

THE EMPLOYER IS:

Name: **KENYA CIVIL AVIATION AUTHORITY**

Address: **P.O. BOX 30163-00100 NAIROBI**

Name of Authorized Representative: **DIRECTOR GENERAL**

Telephone: **020 6827470 / 0728 606570 or 0728 606586**

The Project Manager is:

Name: **MUTISO MENEZES INTERNATIONAL**

Address: **P.O. BOX 44934 - 00100 NAIROBI**

Telephone: **020 3742710/1/2**

Facsimile: **254 – 02 - 3742717**

The name (and identification number) of the Contract is: **PROPOSED CONSTRUCTION OF REGIONAL CENTER FOR AVIATION MEDICINE AT JKIA, EMBAKASI NAIROBI.**

The works consist of the proposed construction of **a two storey main building of approximately 1675m² of plinth area** with associated services and external works.

The Intended Completion Date for the whole of the Works shall be; - **Sixty (60) weeks from the date of handing/taking over the site or as otherwise agreed during contract signing.**

- (1) The following documents also form part of the Contract:
Agreement,
- (2) Letter of Acceptance,
- (3) Contractor's Tender,
- (4) Appendix to Conditions of Contract,
- (5) Conditions of Contract,
- (6) Specifications,
- (7) Drawings,
- (8) Bill of Quantities,

- (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

The Contractor shall submit a program for the Works within **Fourteen (14)** days of delivery of the Letter of Acceptance.

The Site Possession Date shall be: - **AS WILL BE COMMUNICATED TO YOU BY PROJECT REPRESENTATIVE.**

The Site is located at **JKIA, Embakasi in Nairobi** defined in drawings (as listed in the Conditions of Contract)

The Defects Liability period is **One Hundred and Eighty (180) days.**

The main contractor shall engage reputable and approved domestic subcontractors for the execution of the following works but not limited to:-

1. Electrical Installation
2. Plumbing, Drainage and Fire Fighting Installation.
3. Heating Ventilation and Air Conditioning
4. Back up Generator Installation
5. Passenger Lift Installation
6. PABX and Structured Cabling Installation
7. CCTV and Access Control Installation
8. Borehole drilling

The minimum insurance covers shall be;

1. The minimum cover for insurance of the Works and of Plant and Materials in respect of the Contractor's faulty design is equivalent to the full contract value plus cost and expense of removing debris and 10% to cover professional fees.
2. The minimum cover for loss or damage to Equipment is equivalent to the value of such plant and equipment.
3. The minimum for insurance of other property is **Kshs. Five (5) million.**
4. The minimum cover for personal injury or death insurance

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- For the Contractor's employees is Kshs. Two (2) million
- And for other people is Kshs. Two (2) million

The following events shall also be Compensation Events: As per clause 24.1

The period between Program updates is Thirty (30) days.

The amount to be withheld for late submission of an updated Program is Ten (10) percent of the gross amount of the current valuation

The proportion of payments retained is **ten (10%)** percent.

The Price Adjustment Clause 25.3 **shall not** apply.

The liquidated damages for the whole of the Works is Kshs. One Hundred (Kshs. 100,000.00) per Calendar Week

The Performance Security shall be for the following minimum amounts equivalent as a percentage of the Contract Price **ten (10)** percent (%)

The Completion Period for the Works is **Sixty (60)** Weeks.

The rate of exchange for calculation of foreign currency payments is **N/A**.

The schedule of basic rates used in pricing by the Contractor is as attached shall be taken to be the Joint Building Council Price list in force 30 days prior to date of submission of this tender.

Advance Payment **shall only** be granted Under exceptional circumstances and shall not exceed twenty percent (20%) of the price of the tender paid upon submission of advance payment security.

SECTION VI - SPECIFICATIONS

The **proposed construction of Regional Center for Aviation Medicine at JKIA, Embakasi** in Nairobi as per the following BQs.

(A) BILL OF QUANTITIES (BQs) – as per the attached detailed BQs

(B) DRAWINGS (Refer the detailed drawings as per the attachment)

SECTION VII (B) – DETAILED DRAWINGS (CHECK AS ATTACHED TO THE DOCUMENT)

DRAWING LIST

Architectural drawings

1. Site Plan
2. Ground floor plan
3. Ground floor reflected ceiling plan
4. First floor plan
5. First floor reflected ceiling plan
6. Roof terrace
7. Sections
8. Elevations

SECTION VII - STANDARD FORMS

Notes on the Standard Forms:

7.1 Form of Tender and Price Schedule form

These forms must be completed by the tenderer and submitted with the tender documents as specified in the format of submission. It must also be duly signed by duly authorized representative of the tenderer.

7.2 Confidential Business Questionnaire Form

This form must be completed by the tenderer and submitted with tender documents

7.3 Tender Security Form

When required by the tender document the tenderer shall provide the tender security either in the form included therein after or in another format acceptable to the procuring entity.

7.4 Contract Form

The Contract form shall not be completed by the tenderer at the time of submitting the tenderer at the time of submitting the tender. The contract form shall be completed after contract award.

7.5 Performance Security form

The performance security form should not be completed by the tenderer at the time of tender preparation. Only the successful tenderer will be required to provide performance security in the sum provided herein or in another form acceptable to the procuring entity.

7.6 Bank Guarantee for Advance Payment.

When there is an agreement to have Advance payment, this form must be duly completed.

7.7.1 Manufacturer's Authorization Form

When required by the tender document, this form must be completed and submitted with the tender document. This form will be completed by the manufacturer of the goods where the tender is an agent.

7.8 Details of Sub-Contractors

7.9 Qualification Information

PRICE SCHEDULE FORM

Name of Tenderer:

TENDER NUMBER: KCAA/KCAA/011/2019-2020

TITLE OF TENDER: PROPOSED CONSTRUCTION OF REGIONAL CENTER FOR AVIATION MEDICINE, AT JKIA, EMBAKASI, NAIROBI.

DESCRIPTION	TOTAL COST KSHS.
TOTAL COST INCLUSIVE OF ALL APPLICABLE TAXES FOR THE PROPOSED CONSTRUCTION OF REGIONAL CENTER FOR AVIATION MEDICINE AS PER THE BILLS OF QUANTITIES <i>(TO BE TRANSFERRED TO THE FORM OF TENDER)</i>	

PLEASE NOTE AND COMPLY WITH THE FOLLOWING:

- i. The total price **MUST** be inclusive of all applicable taxes.
- ii. In case of discrepancy between unit price and total, the unit price shall prevail.

Authorized Official:

Name

Signature, date and official stamp

FORM OF TENDER

Date _____

Tender No. KCAA/011/2019-2020

To: Kenya Civil Aviation Authority
P.O. BOX 30163-00100, Nairobi

Gentlemen and/or Ladies:

1. Having examined the tender documents including Addenda Nos.....
[insert numbers] of which is hereby duly acknowledged, we the undersigned, offer to carry out the works for **proposed construction of Regional Center for Aviation Medicine at JKIA, Embakasi Nairobi** as indicated in the said tender documents and bill of quantities for the _____ sum of.....
.....*[total tender amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Tender.
2. We undertake, if our Tender is accepted, to provide the services in accordance with the services schedule specified in the Schedule of Requirements.
3. If our Tender is accepted, we will obtain the tender guarantee in a sum equivalent to _____ percent of the Contract Price for the due performance of the Contract, in the form prescribed by (Procuring entity).
4. We agree to abide by this Tender for a period of*[number]* days from the date fixed for tender opening of the Instructions to tenderers, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Until a formal Contract is prepared and executed, this Tender, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

Dated this _____ day of _____ 2019
[signature] *[In the capacity of]*

Duly authorized to sign tender for and on behalf of _____

CONTRACT FORM

THIS AGREEMENT made the ___day of _____20___between..... [Name of procurement entity] of[country of Procurement entity](hereinafter called “the Procuring entity”) of the one part and[name of tenderer] of[city and country of tenderer](hereinafter called “the tenderer”) of the other part.

WHEREAS the procuring entity invited tenders for certain materials and spares. Viz.....[brief description of materials and spares] and has accepted a tender by the tenderer for the supply of those materials and spares in the sum of[contract price in words and figures]

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) The Tender Form and the Price Schedule submitted by the tenderer;
 - (b) the Schedule of Requirements;
 - (c) the Technical Specifications;
 - (d) the General Conditions of Contract;
 - (e) the Special Conditions of Contract; and
 - (f) the Procuring entity’s Notification of Award.
3. In consideration of the payments to be made by the Procuring entity to the tenderer as hereinafter mentioned, the tenderer hereby covenants with the Procuring entity to provide the materials and spares and to remedy defects therein in conformity in all respects with the provisions of the Contract
4. The Procuring entity hereby covenants to pay the tenderer in consideration of the provision of the materials and spares 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 hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by_____the _____ (for the Procuring entity)

Signed, sealed, delivered by_____the _____ (for the tenderer)

in the presence of_____.

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CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2(b) or 2(c) whichever applied to your type of business.

You are advised that it is a serious offence to give false information on this form.

<p>Part 1 General</p> <p>Business Name</p> <p>Location of Business Premises</p> <p>Plot No,Street/Road.....</p> <p>Postal addressTel No.Fax Email</p> <p>Nature of Business</p> <p>Registration Certificate No.</p> <p>Maximum value of business which you can handle at any one time – Kshs.....</p> <p>Name of your bankers.....</p> <p>Branch.....</p>
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	<p>Part 2 (a) – Sole Proprietor</p> <p>Your name in full.....Age.....</p> <p>Nationality.....Country of Origin.....</p> <p>Citizenship details.....</p>																				
	<p>Part 2 (b) – Partnership</p> <p>Given details of partners as follows</p> <table border="0"> <thead> <tr> <th>Name</th> <th>Nationality</th> <th>Citizenship details</th> <th>Shares</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>2.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>3.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>4.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>	Name	Nationality	Citizenship details	Shares	1.	2.	3.	4.
Name	Nationality	Citizenship details	Shares																		
1.																		
2.																		
3.																		
4.																		
	<p>Part 2 (c) – Registered Company</p> <p>Private or Public:</p> <p>State the nominal and issued capital of company</p> <p>Nominal Kshs..</p> <p>Issued Kshs.....</p> <p>Given details of all directors as follows</p> <table border="0"> <thead> <tr> <th>Name</th> <th>Nationality</th> <th>Citizenship details</th> <th>Shares</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>2.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>3.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>4.</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>	Name	Nationality	Citizenship details	Shares	1.	2.	3.	4.
Name	Nationality	Citizenship details	Shares																		
1.																		
2.																		
3.																		
4.																		
	<p>Date.....Signature of Candidate.....</p>																				

If a citizen, indicate under “Citizenship Details” whether by Birth, Naturalization or Registration

TENDER SECURITY FORM

Whereas [Name of the tenderer]

(Hereinafter called “the tenderer”) has submitted its tender dated..... [Date of submission of tender] for the provision of

[Name and/or description of the services]

(Hereinafter called “the Tenderer”).....

KNOW ALL PEOPLE by these presents that WE.....

Of.....[name of bank] of [name of country], having our registered office at [name of procuring entity] (hereinafter called <the procuring entity> in the sum of [state the amount] for which payment well and truly to be made to the said procuring entity, 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:

1. If the tenderer withdraws its Tender during the period of tender validity specified by the tenderer on the Tender Form; or
2. If the tenderer, having been notified of the acceptance of its Tender by the Procuring entity during the period of tender validity:
 - (a) Fails or refuses to execute the Contract Form, if required; or
 - (b) Fails or refuses to furnish the performance security, in accordance with the instructions to tenderers;

we undertake to pay to the Procuring entity up to the above amount upon receipt of its first written demand, without the Procuring entity having to substantiate its demand, provided that in its demand the Procuring entity will note that the amount claimed by it is due to it, 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 above date.

[signature of the bank]

(Amend accordingly if provided by Insurance Company)

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020
PERFORMANCE SECURITY FORM

To: Kenya Civil Aviation Authority

WHEREAS..... [Name of tenderer]

(Hereinafter called “the tenderer”) has undertaken, in pursuance of Contract No. _____ [reference number of the contract] dated _____ 20____ to

Supply.....

[Description services](Hereinafter called “the contract”)

AND WHEREAS it has been stipulated by you in the said Contract that the tenderer shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Tenderer’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the tenderer a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the tenderer, up to a total of
[Amount of the guarantee in words and figures],

and we undertake to pay you, upon your first written demand declaring the tenderer to be in default under the Contract and without cavil or argument, any sum or sums within the limits of

[Amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the _____ day of 20

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]

(Amend accordingly if provided by Insurance Company)

BANK GUARANTEE FOR ADVANCE PAYMENT

To.....

[Name of tender].....

Gentlemen and/or Ladies:

In accordance with the payment provision included in the special conditions of contract, which amends the general conditions of contract to provide for advance payment,

.....

[Name and address of tenderer][hereinafter called “the tenderer”] shall deposit with the Procuring entity a bank guarantee to guarantee its proper and faithful performance under the said clause of the contract in an amount of

.....

[Amount of guarantee in figures and words].

We, the

[bank or financial institution], as instructed by the tenderer, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Procuring entity on its first demand without whatsoever right of objection on our part and without its first claim to the tenderer, in the amount not exceeding

[amount of guarantee in figures and words].

We further agree that no change or addition to or other modification of the terms of the Contract to be performed there under or of any of the Contract documents which may be made between the Procuring entity and the tenderer, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the tenderer under the Contract until *[date]*.

Yours truly,

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[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.

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. 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.
3. 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

FORM RB 1

REPUBLIC OF KENYA

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO.....OF.....20.....

BETWEEN

.....APPLICANT

AND

.....RESPONDENT (*Procuring Entity*)

Request for review of the decision of the..... (*Name of the Procuring Entity*) of
.....dated the...day of20.....in the matter of Tender No.....of
.....20...

REQUEST FOR REVIEW

I/We.....,the above named Applicant(s), of address: Physical
address.....Fax No.....Tel. No.....Email, hereby request the Public
Procurement Administrative Review Board to review the whole/part of the above mentioned
decision on the following grounds , namely:-

- 1.
 - 2.
- etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
 - 2.
- etc

SIGNED(Applicant)

Dated on.....day of/...20...

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on day
of20.....

SIGNED

Board Secretary

IN THE MATTER OF OATHS AND STATUTORY DECLARATION ACT

CHAPTER 15 LAWS OF KENYA

AND

IN THE MATTER OF

THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT, 2015

I, holder of Identity card no.....and care of P. O. Box and being a resident of in the Republic of Kenya do hereby make oath and state as follows: -

1. **THAT** I am the Chief Executive/Managing Director/Principal Officer /Director of (name of the Candidate) which is a Candidate in respect of Tender Number to supply goods, render services and/or carry out works for Kenya Civil Aviation Authority and duly authorized and competent to make this Affidavit.
2. **THAT** the aforesaid Candidate has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of Kenya Civil Aviation Authority, which is the procuring entity.
3. **THAT** the aforesaid Candidate, its servants and/or agents have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of Kenya Civil Aviation Authority.
4. **THAT** the aforesaid candidate has not committed any offence under the Laws of Kenya or the Procurement Laws or been debarred from participating in any tenders by virtue of non-performance/poor-performance or any other legal reason and is not undergoing any adverse disciplinary action/claim before the Public Procurement and Disposal Authority.

- 5. **THAT** the aforesaid candidate, its directors and shareholders have not been convicted of corrupt or fraudulent practices in any court of competent jurisdiction within the Republic of Kenya.

- 6. **THAT** the aforesaid candidate has not defaulted in his/her/their/its tax obligations per the tax laws of the Republic of Kenya.

- 7. **THAT** the aforesaid candidate has not been in breach of the employment laws of the Republic of Kenya.

- 8. **THAT** what is deponed to hereinabove is true to the best of my knowledge information and belief.

SWORN at by the said }

..... }

Name of Chief Executive/Managing Director/ }

Principal Officer/Director }

on this day of 20... }

} _____

} DEPONENT

Before me }

}

Commissioner for Oaths }

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

QUALIFICATION INFORMATION

1. 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 performed and 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	Years of experience in proposed position

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

		(general)	
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:
 - a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - b) 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
 - c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

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:

.....

(i) Full name of Sub-contractor and address of head office:

.....

.....

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

.....

.....

.....

(2) Portion of Works to sublet:

.....

(i) Full name of sub-contractor and address of head office:

.....

.....

.....

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

.....

.....

[Signature of Tenderer]

Date

SITE VISIT FORM

(TO BE RETURNED DULY SIGNED AND STAMPED WITH TENDER DOCUMENT)

PROPOSED CONSTRUCTION OF REGIONAL CENTER FOR AVIATION MEDICINE AT JKIA, EMBAKASI NAIROBI.

THIS IS TO CONFIRM THAT ----- (COMPANY NAME) HAS MADE A SITE VISIT TO **PROPOSED REGIONAL CENTER FOR AVIATION MEDICINE SITE AT JKIA, EMBAKASI NAIROBI.**

COMPANY REPRESENTATIVE

NAME -----

DESIGNATION-----

SIGNED -----

DATE -----

OFFICIAL STAMP

KCAA REPRESENTATIVE

NAME -----

DESIGNATION-----

SIGNED -----

DATE -----

OFFICIAL STAMP

SECTION VIII – BILL OF QUANTITIES ATTACHED AS AN ANNEX

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
	<p><u>'Contractor'</u> shall mean the person or persons, partnership, firm or company, whose tender for this work has been accepted, and who has or have, signed this Contract and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.</p> <p><u>'Works'</u> shall mean all or any portion of the work, materials and articles, wherever the same are being manufactured or prepared, which are to be used in the execution of this Contract and whether the same may be on the site or not.</p> <p><u>'Approved'</u> shall mean approved by the Architect at his absolute discretion,</p> <p><u>'Directed'</u> shall mean directed by the Architect at his absolute discretion.</p> <p><u>'Selected'</u> shall mean selected by the Architect at his absolute discretion.</p> <p><u>'m³'</u> shall mean cubic metre.</p> <p><u>'m²'</u> shall mean square metre.</p> <p><u>'m'</u> shall mean linear metre.</p> <p><u>'mm'</u> shall mean linear millimetre.</p> <p><u>'Kg.'</u> shall mean Kilogramme</p> <p><u>'No.'</u> shall mean Number</p> <p><u>'Prs.'</u> shall mean Pairs,</p> <p><u>'K.S.'</u> shall mean the current Kenya Standard Specification published by the Kenya Bureau of Standards.</p> <p><u>As described'</u> shall mean as described in the 'Descriptions of Materials and Workmanship' contained in the Appendices to these Bills of Quantities.</p> <p><u>'As before'</u> shall mean in all respects as earlier described in the same or a previous Bill.</p> <p><u>'Do.'</u> shall mean the whole of the preceding description except as qualified in the description in which it occurs. Where it occurs in descriptions of succeeding items it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.</p> <p><u>'Fix Only'</u> shall mean take delivery in Nairobi (unless otherwise stated), pay all demurrage and transport charges, load and transport to site where necessary, unload, store, unpack, check contents against orders and packing lists, assemble as necessary, distribute to position, hoist and fix only.</p>		
1155	<p align="right">Shs.</p> <p><u>PRELIMINARIES</u></p>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>GROUPED SIZES</u></p> <p>Girths, depths or sizes grouped together in the Bills of Quantities item descriptions by means of hyphenated upper and lower limits shall be interpreted as 'exceeding' the lower limit and 'not exceeding' the upper limit.</p>		
B.	<p><u>DESCRIPTION OF SITE</u></p> <p>The site of the proposed works is at JKIA Embakasi, Nairobi.</p> <p>The Contractor is recommended to visit the site and will be deemed to have satisfied himself with regard to the conditions of the site, the risk of injury to the property adjacent to the site, or to the occupiers of such property, the nature of the materials to be excavated and conditions under which the works will have to be carried out, the supply of and conditions affecting labour and the facilities for obtaining the articles or materials referred to in these Bills of Quantities. No claim by the Contractor for additional payment will be allowed on the ground of any misunderstanding or misapprehension in respect of any such matter or otherwise. Any damage caused to existing accesses and roads must be made good as directed by and to the approval of the Architect</p>		
C.	<p><u>DESCRIPTION OF THE WORKS</u></p> <p>The works in this Contract comprise demolition, construction and completion of the following facilities:-</p> <ol style="list-style-type: none"> 1. A two storey main building approximately 1675 metres of floor area. 2. Gate House and associated facilities approximately 110 metres of floor area. <p>The contract will include Electrical Installations, Low current Installation, Plumbing and Drainage installations, HVAC Installations, Borehole and Water Feature Installations. External works comprising earth works, driveway and parking, stormwater drainage, plot boundary, foul drainage, koi pond and underground water tank.</p> <p><u>Generally</u></p> <p>Construction is of reinforced concrete foundations, column bases, columns, beams, oversite slab suspended solid floor and hollowpot slabs with stonewalling. The roofing is a flat roof which is properly waterproofed and Armourglass shingles. Windows and doors will generally be aluminium windows whereas timber and aluminium to doors. Finishes will generally be screed, ceramic tiles, granito tiles, carpet and epoxy for floors. Painted render to external walls and aluminium composite panels to parapet walls and external columns. Painted plaster and ceramic tiles to internal walls and specialist gypsum, acoustic and baffle to ceilings.</p>		
1155	<p align="right">Shs.</p> <p><u>PRELIMINARIES</u></p>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>SCOPE OF WORKS</u></p> <p>The scope of works described above and contained within these Bills of Quantities is subject to amendment and change at the sole discretion of the Architect and the Employer. The work to be undertaken may be added to, omitted or amended to any extent.</p> <p>No adjustment of any submitted tender rates or prices, including those for this Bill No. 1, will be permitted as a result of finalization of the scope of works and under no circumstance will claim for resultant extra cost etc. be accepted from the Contract.</p>		
B.	<p><u>ACCESS TO SITE</u></p> <p>Means of access to the site shall be agreed with the KCAA and the Architect prior to the commencement of work. The Contractor must allow here for any temporary access roads required for the transport of all materials, plant and the workmen necessary for the complete execution of the works, removing same at completion and for making good and reinstating to the entire satisfaction of the Architect all works or services disturbed at the completion of the Contract. The Contractor must also allow for keeping the existing Public Highways and Roads clean and for making good all damage to the satisfaction of the Architect and Local Authority.</p>		
C.	<p><u>AREA TO BE OCCUPIED BY THE CONTRACTOR</u></p> <p>The areas to be occupied by the Contractor for use as storage or for the erection of workshops etc. shall be defined on the site by the Architect and the Contractor must confine his activities to the areas so marked and must ensure that his own and his sub-contractors workmen do not trespass on the adjoining property or cause inconvenience to its occupiers.</p>		
D.	<p><u>DRAWINGS</u></p> <p>The Contractor will be deemed to have examined the drawings before tendering and to have satisfied himself regarding their details and regarding the nature and extent of the works and the method of construction involved. No claims arising out of misapprehension in these respects will be allowed. Drawings may be seen by appointment at the offices of the Architect during normal working hours.</p> <p>The works are to be executed in accordance with the drawings referred to in the Schedule of Drawings used for Bills of Quantities contained in Appendix 'A' to these Bills of Quantities together with Contract drawings and any drawings which may be supplied in amplification or amendment thereof.</p>		
E.	<p><u>NOMINATED SUPPLIERS' AND SUB-CONTRACTORS' MATERIALS</u></p> <p>Nominated Sub-contract and Nominated Supply Agreements will be finalised as soon as possible after the contract has been signed. The Contractor will be deemed to have taken account of this in his allowance for the provision of space for storage of Nominated Sub-Contractors' materials and for the provision of storage facilities on or off site for Nominated Suppliers' materials until required.</p>	Shs.	
	<p><u>PRELIMINARIES</u></p>		
1155			

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>VALUATION OF LUMP SUM PRELIMINARY COSTS</u></p> <p>Lump sums entered in these Bills of Quantities against any item of Preliminaries and General Conditions will be included in appropriate valuations according to reasonable assessment of actual costs involved in the item. Any balance between this assessment and the actual sum entered in the Bills of Quantities will be included in subsequent valuations as monthly instalments over the balance of the Contract Period.</p>		
B.	<p><u>PAYMENT FOR MATERIALS ON SITE</u></p> <p>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 Architect. This is to include the materials of the Contractor, Nominated Sub-Contractors and Nominated Suppliers.</p>		
C.	<p><u>COMPLIANCE WITH REGULATION NOTICES ETC.</u></p> <p>The Contractor shall allow for paying all legally demandable fees, rates or taxes including VAT (currently rated at 16%), and those for hoardings and temporary buildings, and no adjustment of the Contract Sum will be made in respect of such payments unless expressly stated to the contrary in these Bills of Quantities.</p> <p>The Contractor shall apply for, provide all transport necessary for, any pay all costs and charges in connection with the Occupation Certificate Documentation required for such Certificate(s) will be provided by the Architect.</p>		
D.	<p><u>INSURANCE(S) AND SECURITIES</u></p> <p>The Contractor to provide the following insurances and securities as the Conditions of the Contract.</p>		
E.	Provide Bid Security.		
F.	Provide Performance Security.		
G.	Provide Insurance for the Works.		
H.	Provide Insurance for Third Party.		
I.	Provide Insurance for Contractor's employees and loss or damage to equipment.		
J.	<p><u>TOOLS, PLANT, ETC.</u></p> <p>The Contractor shall allow for providing all ladders, tools, plant and transport required for the works, except in so far as may be specifically stated otherwise herein.</p>		
	Shs.		
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>SAFETY, HEALTH AND WELFARE OF WORK PEOPLE</u></p> <p>The Contractor shall allow for providing for the safety, health and welfare of workpeople and for complying with any relevant Ordinances, Regulations or Union Agreement.</p>		
B.	<p><u>NATIONAL INSURANCE AND PENSIONS</u></p> <p>The Contractor shall allow for making any National Hospital Insurance Fund, National Social Security Fund payments due in respect of workpeople.</p>		
C.	<p><u>HOLIDAYS AND TRANSPORT FOR WORKPEOPLE</u></p> <p>The Contractor shall allow for providing holidays and transport for workpeople and for complying with any relevant Ordinances, Regulations or Union Agreement.</p> <p>Time being of the essence in this Contract, however, the Contractor shall be deemed to have allowed for necessary overtime payments for work people who may be called to work during the public and gazetted holidays.</p>		
D.	<p><u>TRAINING LEVY</u></p> <p>The Contractor's attention is drawn to Legal Notice No. 237 of October, 1971, which requires payment by the Contractor of a Training Levy on all contracts of more than Shs. 50,000/- in value and his tender must include for all costs arising or resulting therefrom. Proof of payment of this Training Levy will be required.</p>		
E.	<p><u>PROTECTION OF WORKS AND PERSONS</u></p> <p>The Contractor shall allow for the protection of the whole of the existing temporary and permanent works as well as of his own and his Sub-Contractor's work liable to damage, including provision of temporary roofs, gutters, drains, etc., if necessary and shall case-up, cover, or in other suitable ways protect all finished work liable to injury, to the satisfaction of the Architect until completion of the Contract.</p> <p>From the beginning to the completion of the works, the same shall be under the entire care and control of the Contractor, who shall take all possible precautions to prevent any nuisance, inconvenience or injury to the holders or occupiers of surrounding properties and to the public generally, and shall at all times keep all paths and roads affected by the works in a safe and clear state, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians. The Contractor shall allow for providing all watching, lighting, barriers, covering open trenches and protection of the works, including Sub-Contract works, as may be necessary for the safety of the works and for the protection of the public and his own and Sub-Contractors' employees.</p> <p align="right">Shs.</p>		
1155	<p><u>PRELIMINARIES</u></p>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
	<p>In the event of any damage or loss occurring to the works, or to materials or to any sewers, gullies, drains, paths, or other works on the site in temporary possession of the Contractor for the purpose of this Contract, either from the weather, want of proper protection, defects, theft, insufficiency of the works, or any other cause whatsoever during the progress of the works, or for any accident or damage to property or persons by reason of the said works, the Contractor alone shall be responsible and shall without extra charge, make good all damage and pay all costs incurred.</p> <p>A. <u>STANDARDS LEVY AND STANDARDS ACTS</u></p> <p>The Contractor's attention is drawn to legal notice No. 267 of 1990 which requires payment by Contractors of an annual Standards Levy and his tender must include for all costs arising or resulting therefrom.</p> <p>B. <u>POLICE REGULATIONS</u></p> <p>The Contractor shall allow for complying with any relevant police regulations.</p> <p>C. <u>WORKING HOURS</u></p> <p>The working hours shall be those generally operated by good employers in the building industry. No concrete work shall be carried out at night or on gazetted holidays unless the Architect shall so direct. All other works shall be executed at the discretion of the Contractor.</p> <p>D. <u>PROCEDURE, TIME FOR COMPLETION</u></p> <p>the Contractor shall proceed with the works in such manner and such order as the Architect may direct.</p> <p>E. <u>CONTRACT SUM</u></p> <p>This is a fixed price contract. The Contractor should therefore allow in his rates for any anticipated price increase in the cost labour, material, plant, fuel etc. Until completion of the works. No claim of increase in costs will be entertained except on changes arising from duties, taxes, levies etc.</p> <p>F. <u>PROGRAMME AND PROGRESS</u></p> <p>The Contractor shall furnish to the Architect, within 14 days, for approval and display in the site offices, a programme and progress chart devised in such a way that the previously agreed contractually enforceable lined programme is shown and progress can be marked up as the work proceeds. The Contractor shall keep this chart up to date at all times.</p> <p>If required by the Architect this chart shall be generated and up-dated by an approved computer program.</p> <p align="right">Shs.</p>		
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
	<p>Approval by the Architect of the programme shall not relieve the Contractor of any of his obligations under the Contract.</p> <p>The Contractor shall not without the Architects consent make any material alteration to the approved programme.</p> <p>If the Architect decides that progress does not match the programme, he may order the Contractor to revise the programme. The Contractor shall thereafter revise the programme to show the modifications necessary to ensure completion of the works by the Date of Practical Completion.</p> <p>The Architect shall notify the Contractor if the Architect decides that the rate of progress of the works, or any section is too slow to meet the Date for Practical Completion and that this is not due to a circumstance for which the Contractor is entitled to an extension of time under the Contract.</p> <p>Following receipt of such a notice the Contractor shall take such steps as may be necessary, and as the Architect may approve, to remedy or mitigate the likely delay, including revision of the programme. The Contractor shall not be entitled to any additional payment for taking such steps.</p> <p>A. <u>BLASTING OPERATIONS</u></p> <p>Blasting will not be allowed.</p> <p>B. <u>DAYWORKS</u></p> <p>The Architect may, if in his opinion it is necessary or desirable, order in writing that any additional or substituted work shall be executed on a Daywork basis. The Contractor shall then be paid for such work in accordance with Daywork rates and percentage additions as inserted hereafter in these Bills of Quantities.</p> <p>The Contractor shall furnish to the Architect all receipts or vouchers as may be necessary to prove the amounts paid and before ordering materials shall submit to the Architect quotations for the same for his approval.</p> <p>In respect of all work executed on a Daywork basis the Contractor shall, during the continuance of such work, deliver each day to the Architect a list in duplicate of the names, occupation and time of all workmen employed on such work and a statement also in duplicate showing the description and quantity of all materials and plant used thereon or therefor (other than plant which is included in the percentage addition on net amount of wages). One copy of each list and statement will, if correct or when agreed, be signed by the Architect and returned to the Contractor.</p> <p align="right">Shs.</p>		
1155	<u>PRELIMINARIES</u>		

ITEM No.		Shs.	Cts.
	<p>At the end of each month the Contractor shall deliver to the Architect a priced statement of the labour, material and plant (except as aforesaid) used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that, if the Architect shall consider that for any reason the sending of such list or statement by the Contractor in accordance with the foregoing provision was impracticable, he shall nevertheless be entitled to authorize payment for such work either as Daywork (on being satisfied as to the time employed and plant and materials used on such work) or at such value thereof as he shall consider fair and reasonable.</p> <p>A. <u>WATER FOR THE WORKS</u></p> <p>The Contractor shall allow for providing all temporary water supplies required for the works, including Sub-Contract works, together with all necessary storage tanks, meters and distribution systems for the same and must allow for bearing all expenses incurred and paying for all water consumed without charge to any Sub-Contractor. Expenses in connection with Nominated Sub-Contractors should be allowed for in the attendance items under the relevant P.C. Sums.</p> <p>B. <u>LIGHTING AND POWER FOR THE WORKS</u></p> <p>The Contractor shall allow for providing all temporary lighting and power supplies required for the works, including Sub-Contract works, together with all necessary meters and distribution systems for the same and must allow for bearing all expenses incurred and paying for all current consumed without charge to any Sub-Contractor. Expenses in connection with Nominated Sub-Contractors should be allowed for in the attendance items under the relevant P.C. Sums.</p> <p>Existing power supplies may be utilized by agreement with the Employer, who however gives no undertaking as to the sufficiency or suitability of existing supply.</p> <p>C. <u>TELEPHONE</u></p> <p>The Contractor shall arrange to provide telephone and Email contacts which shall be accessible at all times. The Contractor shall pay all charges for hire or purchase of equipment, licences, connection, rental and calls made through these lines.</p> <p>D. <u>CROSSINGS AND TEMPORARY ROADS</u></p> <p>The Contractor must allow for providing, forming and maintaining necessary crossings on to the site and temporary roads as may be required by the Architect and removing the same at completion and making good damaged or disturbed surfaces as directed by and to the approval of the Architect.</p> <p align="right">Shs.</p>		
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>SITE OFFICES</u></p> <p>The Contractor must allow for erecting and maintaining on site in such positions as may be directed, adequate site offices for the use of his own site staff and removal on completion and making good all disturbed surfaces on completion of the works.</p> <p>The site office shall be of sufficient size and shall have sufficient furniture to permit the Architect to hold site meetings.</p> <p>The Contractor shall also allow for providing, erecting and maintaining where directed a lock-up hut containing a pedestal type water closet and wash basin for the sole use of the Architect and other consultants, including making temporary connections to drains and water supplies and paying all charges for connections, conservancy and water consumed.</p> <p>The Contractor shall also allow for providing the services of a sweeper, for keeping both office and closet clean and sanitary condition from the commencement to completion of the works; and for dismantling at completion and making good all disturbed surfaces. The closet shall be completed before the Contractor will be permitted to commence the works</p>		
B.	<p><u>SHEDS FOR STORAGE OF MATERIALS</u></p> <p>The Contractor shall provide, erect and maintain on the site, in such positions as may be directed, ample temporary watertight, lock-up sheds for the proper storage and protection of cement and other materials liable to damage and shall remove same at completion and make good all surfaces disturbed. He shall also provide space for storage accommodation which Sub-Contractors may wish to erect for themselves.</p>		
C.	<p><u>SANITATION OF THE WORKS</u></p> <p>The Contractor shall allow for providing the necessary latrines for the labour employed on the works, including labour employed by Sub-Contractors, to the satisfaction of the Health and Medical Authorities and for maintaining the same in a thoroughly clean and sanitary condition and paying all conservancy fees.</p> <p>The Contractor shall allow for removing the said latrines and leaving the ground clean and free from pollution upon completion to the satisfaction of the Health and Medical Authorities.</p>		
D.	<p><u>NO WORKMEN TO BE HOUSED ON SITE</u></p> <p>No labour with the exception of a watchman may be housed on the site. The cost of transporting labour to and from the site or elsewhere will be deemed to be included in the tender.</p>		
1155	<p align="right">Shs.</p> <p><u>PRELIMINARIES</u></p>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>WORK TO BE OPENED UP AT THE REQUEST OF THE ARCHITECT</u></p> <p>The Contractor shall, at the request of the Architect within such time as the Architect shall name, open for inspection any work covered up, and, should the Contractor refuse or neglect to comply with such request, the Architect may employ workmen other than those employed by the Contractor to open up the same.</p> <p>If the said work has been covered up in contravention of the Architect's instructions, or if, on being opened up, it be found not in accordance with the drawings or Bills of Quantities or the instructions of the Architect, the expenses of opening and covering it up again whether done by the Contractor or by the Architect, shall be borne by and be recoverable from the Contractor or may be deducted from any monies due to the Contractor. If the work has not been covered up in contravention of such instructions and be found in accordance with the said drawings and Bills of Quantities, then the expenses aforesaid shall be borne by the Employer, and be added to the Contract Sum; provided always that, in the case of foundations or of any other urgent work so opened up and requiring immediate attention, the Architect shall, within a reasonable time after the work has been opened, make or cause to be made the inspection thereof, and at the expiration of such time, if such inspection shall not have been made the Contractor may cover up the same and shall not be required to open it up again for inspection except at the expense of the Employer.</p>		
B.	<p><u>HOARDING</u></p> <p>The Contractor shall allow for providing and clearing away on completion such hoarding, fencing, gates etc. as may be required for the security of the site, and as instructed by the Architect to prevent access to the site by the public. The exact location and type of these items are to be agreed with the Architect and negotiated with the local Authority by the Contractor who will also be responsible for paying any fees or taxes to the Local Authority in respect of the hoarding, fencing or gates and providing any drawings necessary for approval.</p> <p>The Contractor shall allow for thoroughly maintaining the hoarding and gates throughout the Contract and clearing away and making good disturbed ground on completion. All materials arising will remain the property of the Contractor and he should allow credit against this accordingly.</p>		
C.	<p><u>SCAFFOLDING</u></p> <p>The Contractor shall allow for providing, erecting and dismantling all general scaffolding required for the works. The Contractor must allow here or in his rates for providing all special scaffolding required by his Sub-Contractors, other than Nominated Sub-Contractors carrying out works for which P.C. Sums are included in these Bills. Where the Contractor is required to provide special scaffolding for these latter Sub-Contractors, an item is included for pricing under the relevant P.C. Sum.</p>	Shs.	
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>HOISTING</u></p> <p>The Contractor shall allow for all costs related to hoisting materials for fixing at any level within the limits shown on the drawings or included in the general description of the works.</p>		
B.	<p><u>TRADE NAMES</u></p> <p>Where trade names or manufacturers' catalogue numbers are mentioned in these Bills of Quantities, the reference is intended as a guide to the type of article or quality of materials required. The Contractor may use any article or material equal in type or quality to those herein described subject to the prior approval of the Architect and at his absolute discretion. The onus of proof as to equivalent quality will rest with the Contractor, whose tender will be deemed to include for the makes described herein.</p>		
C.	<p><u>SIGNBOARD</u></p> <p>The Contractor must allow for providing, erecting and maintaining a site signboard, the size, type of construction and lettering of which shall be to the Architect's design. The names of the Consultants are to be in lettering 50mm high. The board is to be fixed in an elevated position on the site where indicated by the Architect. On completion of the works, the notice board shall be removed and making good shall be carried out as necessary.</p>		
D.	<p><u>REMOVAL OF PLANT, RUBBISH ETC.</u></p> <p>The Contractor must allow for removing and clearing away all plant, rubbish and unused materials, and leaving the whole of the site of the works in a clean and tidy state at completion to the satisfaction of the Architect. He must also allow for removing all rubbish and dirt from the site as it accumulates during the performance of the Contract.</p>		
E.	<p><u>DEDUCTION FROM MONEY DUE TO THE CONTRACTOR</u></p> <p>The Architect shall be entitled to deduct any monies which the Contractor shall be liable to pay under the Contract to the Employer from any sum which may become payable to the Contractor hereunder and the Architect in issuing his Certificates as provided in Clause 34 of the Schedule of Conditions shall have regard to any sum so chargeable to the Contractor. Provided always that this provision shall not affect any other remedy by action at law or otherwise to which the Employer may be entitled for the recovery of such monies.</p>		
F.	<p><u>WORKS TO BE DELIVERED UP CLEAN</u></p> <p>On completion of the Contract, the site and the works shall be cleared of all plant, scaffolding, rubbish and unused materials and shall be delivered up clean and in perfect condition in every respect to the satisfaction of the Architect. Particular attention is to be paid to leaving all windows and floors clean and removing all paint and cement stains.</p>	Shs.	
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
A.	<p><u>APPROVED SUB- CONTRACTORS</u></p> <p>Where in these Bills of Quantities work is described to be executed by an approved Sub-Contractor the firms appointed will be treated as Sub-Contractors employed by the Contractor and not as Nominated Sub-Contractors. The unit prices for such work must, therefore, include not only the Sub-Contractor's charges but also the Contractors' overheads, profits and attendance. Such firms where not prequalified shall be classified on the Ministry of Works lists as suitable to undertake class 'A' works.</p>		
B.	<p><u>APPROVAL OF ARCHITECT FOR EMPLOYMENT OF SUB- CONTRACTORS</u></p> <p>The Contractor will be required to obtain the approval of the Architect/Engineer in writing before Employing any of his own (i.e. not nominated) Sub-Contractors for any portion of the work.</p> <p><u>EXISTING PROPERTY</u></p> <p>The Contractor shall take every precaution to avoid damage to all existing property including buildings on and adjacent to the site, roads, cables, drains and other services and he will be held responsible for all damage arising from the execution of this Contract to the aforementioned and he shall make good all such damage where directed at his own expense to the satisfaction of the Architect.</p> <p><u>DISPOSAL OF WATER</u></p> <p>Allow for keeping the works free from all water, including spring and running water, by pumping or other means as required.</p> <p><u>MAINTAINING SIDES OF EXCAVATIONS</u></p> <p>Allow for maintaining the sides of all excavations by planking and strutting or other means as required. Additional works caused by the collapse of excavations through inadequate planking and strutting (e.g. re-routing of adjacent drain runs) will be at the Contractor's expense.</p> <p><u>WHITE ANTS</u></p> <p>Allow for destroying any white ants' nests found in the vicinity of the buildings, destroying Queen Ants, depositing cyanide lumps in holes and tunnels and filling with hardcore and murrum well rammed and sealed.</p> <p><u>SITE PHOTOGRAPHS</u></p> <p>The contractor shall take and hand over to the Architect at approved intervals site progress photographs in a format to be directed by the Architect.</p> <p align="right">Shs.</p>		
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.														
A.	<p><u>TESTING</u></p> <p>Allow for all expenses in connection with the testing of materials as specified hereunder including the supply and preparation of materials to be tested, the cost of materials and their packing and conveyance to the nearest approved Testing Laboratory, laboratory charges, etc. The following items of tests will be measured according to the number of tests actually called for by the Architect but unsuccessful tests will not be included in the remeasurement.</p> <p><u>Allow for executing the following tests as detailed in the Appendices to these Bills of Quantities (PROVISIONAL)</u></p> <table border="0" style="width: 100%;"> <tr> <td></td> <td align="right"><u>Rate</u></td> </tr> <tr> <td>Water Test (4.5 litres)</td> <td align="right">No. 10</td> </tr> <tr> <td>Sand Test (0.028m3)</td> <td align="right">No. 20</td> </tr> <tr> <td>Aggregate Test (0.028m3)</td> <td align="right">No. 20</td> </tr> <tr> <td>Reinforcement test (1m of mild steel rod or high tensile steel bar of various sizes)</td> <td align="right">No. 10</td> </tr> <tr> <td>Concrete Test (One test comprising three cubes as described hereinafter)</td> <td align="right">No. 30</td> </tr> <tr> <td>Testing of concrete or stone blocks of various strengths in accordance with British Standard Specification (one test comprising six blocks)</td> <td align="right">No. 12</td> </tr> </table> <p>The Contractor shall allow for all other testing of materials, apart from the above, required by the Appendices of the Bills of Quantities and he shall be responsible for all expenses incurred in completing such tests including costs of materials and labour, equipment, transport and charges of testing authority, etc.</p>		<u>Rate</u>	Water Test (4.5 litres)	No. 10	Sand Test (0.028m3)	No. 20	Aggregate Test (0.028m3)	No. 20	Reinforcement test (1m of mild steel rod or high tensile steel bar of various sizes)	No. 10	Concrete Test (One test comprising three cubes as described hereinafter)	No. 30	Testing of concrete or stone blocks of various strengths in accordance with British Standard Specification (one test comprising six blocks)	No. 12		
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B.	<p><u>APPENDICES</u></p> <p>The Appendices to the Bills of Quantities shall be regarded for Contract purposes as part of the Bills and shall be read and construed with the appropriate sections of the Bills as if contained therein.</p>	Shs.															
1155	<u>PRELIMINARIES</u>																

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.		Shs.	Cts.
	<p><u>REGIONAL CENTRE</u></p> <p><u>BILL NO. 1</u></p> <p><u>PRELIMINARIES AND GENERAL CONDITIONS</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 1/1</p> <p>" " " " " 1/2</p> <p>" " " " " 1/3</p> <p>" " " " " 1/4</p> <p>" " " " " 1/5</p> <p>" " " " " 1/6</p> <p>" " " " " 1/7</p> <p>" " " " " 1/8</p> <p>" " " " " 1/9</p> <p>" " " " " 1/10</p> <p>" " " " " 1/11</p> <p>" " " " " 1/12</p> <p>" " " " " 1/13</p> <p>" " " " " 1/14</p> <p><u>TOTAL AMOUNT OF BILL NO. 1</u> <u>CARRIED TO FINAL SUMMARY</u></p>		
		Shs.	
1155	<u>PRELIMINARIES</u>		

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>BILL NO. 2</u> <u>MAIN BLOCK</u> <u>ELEMENT A</u> <u>SUBSTRUCTURES</u> <u>(ALL PROVISIONAL)</u>				
A.	Allow for planking and strutting to sides of excavations.		Item		
B.	Allow for keeping excavations free from all spring and running water.		Item		
C.	Excavate over site to reduce levels commencing at existing ground level and not exceeding 1.50m deep.	m3	1,631		
D.	Do. <u>but</u> 1.50- 3.00m deep.	m3	1,413		
E.	Excavate foundation trench commencing at reduced level and not exceeding 1.50m deep.	m3	47		
F.	Excavate for column bases commencing at reduced level and not exceeding 1.50m deep	m3	75		
G.	Excavate for lift base commencing at reduced level and not exceeding 1.50m deep	m3	9		
H.	Extra over excavation for excavating in rock.	m3	131		
I.	Return fill and ram selected excavated material around foundations.	m3	130		
J.	Remove surplus excavated material from site	m3	1,958		
	<u>Selected hardcore</u>				
K.	Filling in making up levels under floors, spread, levelled, well rammed and consolidated in 150mm layers.	m3	1,570		
L.	300mm Bed spread, levelled, well rammed and consolidated and blinded with 50mm thick murrum, quarry dust or sand to receive damp proof membrane (measured separately)	m2	833		
M.	Do. <u>but</u> laid to slope (ramp)	m2	33		
N.	Grade bottoms of excavations or surfaces of filling to falls and crossfalls including rolling and compacting to 98% MDD compaction.	m2	1,087		
1155	<u>MAIN BLOCK</u> <u>SUBSTRUCTURES</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Approved insecticide treatment.	m2	948		
B.	1000 Gauge 'Diothene' or other equal and approved polythene sheeting as damp proof membrane laid on blinded hardcore (measured separately) with welted laps (measured net-no allowance made for laps).	m2	948		
	<u>Plain Concrete (Class 1:3:6)</u>				
C.	50mm Blinding under foundations.	m2	187		
D.	Do. <u>but</u> column bases.	m2	140		
E.	Do. <u>but</u> lift pit base.	m2	16		
	<u>Vibrated reinforced concrete (Grade 25)</u>				
F.	Foundations	m3	37		
G.	Column bases.	m3	68		
H.	Lift pit base.	m3	8		
I.	250mm thick Lift shaft walls	m2	22		
J.	Columns	m3	15		
K.	Steps	m3	1		
L.	Ramp	m3	2		
M.	Extra over labour for forming grooves in unset concrete	m2	33		
N.	150mm Bed laid on damp proof membrane (measured separately) in bays not exceeding 50 square metres including formwork to edge of bays.	m2	903		
O.	Do. <u>but</u> 100mm thick (Planter).	m2	10		
P.	Extra over 150mm bed for thickening to a total of 200mm thick x 450mm average wider under 100mm walling including hand packing hardcore to two sloping sides and all additional blinding and steel fabric mesh reinforcement	m	42		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>SUBSTRUCTURES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007</u>				
A.	8mm Bar	Kg.	671		
B.	10mm Bar	Kg.	1,000		
C.	12mm Bar	Kg.	1,640		
D.	16mm Bar	Kg.	580		
E.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref: A 142 and K.S. 02 - 18: 1976 in concrete bed (measured net, no allowance made for minimum 225mm laps) including tying and supporting as required.	m2	948		
	<u>Sawn formwork</u>				
F.	Sides of foundations.	m2	125		
G.	Sides of column bases.	m2	162		
H.	Sides of lift shaft base	m2	8		
I.	Sides of lift shaft wall	m2	44		
J.	Sides of column	m2	185		
K.	Edge of bed 75- 150mm high.	m	184		
L.	Face of riser 75 - 150mm high.	m	8		
M.	Edge of sloping staircase stringer 225 - 300mm (extreme) high including cutting to profile of treads and risers.	m	1		
N.	Edge of ramp 75-150mm high.	m	32		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>SUBSTRUCTURES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	No. 16 B.W.G Hoop iron fixing clamp 25mm wide x 450mm girth once bent and tucked to inner face of formwork, one end cast into concrete and the other end afterwards straightened and built into joints of walling.	No.	684		
B.	200mm Approved local stone walling in cement mortar (1:3) including hoop iron reinforcement where required by the Engineer.	m2	635		
	<u>Beds and backings</u>				
C.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m2	73		
	<u>Note:- A ten year guarantee against defects will be required for the following concrete waterproofing. It is the responsibility of the Contractor to obtain such a guarantee from his Sub-Contractor and submit to the Architect on completion of the project.</u>				
	<u>Supply and apply two coats of Dr.Fixit Pidifin 2k Acrylic Cementitious waterproofing coating @0.6-0.7m²/kg in two coats to achieve minimum thickness of 1mm and sprinkling of sand on the second coat to provide key for further plastering / rendering. The coating shall be applied to a minimum height of 300mm over the walls. The system include base preparation of cleaning, brushing and removal of flacky materials, grouting the porous area with cementitious grout, proper coving between slab and wall junctions to be executed by an approved subcontractor.</u>				
D.	Horizontal surfaces of lift shaft base	m2	16		
E.	Vertical surfaces of lift shaft wall	m2	22		
F.	Vertical sides of planter	m2	25		
G.	Horizontal surfaces of planter	m2	10		
				Shs.	
1155	<u>MAIN BLOCK SUBSTRUCTURES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	15mm Cement and sand (1:4) external rendering to plinths finished smooth with a wood float.	m2	83		
B.	Prepare and apply one undercoat and two finishing coats of bituminous paint or other equal an approved water resistant paint on rendered plinth.	m2	83		
Shs.					
<p><u>ELEMENT A</u></p> <p><u>SUBSTRUCTURES</u> <u>(ALL PROVISIONAL)</u> <u>COLLECTION</u></p> <p>Brought forward from Page No. 2/1</p> <p>" " " " " 2/2</p> <p>" " " " " 2/3</p> <p>" " " " " 2/4</p> <p>" " " " " 2/5</p>					
<p><u>TOTAL AMOUNT FOR ELEMENT A CARRIED TO SUMMARY AT END OF BILL NO. 2</u></p>					
Shs.					
1155	<p><u>MAIN BLOCK</u> <u>SUBSTRUCTURES</u> <u>COLLECTION</u></p>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT B</u>				
	<u>FRAME</u>				
	<u>Vibrated reinforced concrete (grade 25)</u>				
A.	Beams.	m3	191		
B.	Columns	m3	53		
C.	250mm thick lift wall.	m2	86		
D.	200mm suspended lift shaft cover slab	m2	12		
E.	Staircase	m3	9		
F.	150mm thick landing	m2	15		
G.	150mm thick suspended slab.	m2	33		
H.	200mm thick suspended slab.	m2	101		
I.	230mm gutter base.	m2	42		
J.	150 x 50 mm high concrete kerb	m	4		
	<u>Composite Hollow block suspended construction</u>				
K.	370mm overall composite suspended slab consisting of 300 x 230mm hollow precast concrete pots at 380mm centres with and including vibrated reinforced concrete (grade 25) topping 70mm thick and filling to 120mm wide ribs.	m2	1,211		
	<u>Ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007 (All provisional)</u>				
	<u>Note:</u> This includes reinforcement in slab beams and ribs of hollow pot slab.				
L.	8mm Bar	Kg.	9,292		
M.	10mm Bar	Kg.	4,480		
N.	12mm Bar	Kg.	12,735		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FRAME</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	16mm Bar	Kg.	16,822		
B.	20mm Bar	Kg.	5,470		
C.	25mm Bar	Kg.	8,565		
D.	32mm Bar	Kg.	4,000		
E.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref. A142 as before in composite hollow block suspended slab topping.	m2	1,581		
	<u>Sawn formwork</u>				
F.	Sides and soffits of beams.	m2	1,452		
G.	Do. <u>but</u> curved on plan to 100mm radius	m2	56		
H.	Sides of column	m2	630		
I.	Sloping soffit of staircase	m2	40		
J.	Soffit of landing	m2	15		
K.	Soffit of suspended slab.	m2	134		
L.	Do. <u>but</u> exceeding 250mm thick	m2	1,211		
M.	Sides of lift shaft walling	m2	172		
N.	Soffit of suspended suspended lift shaft cover slab and strutting 6.00 - 7.50m high.	m2	12		
O.	Edge of suspended slab 150-225mm high	m	46		
P.	Do. <u>but</u> curved on plan to 4600mm radius	m	7		
Q.	Edge of suspended slab 75-150mm high.	m	37		
R.	Edge of kerb 0-75mm high	m	4		
S.	Edge of suspended canopy 75-150mm high	m	3		
T.	Do. <u>but</u> curved on plan to 3650mm radius	m	9		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FRAME</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Soffit of gutter base	m2	42		
B.	Face of undercut riser 75-150mm high	m	150		
C.	Edge of sloping staircase stringer 225 - 300mm (extreme) high including cutting to profile of treads and risers.	m	34		
D.	Edges of lift shaft door opening jambs 225-300mm wide.	m	5		
	<u>Unframed Mild Steel (All provisional)</u>				
E	200 x 200 x 4mm Thick square hollow section column.	Kg	636		
F.	150 x 150 x 3mm Thick square hollow section column.(Solar panel supports).	Kg	212		
G.	100 x 50 x 3mm Thick rectangular hollow section beams .(Solar panel supports BM2).	Kg	792		
H.	75 x 50 x 3mm Thick rectangular hollow section beams.(Solar panel supports BM1)	Kg	237		
I.	75 x 75 x 3mm Thick rectangular hollow section column.(Canopy)	Kg	546		
J.	200 x 200 x 10mm thick mild steel base plate four times drilled for 12mm diameter bolt (measured seperately)	No.	30		
K.	350 x 350 x 8mm thick mild steel base plate four times drilled for 16mm diameter bolt (measured seperately) (Solar panel supports)	No.	12		
L.	12mm diameter holding down bolts 300mm long with head, nut and washer cast into and including mortice in concrete and run with gauged mortar.	No.	120		
M.	16mm diameter holding down bolts 200mm long with head, nut and washer cast into and including mortice in concrete and run with gauged mortar. (Solar panel supports)	No.	48		
N.	Extra over for welded connections.	No.	52		
				Shs.	
	<u>MAIN BLOCK</u>				
	<u>FRAME</u>				

1155

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT B</u> <u>FRAME</u> <u>COLLECTION</u> Brought forward from Page No. 2/6 " " " " " 2/7 " " " " " 2/8 <u>TOTAL AMOUNT FOR ELEMENT B CARRIED TO SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FRAME</u> <u>COLLECTION</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT C</u>				
	<u>EXTERNAL AND INTERNAL WALLS</u>				
	<u>Precast concrete (grade 25) bedded, jointed and pointed in gauged mortar.</u>				
A.	350 x 70mm Coping twice throated and once weathered and reinforced as necessary for handling and finished fair on all exposed surfaces.	m	222		
	<u>Gypsum Partition</u>				
B.	100mm Thick gypsum wall clad both sides with and including 12mm gypsum plasterboard, sound proofing infill and galvanized steel stud framework.	m2	151		
	<u>The following in aluminium partitions</u>				
	<u>Supply, assemble and fix the following RAL 7022 purpose made heavy gauge approved colour powder coated aluminium section partitions to be executed by an approved Sub-Contractor complete with fixing frames to jambs, bedding frame in waterproof cement and pointing in approved mastic, oiling easing and adjusting to the approval of the Architect (glazing measured separately)</u>				
C.	150 x 50mm x 5mm thick Bottom rail rebated for glass (measured seperately)	m	36		
D.	100 x 50mm x 5mm thick Top, middle rails and mullions (ditto).	m	212		
E.	6mm Thick clear glass fixed to aluminium partitions with and including approved rubber seal strip (supplied) in panes 1.00 - 1.50 square metres.	m	41		
F.	Do. <u>but</u> in panes 2.00- 2.50 square metres	m2	18		
G.	Do. <u>but</u> in panes 0.50- 1.00 square metres	m2	17		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>EXTERNAL AND INTERNAL WALLS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Supply, assemble and fix RAL 7022 powder coated aluminium louvres size 38 x 72 x 2mm at 65mm centers fixed at 45 degrees to the approval of the architect.	m2	13		
B.	Supply and fix one way white translucent film to aluminium partitions (measured seperately) or other equal and approved sandblasted film to the approval of the architect.	m2	59		
	<u>Approved machine cut masonry walling in gauged mortar.</u>				
C.	100mm Thick internal walling, reinforced.	m2	97		
D.	150mm Thick internal walling, reinforced.	m2	314		
E.	200mm Thick internal walling with hoop iron reinforcement where required by the Engineer.	m2	852		
F.	Do. (external walling).	m2	622		
G.	Do. (parapet walling).	m2	190		
H.	<u>Pluvex No. 1 or other equal and approved horizontal bitumen damp proof course to B.S. 743 (measured net - no allowance made for laps)</u>				
I.	200mm Wide under walling.	m	242		
J.	150mm Wide under walling.	m	20		
K.	100mm Wide under walling.	m	27		
L.	200mm wide under coping	m	222		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>EXTERNAL AND INTERNAL WALLS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT C</u> <u>EXTERNAL AND INTERNAL WALL</u> <u>COLLECTION</u> Brought forward from Page No. 2/10 " " " " " 2/11 <u>TOTAL AMOUNT FOR ELEMENT C CARRIED</u> <u>TO SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u> <u>EXTERNAL AND INTERNAL WALLS</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>ELEMENT D</u></p> <p><u>ROOF TERRACE FINISHES</u></p> <p><u>The following in Roof Pergola (1st Floor)</u></p> <p><u>Structural steelwork grade 4.3 (Factory primed) with and including epoxy paint to be executed by an approved Sub-Contractor</u></p> <p><u>Unframed mild steel including hoisting and fixing in position all to the entire satisfaction of the Structural Engineer.</u></p>				
A.	114.6 x 50.8 x 2.0mm Zed purlin.	m	45		
B.	Extra over for welded connections.	No.	30		
C.	Roof pergola comprising 150 x 100 x 3mm rectangular hollow section member including holes, IPE 200 member, 16 dia guy wire, bulldog clips welding and hoisting.	Kg	452		
D.	Armour glass fibre shingles available from Rexe or other equal and approved supplier fixed on steel structure (measured separately) complete with all fixing accessories strictly in accordance with the manufacturer's printed instructions and to the Architect's approval.	m ²	43		
E.	10mm thick bronze tinted laminated glass with adequate sealant fixed on steel structure to the Architect's approval.	m ²	10		
	<p><u>The following in Upper Roof.</u></p> <p><u>Structural steelwork grade 4.3 (Factory primed) with and including epoxy paint to be executed by an approved Sub-Contractor</u></p> <p><u>Unframed mild steel including hoisting and fixing in position all to the entire satisfaction of the Structural Engineer.</u></p>				
F.	60 x 2.5 Circular hollow section purlin.	m	60		
G.	114.6 x 50.8 x 2.0mm Zed purlin.	m	136		
1155	<p><u>MAIN BLOCK</u></p> <p><u>ROOF TERRACE FINISHES</u></p>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	150 x 100 x 4mm thick mild steel base plate four times drilled for 12mm diameter bolt (measured separately)	No.	6		
B.	12mm diameter holding down bolts 300mm long with head, nut and washer cast into and including mortice in concrete and run with gauged mortar.	No.	24		
C.	Extra over for welded connections.	No.	68		
D.	100 x 3mm Angle cleat 200mm girth with one leg welded to Zed purlins and rafters (measured separately)	No.	432		
	<u>Framed mild steel</u>				
E.	Roof truss 3-6m span comprising 100 x 50 x 4mm rectangular hollow section top and bottom chord, 50 x 50 x 4m square hollow section internal members including all plates, cleats, holes and welding and hoisting approximately 10.35m high above ground level (T1) (In 2 No. Trusses).	Kg	302		
F.	Roof truss 3-6m span comprising 89 x 2.5 circular hollow section top and bottom chord, 60 x 2.5m circular hollow section internal members including all plates, cleats, holes and welding and hoisting approximately 10.35m high above ground level (T2) (In 2No. Trusses).	Kg	136		
	<u>Impregnated sawn cypress</u>				
G.	100 x 50mm Rafters fixed on 114.6 x 50.8 x 2.0 Zed sections purlin (measured separately) to approval	m	277		
H.	Extra labour and material in scarfed joint on 100 x 50mm timber including closely binding with 24 B.W.G. hoop iron 18mm wide around joint nailed on.	No.	36		
I.	Armour glass fibre shingles available from Rexe or other equal and approved supplier fixed on steel structure (measured separately) strictly in accordance with the manufacturer's printed instructions and to the Architect's approval.	m2	265		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>ROOF TERRACE FINISHES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Beds and backings:</u>				
A.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m2	787		
B.	15mm Do. <u>but</u> on parapet wall sides.	m2	26		
C.	Do. <u>but</u> upstand surfaces	m2	14		
D.	Do. <u>but</u> on gutter sides	m2	77		
E.	Do. <u>but</u> on gutter base	m2	61		
	<u>Note:- A ten year guarantee against defects will be required for the following concrete waterproofing. It is the responsibility of the Contractor to obtain such a guarantee from his Sub-Contractor and submit to the Architect on completion of the project.</u>				
	<u>Supply and apply two coats of Dr.Fixit Pidifin 2k Acrylic Cementitious waterproofing coating @0.6-0.7m²/kg in two coats to achieve minimum thickness of 1mm and sprinkling of sand on the second coat to provide key for further plastering / rendering. The coating shall be applied to a minimum height of 300mm over the walls. The system include base preparation of cleaning, brushing and removal of flacky materials, grouting the porous area with cementitious grout, proper coving between slab and wall junctions to be executed by an approved subcontractor.</u>				
F.	Finish to roof terrace.	m2	787		
G.	Do. <u>but</u> on parapet wall sides.	m2	26		
H.	Do. <u>but</u> laid vertically on concrete sides.	m2	14		
I.	Do. <u>but</u> on gutter sides	m2	77		
J.	Do. <u>but</u> on gutter base	m2	61		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>ROOF TERRACE FINISHES</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	200 x 200 x 20mm Mitchell Cotts (Kenya) Limited or other equal and approved precast concrete interlocking roofing tiles bedded, jointed and pointed in cement and sand screed on acrylic cementitious waterproofing (measured separately).	m2	787		
B.	Do. <u>but</u> skirting finish	m	236		
C.	100mm Diameter approved 'Fulbora' rainwater outlet from East African Foundry or other equal and approved and fixing in concrete slab including jointing to down pipe (measured separately in plumbing and drainage section).	No.	16	Shs.	
<u>ELEMENT D</u>					
<u>ROOF TERRACE FINISHES</u>					
<u>COLLECTION</u>					
Brought forward from Page No. 2/13					
Brought forward from Page No. 2/14					
" " " " " 2/15					
" " " " " 2/16					
<u>TOTAL AMOUNT OF ELEMENT D CARRIED TO SUMMARY AT END OF BILL NO. 2</u>					
Shs.					
1155	<u>MAIN BLOCK</u> <u>ROOF TERRACE FINISHES</u> <u>COLLECTION</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT E</u> <u>WINDOWS</u>				
A.	250 x 75mm Precast concrete (grade 25) sunk, weathered and throated cill cast in convenient lengths reinforced as necessary for handling, bedded, jointed and pointed in gauged mortar and finished fair on all exposed faces.	m	218		
B.	Horizontal bitumen damp proof course to B.S. 743 250mm wide under window cill (measured net - no allowance made for laps).	m	218		
	<u>The following in window board</u> <u>Wrot Mahogany</u>				
C.	100 x 25mm window board plugged.	m	204		
D.	20 x 20mm Moulded quadrant.	m	204		
E.	<u>Medium duty aerofoil sunshading fins available from Hunters Douglas or other equal and approved supplier size 4050 long x 800mm wide x 180mm thick with and including 75 x 75mm aluminium structural frame, 180 airfoil louveres, 12mm thick aluminium mounting brackets and all other necessary fixing accessories hoisted and fixed in position to the top and bottom of concrete slanting columns at 45 degrees strictly in accordance with drawing No. L(34)s to the architect's approval</u>	No.	16		
	<u>Supply, assemble and fix the following purpose made approved colour powder coated heavy gauge aluminium windows in approved sections minimum size 80 x 50 x 5mm thick complete with all necessary handles, levers or finger pulls and pins, catches and stays, sliding window complete with all necessary handles and approved small locking devices where applicable fixed at pre-determined positions, including snap on glazing beads building in lugs to jambs, plugging and screwing to head and cill and bedding frames in waterproof cement mortar and pointing in approved acrylic mastic and oiling easing and adjusting. All windows have permanent ventilators and include an additional transome at the top with 40mm mosquito gauze panel welded on and including an additional transome at the top.</u>				
1155	<u>MAIN BLOCK</u> <u>WINDOWS</u>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Twelve pane window size 3400 x 2300mm comprising four one pane top hung opening light, four one pane fixed light and four one pane aluminium louver vents.((C32)03)	No.	8		
B.	Fifteen pane window size 4050 x 2300mm comprising five one pane top hung opening light, five one pane fixed light and five one pane aluminium louver vents.((C32)12)	No.	2		
C.	Six pane window size 6150 x 1400mm comprising three one pane side hung sliding opening light and three one pane fixed light.((C32)04).	No.	1		
D.	Two pane window size 1500 x 1400mm comprising two one pane fixed light ((C32)05).	No.	1		
E.	Two pane window size 1000 x 2325mm comprising one pane fixed light and one pane aluminium louver vents.((C32)07)	No.	2		
F.	Eleven pane window size 5500 x 2325mm comprising six one pane fixed light and five one pane aluminium louver vents.(C32)08)	No.	4		
G.	Six pane window size 2400 x 1200mm comprising three one pane top hung opening light and three one pane aluminium louvered vents.((C32)09).	No.	24		
H.	Twelve pane window size 3400 x 2000mm comprising four one pane top hung opening light, four one pane fixed light and four one pane aluminium louver vents.((C32)10)	No.	3		
I.	Six pane window size 2400 x 1200mm comprising three one pane top hung opening light and three one pane aluminium louver vents.((C32)11).	No.	1		
J.	Nine pane window size 2800 x 2300mm comprising three one pane top hung opening lights, three one pane fixed light and three one pane aluminium louver vents.((C32)13)	No.	2		
1155	<u>MAIN BLOCK</u> <u>WINDOWS</u>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Nine pane window size 2400 x 1825mm comprising two one pane side hung opening lights, six one pane fixed light and one one pane aluminium louver vents.((C32)14)	No.	2		
B.	Six pane window size 2400 x 1400mm comprising two one pane side hung opening light, three one pane fixed light and one one pane aluminium louver vents.((C32)15)	No.	1		
C.	Two pane window size 900 x 1200mm comprising one one pane top hung opening light, one one pane aluminium louver vents.((C32)16)	No.	1		
D.	Twenty eight pane RAL 7022 curtain wall size 3750 x 8325mm in twenty four one pane fixed light four one pane aluminium louvered vents with and including fixing on concrete beams and columns to approval (C[32]02).	No.	2		
E.	Nine pane RAL 7022 curtain wall size 7200 x 3487 mm in nine one pane fixed light with and frameless glass door size 2400mm x 2700mm high (measured separately) including fixing on concrete beams and columns to approval (C[32]01).	No.	1		
F.	Eighteen pane RAL 7022 curtain wall size 4200 x 6550mm in four one pane top hung opening light and fourteen one pane fixed light with and including fixing on concrete beams and column to approval (C[32]06).	No.	8		
	<u>The following in MS Louvers in strict accordance to drawing No.(C[32]18)</u>				
	<u>Supply, assemble and fix the mild steel section to be executed by an approved Sub-Contractor complete with fixing frames to jambs, bedding frame in waterproof cement and pointing in approved mastic, oiling easing and adjusting to the approval of the Architect.</u>				
G.	75 x 50mm x 3mm thick Frame	m	34		
H.	Do. but middle and intermediate rails.	m	47		
1155	<u>MAIN BLOCK WINDOWS</u>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Supply, assemble and fix pre painted 18 gauge louvres 153 girth at 110mm centers fixed at 45 degrees to the approval of the architect.	m2	24		
B.	6mm thick clear float glass and glazing to aluminium with beads (supplied) in panes 0.10 - 0.50 square metres.	m2	41		
C.	Do. <u>but</u> in panes 0.50 - 1.00 square metres.	m2	105		
D.	Do. <u>but</u> in panes 1.00 -1.50 square metres.	m2	7		
E.	Do. <u>but</u> in panes 1.50 -2.00 square metres.	m2	38		
F.	Do. <u>but</u> in panes 2.00 - 2.50 square metres.	m2	26		
G.	6mm thick translucent glass and glazing to aluminium with beads (supplied) in panes 0.50 - 1.00 square metres.	m2	1		
H.	8.3mm thick Grey STOPSOL one way laminated safety glass and glazing to aluminium with beads (supplied) in panes 0.10 - 0.50 square metres.	m2	9		
I.	Do. <u>but</u> in panes 0.50 - 1.00 square metres.	m2	4		
J.	Do. <u>but</u> in panes 1.00-1.50 square metres.	m2	29		
K.	Do. <u>but</u> in panes 1.50-2.00 square metres.	m2	220		
L.	Do. <u>but</u> in panes 3.00 - 3.50 square metres.	m2	14		
M.	Supply, assemble and fix RAL 7022 powder coated aluminium louvres size 38 x 72 x 2mm at 65mm centers fixed at 45 degrees to the approval of the architect.	m2	62		
N.	Supply and fix one way white translucent film to aluminium windows (measured seperately) or other equal and approved sandblasted film to the approval of the Architect.	m2	507		
				Shs.	
1155	<u>MAIN BLOCK WINDOWS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	<p>Prepare, prime with one coat of zinc chromate primer and apply one undercoat and two gloss finishing coats of "Crown Paints Solo" or other equal and approved oil paint on general surfaces of metalwork externally to be executed by an approved Sub-contractor.</p> <p align="center"><u>ELEMENT E</u></p> <p align="center"><u>WINDOWS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from Page No. 2/17</p> <p>" " " " " 2/18</p> <p>" " " " " 2/19</p> <p>" " " " " 2/20</p> <p>" " " " " 2/21</p> <p><u>TOTAL AMOUNT OF ELEMENT E CARRIED TO SUMMARY AT END OF BILL NO. 2</u></p>	m2	48	Shs.	
1147	<p><u>MAIN BLOCK</u></p> <p><u>WINDOWS</u></p> <p><u>COLLECTION</u></p>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>ELEMENT F</u></p> <p><u>DOORS</u></p> <p><u>12mm toughened frameless glass door complete with and including approved 2 No. heavy duty floor springs, 4 no. hinges, stainless steel patch fittings, 2 pairs of straight stainless steel tubular pull handles, lock and all other necessary ironmongery to the architect's approval.</u></p>				
A.	Double leaf door size 2400mm x 2700mm high (C(31)01)	No.	1		
	<p><u>30 min fire rated single leaf single swing mild steel door as supplied by ASSA ABLOY or other equal and approved Supplier, laminated in approved veneer with 100 x 600mm top fixed panel filled in 7mm thick fire rated georgian wire clear glass complete with and including approved fire and smoke intumescent strips, push bar, hinges and all necessary fire door ironmongery.</u></p>				
B.	Single leaf door size 1000mm x 2700mm high (C(31)02).	No.	2		
C.	Single leaf door size 1000mm x 2700mm high (C(31)07).	No.	4		
	<p><u>Supply, assemble and fix the following purpose made heavy gauge approved colour powder coated aluminium section size 100 x 50 x 5mm thick doors to be executed by an approved Sub-Contractor complete with fixing frames to jambs, bedding frame in waterproof cement and pointing in approved mastic, oiling easing and adjusting to the approval of the Architect (ironmongery, frame and glazing measured separately)</u></p> <p><u>Approved powder coated aluminium rebated frames</u></p>				
D.	50 x 100mm Rebated frame	m	63		
E.	Do. (Transome).	m	9		
F.	Do. (Mullion).	m	1		
				Shs.	
1155	<u>MAIN BLOCK DOORS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	150 x 50mm Rebated Bottom Rail	m	10		
B.	Double leaf door size 1500mm x 2100mm high (C(31)03).	No.	1		
C.	Do. <u>but</u> size 1500mm x 2100mm high (C(31)08).	No.	1		
D.	Single leaf door size 900mm x 2100mm high (C(31)04).	No.	1		
E.	<u>45mm (Finished) semi solid core flush doors to B.S. 459 part 2 faced both sides with and including approved hardwood veneer and hardwood lipped on all edges.</u> Double leaf door size 1200 x 2400mm high (C(31)13), (C(31)19).	No.	2		
F.	Single leaf door size 1000 x 2100mm high complete with and including 6mm thick 150 x 450mm double clear glazing view panel (C(31)14).	No.	8		
G.	Single leaf door size 900 x 2100mm high with and including 700 x 50 x 12mm at timber louveres at 50mm centre fixed to stile at 45 degrees. (C(31)10).	No.	1		
H.	Single leaf door size 900 x 2100mm high (C(31)09).	No.	11		
I.	Do. <u>but</u> size 900mm x 2100mm (C(31)11), (C(31)15), (C(31)16).	No.	24		
J.	Do. <u>but</u> 20mm semi solid core single leaf flush door size 900 x 2100mm high complete with and including post formed edges (C(31)05).	No.	17		
K.	<u>20mm (Finished) solid core flush doors to B.S. 459 part 2 faced both sides with and including approved hardwood veneer and hardwood lipped on all edges.</u>				
L.	Single leaf door size 550 x 2100 mm high (C(31)06).	No.	12		
				Shs.	
1155	<u>MAIN BLOCK DOORS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>45 mm thick mahogany solid panel door comprising 150 x 50 frame infilled with approved panels 6mm thick clear glass and all joints glued and clamped including necessary reinforcement,beads and fixed in position to the approval of the architect.</u>				
A.	Single leaf door size 1000 x 2100mm high (C(31)12).	No.	2		
B.	Supply and fix one way white translucent film to aluminium doors (measured seperately) or other equal and approved sandblasted film to the approval of the Architect.	m2	29		
C.	Supply and fix lead lined sheets and all necessary fixing accesories to the approval of the Architect.	m2	11		
	<u>Mahogany framed frames and finishings</u>				
D.	150 x 50mm Frame with one labour, plugged.	m	444		
E.	150 x 50mm Transome with two labours.	m	37		
F.	50 x 20mm Architrave with three labours.	m	387		
G.	Decorative Architrave with three labours.	m	57		
H.	15 x 15mm Quadrant.	m	444		
I.	25 x 25mm glazing bead with three labours.	m	135		
	<u>Supply and fix only the following UNION catalogue ironmongery complete with all matching screws and keys to timber/metal (Reference to this particular catalogue is given as a guide to type and quality only and equal and approved alternatives may be used).</u>				
	<u>To timber doors</u>				
J.	4"x3"x3mm Thick antique brass hinges	Prs.	25 1/2		
				Shs.	
1155	<u>MAIN BLOCK DOORS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Brass ball bearing 100 x 76 x 2mm (HN-BN-40320) hinges.	Prs.	72		
B.	Malpa hinges.	Prs.	18		
C.	3-Lever brass locks complete with matching handles.	No.	48		
D.	9" Antique brass door knob	No.	17		
E.	Overhead door closer	No.	11		
F.	Push plate	No.	8		
G.	Bathroom SS indicator bolt.	No.	35		
H.	Male/female symbol.	No.	4		
I.	Stainless steel coat hook	No.	70		
J.	Black rubber door stops with rawl bolts.	No.	62		
K.	Black PVC door stops.	No.	3		
L.	Chrome plated grab bar.	No.	2		
M.	Push bar handle for fire door.	No.	6		
N.	Medway flared bar for duct door.	No.	12		
O.	<u>To Aluminium Doors</u>				
P.	Heavy duty parliament pin hinges	No.	8		
Q.	Aluminium door lockcase	No.	3		
R.	Deltana solid overhead door closer.	No.	3		
S.	Black PVC door stops.	No.	24		
T.	Prepare and apply one coat of aluminium wood primer on backs of wood surfaces as before.	m2	44		
				Shs.	
1155	<u>MAIN BLOCK DOORS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on general surfaces of timber doors internally to be executed by an approved Sub-Contractor.	m2	281		
B.	Do. <u>but</u> surfaces 100 - 200mm girth internally.	m	444		
C.	8mm Clear float glass and glazing to timber doors with beads (measured separately) in panes 0.50 - 1.00square metres.	m2	24		
D.	10mm Toughened clear glass and glazing to aluminium doors with beads (supplied) in panes 0.00 - 0.50 square metres.	m2	2		
E.	Do. <u>but</u> in panes 0.50 - 1.00 square metres.	m2	1		
F.	Do. <u>but</u> in panes 1.50 - 2.00 square metres.	m2	21		
				Shs.	
	<u>ELEMENT F</u>				
	<u>DOORS</u>				
	<u>COLLECTION</u>				
	Brought forward from page No. 2/22				
	" " " " " 2/23				
	" " " " " 2/24				
	" " " " " 2/25				
	" " " " " 2/26				
	<u>TOTAL AMOUNT OF ELEMENT F CARRIED TO SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u>				
	<u>DOORS</u>				
	<u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT G</u>				
	<u>EXTERNAL WALL FINISHES</u>				
A.	15mm Cement and sand (1:4) external rendering on walls finished smooth with a wood float.	m2	1,069		
B	Do. (Sunshading columns).	m2	155		
C	Do.(to receive alucobond cladding)	m2	335		
	<u>The following work to be executed by an approved subcontractor.</u>				
D.	Prepare and apply one undercoat and two finishing coats of "Crown Permacote" Exterior Emulsion with Telfon or other equal and approved plastic emulsion paint on plastered walls externally.	m2	1,069		
E.	Prepare and apply 'Crown Paints Solo' or other equal and approved wallmaster textured finish on rendered walls externally.	m2	155		
F.	Supply and assemble 3mm thick "Alucobond" or other equal and approved composite aluminium wall cladding panel in 600 x 600mm panels fixed onto concrete and masonry surface with 65 x 55 x 2.5mm U-shaped mild steel section complete with and including all necessary plastic board thermal seperator, AI liner cutting, aluminium blind reveting and stainless steel bolting.(All provisional)	m2	335		
	<u>TOTAL AMOUNT FOR ELEMENT G CARRIED TO SUMMARY AT THE END OF BILL NO. 2</u>			Shs.	
1155	<u>MAIN BLOCK</u> <u>EXTERNAL WALL FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT H INTERNAL</u> <u>WALL FINISHES</u>				
A.	150 x 50mm hardwood coping, plugged.	m	49		
B.	12mm Two coat internal lime plaster on walls and beam surfaces finished smooth with a steel trowel.	m2	3,660		
C.	Do. but finished to receive ceramic wall tiles (measured separately) <u>Saj Ceramics or other equal and approved coloured ceramic wall tiles fixed on backing plaster (measured separately) with an approved adhesive and jointed and flush pointed with grouting to match tile.</u>	m2	391		
D.	300 x 450 x 8mm wall tiles (Maximum expected purchasing price Kshs 1200)	m2	391		
E.	Prepare and apply one coat of aluminium wood primer on backs of wood surfaces as before. <u>The whole of the following work is to be executed by an approved Sub-Contractor.</u>	m2	7		
F.	Prepare and apply one skimming coat, one acrylic undercoat and two finishing coats of "Crown Wall Care" or other equal and approved silk vinyl emulsion paint on plastered walls internally.	m2	3,660		
G.	Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on timber surfaces 200-300mm girth internally.	m	49		
H.	18mm thick laminated MDF panels with Meru Oak veneer on plastered wall, acoustic foam sound insulation complete with and including approved 75 x 45mm thick timber battens plugged to wall at approved intervals. (Board Room and Meeting Room)	m2	163		
	<u>TOTAL AMOUNT FOR ELEMENT H CARRIED TO SUMMARY AT THE END OF BILL NO. 2</u>			Shs.	
1155	<u>MAIN BLOCK</u> <u>INTERNAL WALL FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT I</u>				
	<u>FLOOR FINISHES</u>				
	<u>Beds and backings</u>				
A.	40mm Cement and sand (1:3) bed to receive floor tiling (measured separately).	m2	1,470		
B.	40mm thick (average) M20 grade concrete screed as before (wet areas and terrace)	m2	234		
	<u>Approved Porcelain floor tiles fixed on floor screed (measured separately) with pegoland adhesive, jointed and flush pointed with grout to match tile.</u>				
	<u>(Pricing to allow for a provision of a joint to be filled with silicon after every 9-12m2)</u>				
C.	600 x 600 x 9mm non-slip floor tiles (Maximum expected purchasing price Kshs 2500)	m2	908		
D.	100mm skirting	m	718		
	<u>Saj ceramics or other equal and approved ceramic floor tiles fixed on floor screed (measured separately) with an approved adhesive, jointed and flush pointed with grout to match tile.</u>				
E.	400 x 400x 10mm Non-slip floor tiles (Maximum expected purchasing price Kshs 1500)	m2	251		
F.	100mm skirting	m	323		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FLOOR FINISHES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Carpet Flooring</u>				
A.	10mm thick high quality approved heavy duty carpet complete with and including fixing and brass nap lock trims at door openings to architect's approval.	m2	109		
B.	200 x 25mm hardwood skirting.	m	54		
	<u>Epoxy Floor Finish</u>				
C.	Prepare surface, prime with two coats of X-shield FLR primer and apply 6mm thick X-Tech Epoxy floor SL4 available from 'X-CALIBUR' or other equal strictly in accordance with the manufacturer's printed specifications and Architects approval.	m2	202		
D.	100mm skirting	m	192		
	<u>Concrete Tiles</u>				
E.	200 x 200 x 20mm Mitchell Cotts (Kenya) Limited or other equal and approved precast concrete interlocking bedded, jointed and pointed in cement and sand screed on acrylic cementitious waterproofing (measured separately). (Terrace)	m2	32		
F.	100mm skirting	m	35		
G.	Supply and apply two coats of Dr.Fixit Pidifin 2k Acrylic Cementitious waterproofing coating as before.(Wet areas and Terraces)	m2	234		
H.	Prepare and apply one coat of aluminium wood primer on backs of wood surfaces as before.	m2	11		
I.	Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on timber surfaces 200-300mm girth to be executed by an approved Sub-Contractor.	m	54		
J.	Dividing strips of differing floor finishes margins.	m2	66		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FLOOR FINISHES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT I</u> <u>FLOOR FINISHES</u> <u>COLLECTION</u> Brought forward from page No. 2/29 " " " " " 2/30 <u>TOTAL AMOUNT OF ELEMENT I CARRIED TO SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u> <u>FLOOR FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT J</u>				
	<u>CEILING FINISHES</u>				
	<u>12mm thick gypsum plasterboard suspended ceiling on and including approved heavy duty steel studwork support at approved centres to the entire satisfaction of the Architect.</u>				
A	Flat suspended ceiling.	m2	171		
B.	Do. <u>but</u> moisture resistant.	m2	153		
C.	Vertical return to ceiling.	m2	3		
D.	Approved cornice.	m	394		
E.	Extra over do. for trap door size 600 x 600mm to Architects approval.	No.	3		
F.	Armstrong minaboard suspended ceiling comprising 600 x 600 x 15mm fine fisured laid in grid acoustic ceiling on and including tegular grid system complete with white perimeter, curved trim and wall angles where necessary.	m2	1,125		
G.	Extra over do. for trap door size 600 x 600mm to Architects approval	No.	10		
H.	Supply and fix 30BD aluminium panel baffle ceiling as Luxalon available from Hunter Douglas or other equal and approved supplier fixed strictly in accordance with the Manufacturer's printed specification.	m2	38		
I.	Prepare and apply one undercoat and two finishing coats of 'Crown Paints Solo' or other equal and approved matt emulsion paint on suspended ceiling to be executed by an approved Sub-Contractor.	m2	366		
	<u>TOTAL AMOUNT FOR ELEMENT J CARRIED TO SUMMARY AT THE END OF BILL NO.2</u>			Shs.	
1155	<u>MAIN BLOCK</u> <u>CEILING FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT K</u>				
	<u>STAIRCASE FINISHES AND BALUSTRADES</u>				
A.	12mm Two coat lime plaster on concrete soffits finished smooth with a steel trowel.	m2	15		
B.	Do. <u>but</u> sloping.	m2	40		
C.	Do. <u>but</u> to edges of sloping staircase stringers	m2	10		
	<u>Cement and sand (1:3) beds and backings</u>				
D.	42mm floor bed on concrete finished to receive porcelain tiles (measured separately).	m2	15		
E.	20mm Finish on concrete tread 250mm wide.	m	144		
F.	Do. <u>but</u> 300mm wide.(steps)	m	8		
G.	Do. <u>but</u> on face of concrete riser 150mm high.	m	158		
	<u>Approved Porcelain floor tiles fixed on floor screed (measured separately) with pegoland adhesive, jointed and flush pointed with grout to match tile.</u>				
	<u>(Pricing to allow for a provision of a joint to be filled with silicon after every 9-12m2)</u>				
H.	Non slip porcelain tiles (Maximum expected purchasing price Kshs 2500)	m2	15		
I.	250mm wide tread	m	144		
J.	Do. <u>but</u> 300mm wide.(steps)	m	8		
K.	150mm high riser.	m	158		
L.	Extra over granito tiles on tread for 5mm wide x 3mm deep anti slip grooves cut into 9mm thick porcelain tiles finish	m	395		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>STAIRCASE FINISHES AND BALUSTRADES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	1000mm High staircase balustrading to sloping stairs comprising of 60mm diameter polished stainless steel handrail, 5 No. 25mm diameter stainless steel intermediate railings at 170mm spacing, 50 x 10mm stainless steel flat bar balusters twisted on one end to receive railing with fishtail on one end fixed into reinforced concrete and grouted at approved centers in strict accordance with Architect's detail (L42(02)) (Entrance Staircase)	m	8		
B.	Do. <u>but</u> 300mm high (Terrace)	m	19		
C.	1050mm High staircase balustrading to sloping stairs comprising of 60mm diameter mild steel handrail, 5 No. 25mm diameter mild steel intermediate railings at 180mm spacing, 50 x 10mm mild steel flat bar balusters twisted on one end to receive railing with fishtail on one end fixed into reinforced concrete and grouted at approved centers in strict accordance with Architect's detail (L44(05-06))(Emergency Staircase)	m	31		
D.	60mm Diameter mild steel hand rail welded onto 25mm diameter x 4mm thick fixing rods suitably fixed into walls at approved center all encased in 4mm thick nylon sleeve all in strict accordance with architect's detail (L44(03)) (Emergency Staircase).	m	31		
	<u>The whole of the following work is to be executed by an approved Sub-Contractor.</u>				
E.	Prepare and apply one mist coat and two finishing coats of 'Crown Paint Solo' or other equal and approved emulsion paint on plastered concrete soffits internally.	m ²	55		
	Do. <u>but</u> to edges of sloping staircase stringers.	m ²	10		
F.	Prepare, touch up primer and apply one undercoat and				
G.	two gloss finishing coats of 'Crown Paints Solo' or other equal and approved oil paint on general surfaces of mild steel internally.	m ²	62		
	Do. <u>but</u> surfaces not exceeding 100mm girth internally.	m ²	31		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>STAIRCASE FINISHES AND BALUSTRADES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT K</u> <u>STAIRCASE FINISHES AND BALUSTRADES</u> <u>COLLECTION</u> Brought forward from page No. 2/33 " " " " " 2/34 <u>TOTAL AMOUNT OF ELEMENT K CARRIED TO</u> <u>SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u> <u>STAIRCASE FINISHES AND BALUSTRADES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT L</u>				
	<u>JOINERY FITTINGS</u>				
	<u>Joinery Fittings</u>				
	<u>The following in High Level Cabinets</u>				
A.	4750mm long x 300mm Wide x 750mm high; high level cabinets in 18mm laminated mdf sides & shelves complete with doors with glass, shelves, divisions, drawers and all necessary ironmongery and fixing accessories, painting and decoration strictly in accordance with drawing No. L(73b)04 and to the approval of the architect. (Bio-Chemistry)	No.	1		
B.	Do. 2700mm long.(Haematology)	No.	1		
C.	Do. 1350mm long.(Specimen room)	No.	1		
D.	Do. 4500mm long.(Microbiology)	No.	1		
E.	Do. 2250mm long.(Laboratory)	No.	1		
F.	Do. 450mm long (Bio Hazard)	No.	1		
	<u>The following in Shelving</u>				
G.	900mm long x 600mm deep x 18mm thick in 2 tiers corian open shelving comprising 18mm thick blockboard backing fixed on 32mm wide 150 x 150 x 3mm angle line complete with all necessary ironmongery and fixing accessories, painting and decoration strictly in accordance with drawing No. L(73b)04 and to the approval of the architect. (Bio-Chemistry)	No.	1		
H.	Do. 1400mm long.(Haematology)	No.	1		
I.	Do. 700mm long.(Specimen room)	No.	1		
J.	Do. 1350mm long.(Microbiology)	No.	1		
K.	Do.600mm long.(Laboratory)	No.	1		
L.	Do. 1350mm long (Bio Hazard)	No.	1		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>JOINERY FITTINGS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>The following in Corian Worktop</u>				
A.	3500mm long x 600mm wide x 900mm High, 18mm thick corian top on 18mm thick blockboard backing fixed on 50 x 50 x 3mm thick rectangular hollow section frame with underbench units comprising 100mm plain concrete (1:3:6) plinth, 18mm mdf laminated shelves, drawers,doors including all necessary ironmongery and fixing accessories complete with approved painting and decoration and including rectangular opening in corian top and block board base for kitchen sink (measured separately) strictly in accordance with drawing No. L(73)01 and to the approval of the architect. (Kitchenette).	No.	1		
B.	Do. 5600mm long strictly in accordance with drawing No. L(73b)04 and to the approval of the architect. (Bio-Chemistry).	No.	1		
C.	Do. 6475mm long.(Haematology)	No.	1		
D.	Do. 4425mm long.(Specimen room)	No.	1		
E.	Do. 4600mm long.(Microbiology)	No.	1		
F.	Do. 4600mm long.(Laboratory)	No.	1		
G.	Do. 4800mm long.(ECG & Ultrasound)	No.	1		
H.	Do. 1850mm long (Bio Hazard)	No.	1		
I.	Do. 3650mm long with bullnose edge(Kitchenette)	No.	1		
	<u>The following in Caretaker's Kitchen strictly in accordance with drawing No. L(73)d</u>				
J.	4200mm long 25mm thick black galaxy granite on 25mm thick blockboard backing including all necessary fixing accessories complete with approved painting and decoration and including rectangular opening in granite top and block board base for kitchen sink (measured separately) to the approval of the architect.	No.	1		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>JOINERY FITTINGS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	3450mm long x 600mm deep x 850mm high low level cupboards comprising 18mm mdf top, base, shelf and doors, 100mm plain concrete (1:3:6) benching with 18mm thick MDF skirting including with all necessary ironmongery and fixing accessories complete with approved painting and decoration.	No.	1		
B.	2400mm long x 600mm Wide x 800mm high; high level cabinets constructed in 18mm laminated mdf complete with doors ,shelves, 4mm thick frosted glass, shelves, divisions, drawers & all necessary ironmongery, fixing accessories, painting and decoration to the approval of the architect.	No.	1		
D.	300mm long x 300mm wide x 800mm high 6mm thick open glass shelving complete with all necessary fixing accessories to the approval of the architect.	No.	1		
E.	300mm long x 600mm wide x 800mm high wine rack constructed in 18mm thick MDF complete with all necessary fixing accessories, painting and decoration to the approval of the architect.	No.	1		
	<u>The following in Doctors and Nurses Handwash Cabinet strictly in accordance with drawing No. L(73)d</u>				
F.	900mm long x 600mm wide x 900mm high x 50mm thick granito countertop and backsplash with bullnose on 18mm mdf base with underbench units comprising 100mm granito tile skirting,shelves, drawers, fronts, doors , 20mm thick plywood base and frame fixed on 75mm x 100mm bracing studs complete with all necessary ironmongery and fixing accessories, painting and decoration including rectangular opening in granite top and blockboard base for kitchen sink all to the approval of the architect.	No.	6		
G.	6mm Grade 'A' mirror size 600 x 750mm with bevelled edges fixed on MDF backing (measured separately) complete with and including 4No. Chrome capped screws.	No.	6		
H.	12mm MDF backing fixed to mansonry walling complete with all necessary fixing accessories to approval.	m2	3		
1155	<u>MAIN BLOCK JOINERY FITTINGS</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>The following in 2No. Reception Counters</u>				
A.	Reception counter overall size 4250mm long x 1300mm wide comprising 1200mm high top fixed on 450mm side fascia supported on 750mm high top constructed from laminate MDF fixed on 50 x 50mm ms sections complete with and including MDF backing, shelves, drawers, wrought iron with honey comb perforations, handles, good quality sliders, locks finished in white marble facing , perforated metal screen and 150mm stainless steel skirting and fixing system strictly in accordance to drawing No. (L(72a)03-05) all to the approval of the Architect. (Ground Floor)	No.	1		
B.	Do.but size 3550mm long x 4250mm wide strictly in accordance to drawing No. (L(74e)01-02) all to the approval of the Architect. (First Floor)	No.	1		
	<u>The following in 1 No. Caretaker's Wadrobe</u>				
C.	Wadrobe measuring 2700mm long x 600mm wide x 2500mm high in three compartments comprising 2 No.18mm thick American walnut preformed laminate MDF doors, 4 no. 25mm softwood sides, mdf top and bottom drawers on unitson rollers panels, mirrors, shoe rack, 20mm dia chrome pipe hanging rail including all necessary iron mongery, fixing accessories and painting and decoration strictly in accordance with drawing No. L(76) all to the approval of the architect.	No.	1		
	<u>The following in 6 No.Washroom Vanity Tops</u>				
D.	75mm vibrated reinforced concrete (class 25) suspended worktop.	m2	7		
E.	Steel wire fabric mesh reinforcement Ref:A 142 in suspended concrete trough otherwise as before.	m2	7		
	<u>Sawn formwork</u>				
F.	Soffit of suspended concrete slab.	m2	3		
G.	Do. <u>but</u> sloping	m2	4		
H.	Edge of suspended concrete slab not exceeding 75mm high.	m	15		
I.	Do. <u>but</u> sloping	m	16		
1155	<u>MAIN BLOCK</u> <u>JOINERY FITTINGS</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	450 x 330mm Temporary boxing in concrete woktop to form opening for wash hand basin (measured separately).	No.	6		
B.	75mm Chase in stone wall for building in end of 75mm concrete slab.	m	9		
	<u>Finishes</u>				
C.	25mm Approved polished granite slab fixed on backing screed (measured separately).	m2	7		
D.	Do. <u>but</u> 100mm wide fascia.	m	15		
E.	12mm internal lime plaster finished smooth to concrete soffits (ladies and gents).	m2	7		
	<u>Cement sand (1:4) screed</u>				
F.	25mm Paving on concrete slab finished to receive granite.	m2	7		
G.	25mm finish on 100mm Wide concrete fascia (ladies).	m	15		
				Shs.	
1155	<u>MAIN BLOCK</u> <u>JOINERY FITTINGS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT L</u> <u>JOINERY FITTINGS</u> <u>COLLECTION</u> Brough forward from page 2/36 " " " " 2/37 " " " " 2/38 " " " " 2/39 " " " " 2/40 <u>TOTAL AMOUNT FOR ELEMENT L CARRIED TO SUMMARY AT END OF BILL NO. 2</u>				
				Shs.	
1155	<u>MAIN BLOCK</u> <u>JOINERY FITTINGS</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>ELEMENT M</u></p> <p><u>BUILDER'S WORK IN CONNECTION WITH SPECIALIST SERVICES</u></p> <p><u>Internal plumbing, fire-fighting and drainage installations.</u></p>				
A.	Hole through 150mm reinforced concrete slab for small pipe and make good.	No.	4		
B.	Do. <u>but</u> large pipe.	No.	2		
C.	Hole through 200mm thick masonry wall for small pipe and make good.	No.	5		
	Do. But 150mm thick	No.	25		
D.	Cut horizontal or vertical chase in masonry walling for small pipe and make good.	m	25		
E.	Hole through suspended roof slab for large pipe including forming collar around pipe.	No.	1		
	<p><u>Electrical Installation</u></p> <p><u>Cut away for and make good after electrician installing concealed conduit system to the following points including cutting or leaving holes, notches, mortices, sinking in both the structure and its coverings and make good to them.</u></p>				
F.	Lighting points Lighting	No.	90		
G.	switch points. Single	No.	90		
H.	socket outlet points.	No.	90		
I.	Consumer unit point.	No.	1		
	<p><u>TOTAL AMOUNT FOR ELEMENT M CARRIED TO SUMMARY AT THE END OF BILL NO.2</u></p>			Shs.	
1155	<p><u>MAIN BLOCK</u></p> <p><u>B.W.I.C.</u></p> <p><u>COLLECTION</u></p>				

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ITEM No.		Shs. Cts.																																													
	<p><u>BILL NO. 2</u></p> <p><u>MAIN BLOCK</u></p> <p><u>SUMMARY</u></p>																																														
	<table border="0"> <thead> <tr> <th align="left"><u>Element</u></th> <th align="left"><u>Title.</u></th> <th align="right"><u>Page No.</u></th> </tr> </thead> <tbody> <tr> <td>A.</td> <td>Substructures (<u>All Provisional</u>)</td> <td align="right">2/5</td> </tr> <tr> <td>B.</td> <td>Frame.</td> <td align="right">2/9</td> </tr> <tr> <td>C.</td> <td>External and Internal Walls.</td> <td align="right">2/12</td> </tr> <tr> <td>D.</td> <td>Roof Terrace Finishes</td> <td align="right">2/16</td> </tr> <tr> <td>E.</td> <td>Windows</td> <td align="right">2/21</td> </tr> <tr> <td>F.</td> <td>Doors</td> <td align="right">2/26</td> </tr> <tr> <td>G.</td> <td>External Wall Finishes.</td> <td align="right">2/27</td> </tr> <tr> <td>H.</td> <td>Internal Wall Finishes.</td> <td align="right">2/28</td> </tr> <tr> <td>I.</td> <td>Floor Finishes.</td> <td align="right">2/31</td> </tr> <tr> <td>J.</td> <td>Ceiling Finishes.</td> <td align="right">2/32</td> </tr> <tr> <td>K.</td> <td>Staircase Finishes and Balustrading</td> <td align="right">2/35</td> </tr> <tr> <td>L.</td> <td>Joinery Fittings</td> <td align="right">2/41</td> </tr> <tr> <td>M.</td> <td>Builder's Works in Connection with Specialist Services (<u>All Provisional</u>)</td> <td align="right">2/42</td> </tr> <tr> <td></td> <td><u>TOTAL AMOUNT OF BILL NO. 2 CARRIED TO FINAL SUMMARY.</u></td> <td align="right">Shs.</td> </tr> </tbody> </table>	<u>Element</u>	<u>Title.</u>	<u>Page No.</u>	A.	Substructures (<u>All Provisional</u>)	2/5	B.	Frame.	2/9	C.	External and Internal Walls.	2/12	D.	Roof Terrace Finishes	2/16	E.	Windows	2/21	F.	Doors	2/26	G.	External Wall Finishes.	2/27	H.	Internal Wall Finishes.	2/28	I.	Floor Finishes.	2/31	J.	Ceiling Finishes.	2/32	K.	Staircase Finishes and Balustrading	2/35	L.	Joinery Fittings	2/41	M.	Builder's Works in Connection with Specialist Services (<u>All Provisional</u>)	2/42		<u>TOTAL AMOUNT OF BILL NO. 2 CARRIED TO FINAL SUMMARY.</u>	Shs.	
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1155	<p><u>BILL NO. 2</u></p> <p><u>SUMMARY</u></p>	2/43																																													

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>BILL NO. 3</u>				
	<u>GATE HOUSE AND ASSOCIATED FACILITIES</u>				
	<u>ELEMENT A</u>				
	<u>SUBSTRUCTURES</u> <u>(ALL PROVISIONAL)</u>				
A.	Allow for planking and strutting to sides of excavations.	Item			
B.	Allow for keeping excavations free from all spring and running water.	Item			
C.	Excavate over site to reduce levels commencing at existing ground level and not exceeding 1.50m	m3	181		
D.	Do. <u>but</u> 1.50- 3.00m deep.	m3	36		
E.	Excavate foundation trench commencing at reduced level and not exceeding 1.50m deep.	m3	13		
F.	Do. <u>but</u> column base.	m3	27		
G.	Do. <u>but</u> 1.50- 3.00m deep.	m3	9		
H.	Extra over excavation for excavating in rock.	m3	22		
I.	Return fill and ram selected excavated material around foundations.	m3	13		
J.	Remove surplus excavated material from site	m3	253		
	<u>Selected hardcore</u>				
K.	Filling in making up levels under floors, spread, levelled, well rammed and consolidated in 150mm thick layers.	m3	216		
L.	300mm Bed spread, levelled, well rammed and consolidated and blinded with 50mm thick murrum, quarry dust or sand to receive damp proof membrane (measured separately).	m2	96		
M.	Do. <u>but</u> laid to slope (ramp)	m2	3		
N.	Hand pack hardcore to form vertical sides of duct channel.	m2	13		
O.	Grade bottoms of excavations or surfaces of filling to falls and crossfalls including rolling and compacting to 98% MDD compaction.	m2	926		
1155	<u>GATE HOUSE</u> <u>SUBSTRUCTURES</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Approved insecticide treatment.	m2	127		
B.	1000 Gauge 'Diothene' or other equal and approved polythene sheeting as damp proof membrane laid on blinded hardcore (measured separately) with welted laps (measured net-no allowance made for laps).	m2	114		
C.	Do. <u>but</u> vertical sides of duct channel. <u>Plain Concrete (1:3:6)</u>	m2	13		
D.	50mm Blinding under foundations.	m2	52		
E.	Do. <u>but</u> under column bases. <u>Vibrated reinforced concrete (Grade 25)</u>	m2	13		
F.	Foundations	m3	10		
G.	Column bases.	m3	25		
H.	Columns.	m3	1		
I.	Ramp	m3	1		
J.	150mm channel sides.	m2	13		
K.	150mm Bed laid on damp proof membrane (measured separately) in bays not exceeding 50 square metres including formwork to edge of bays.	m2	110		
L.	Extra over labour for forming grooves in unset concrete <u>Ribbed bar steel reinforcement as before.</u>	m2	3		
M.	8mm Bar	Kg.	715		
N.	10mm Bar	Kg.	55		
O.	12mm Bar	Kg.	160		
P.	16mm Bar	Kg.	115		
Q.	25mm Bar	Kg.	3,400		
R.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref: A 142 and K.S. 02 - 18: 1976 in concrete bed as before.	m2	113		
				Shs.	
1155	<u>GATE HOUSE</u> <u>SUBSTRUCTURES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Sawn formwork</u>				
A.	Sides of foundations.	m2	34		
B.	Sides of column bases.	m2	26		
C.	Sides of columns.	m2	5		
D.	Edge of bed 75- 150mm high.	m	59		
E.	Edge of ramp 75-150mm high.	m	18		
F.	Edge of channel 75-150mm high.	m	27		
	<u>Approved local stone walling in cement mortar (1:3); including hoop iron reinforcement where required by the Engineer</u>				
G.	200mm walling.	m2	155		
H.	50 x 50 x 3mm mild steel angle frame cast into and including forming rebate in edge of concrete channel.	m	27		
I.	6mm Chequer plate cover 600mm wide with and including approved handles welded on at ends.	m	12		
J.	Do. 450mm wide	m	1		
K.	15mm Cement and sand (1:4) external rendering to plinths finished smooth with a wood float.	m	27		
L.	Prepare and apply one undercoat and two finishing coats of bituminous paint or other equal an approved water resistant paint on rendered plinth.	m	27		
	<u>Beds and backings</u>				
M.	40mm cement and sand (1:3) paving to duct channel base.	m2	8		
N.	20mm Two coat plaster finish to sides of duct channel.	m2	13		
				Shs.	
1155	<u>GATE HOUSE</u> <u>SUBSTRUCTURES</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p>Supply and apply two coats of Dr.Fixit Pidifin 2k Acrylic Cementitious waterproofing coating as before.</p> <p>A. Two coat waterproofing on duct channel base.</p> <p>B. Two coat waterproofing on sides of duct channel.</p>	<p>m2</p> <p>m2</p>	<p>8</p> <p>13</p>		
	<p align="center"><u>ELEMENT A</u></p> <p align="center"><u>SUBSTRUCTURES</u> (ALL PROVISIONAL)</p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from Page No. 3/1</p> <p>" " " " " 3/2</p> <p>" " " " " 3/3</p> <p>" " " " " 3/4</p>			<p align="center">Shs.</p>	
	<p><u>TOTAL AMOUNT FOR ELEMENT A CARRIED TO SUMMARY AT THE END OF BILL NO. 3</u></p>			<p align="center">Shs.</p>	
<p>1155</p>	<p><u>GATE HOUSE</u> <u>SUBSTRUCTURES</u> <u>COLLECTION</u></p>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT B</u>				
	<u>FRAME</u>				
	<u>Vibrated reinforced concrete (Grade 25)</u>				
A.	Columns.	m3	5		
B.	Beams (including gutter beams).	m3	24		
C.	150mm thick suspended slab .	m2	115		
D.	150 x 50mm high concrete kerb.	m	1		
E.	Extra over 20mm thick (average) mass concrete over 250mm wide beam laid to slope.	m	19		
	<u>Ribbed bar steel reinforcement as before (All Provisional)</u>				
F.	8mm Bar	Kg.	1,500		
G.	10mm Bar	Kg.	135		
H.	12mm Bar	Kg.	1,040		
I.	16mm Bar	Kg.	460		
J.	25mm Bar	Kg.	460		
	<u>Sawn formwork</u>				
K.	Sides and soffits of beams.	m2	278		
L.	Do. <u>but</u> curved on plan to 100mm radius	m2	7		
M.	Sides of columns.	m2	54		
N.	Sides of column slanting at 80 degrees from the horizontal.	m2	44		
O.	Soffit of suspended slab.	m2	115		
P.	Edge of suspended slab 75 - 150 mm high	m	55		
Q.	Do. <u>but</u> curved on plan to 695mm radius	m	4		
R.	Edge of kerb not exceeding 75 mm high	m	2		
	<u>TOTAL AMOUNT FOR ELEMENT B CARRIED TO SUMMARY AT END OF BILL NO. 3</u>				
				Shs.	
1155	<u>GATE HOUSE</u> <u>FRAME</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT C</u>				
	<u>EXTERNAL AND INTERNAL WALLS</u>				
	<u>Precast concrete (grade 25) bedded, jointed and pointed in gauged mortar.</u>				
A.	250 x 70mm Coping twice throated and weathered and reinforced as necessary for handling and finished fair on all exposed surfaces.	m	103		
	<u>Approved machine cut local stone walling in gauged mortar.</u>				
B.	100mm Thick internal walling, reinforced.	m2	8		
C.	150mm Thick internal walling, reinforced.	m2	15		
D.	200mm Thick internal walling with hoop iron reinforcement where required by the Engineer.	m2	61		
E.	Do. (external walling).	m2	109		
F.	Do. (parapet walling).	m2	62		
	<u>Pluvex No. 1 or other equal and approved horizontal bitumen damp proof course to B.S. 743 (measured net - no allowance made for laps)</u>				
G.	100mm Wide under walling.	m	4		
H.	150mm Wide under walling.	m	5		
I.	200mm Wide under walling.	m	45		
J.	Do. (under coping)	m	103		
	<u>TOTAL AMOUNT FOR ELEMENT C CARRIED TO SUMMARY AT END OF BILL NO. 3</u>				
				Shs.	
1155	<u>GATE HOUSE</u> <u>EXTERNAL AND INTERNAL WALLS</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT D</u>				
	<u>ROOF CONSTRUCTION, COVERINGS AND RAINWATER DISPOSAL</u>				
A.	Cut 25 x 25mm Horizontal groove in concrete or masonry to a depth of 50mm for turn in of metal flashing and run with gauged mortar.	m	28		
	<u>The following in roof over Vehicle Screening Area</u>				
	<u>Structural steelwork grade 4.3 (Factory primed) with and including epoxy paint to be executed by an approved Sub-Contractor</u>				
	<u>Unframed mild steel including hoisting and fixing in position all to the entire satisfaction of the Structural Engineer.</u>				
B.	75x 50 x 3mm Rectangular hollow section purlin	m	139		
C.	12mm dia 240mm long lugs cast to mass concrete.	No.	49		
D.	Extra for welded connections.	No.	49		
E.	8mm Thick IT5 profiled clear corrugated polycarbonate skylights roofing sheets available from Steel Structures Ltd or other equal and approved supplier fixed on steel structure (measured separately) strictly in accordance with the manufacturer's printed instructions and to the Architect's approval.	m ²	200		
	<u>Beds and backings</u>				
F.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m ²	99		
G.	15mm Do. parapet wall sides.	m ²	12		
H.	15mm Do. on gutter side (guard rooms)	m ²	5		
I.	Do. gutter base (guard rooms)	m ²	12		
J.	15mm Do. on gutter side (vehicle screening area)	m ²	9		
K.	Do. gutter base (vehicle screening area)	m ²	4		
				Shs.	
1155	<u>GATE HOUSE</u> <u>ROOF</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>Note:-</u> A ten year guarantee against defects will be required for the following concrete waterproofing. It is the responsibility of the Contractor to obtain such a guarantee from his Sub-Contractor and submit to the Architect on completion of the project.</p> <p><u>Supply and apply two coats of Dr.Fixit Pidifin 2k Acrylic Cementitious waterproofing coating as before.</u></p>				
A.	Finish to suspended slab	m2	99		
B.	Finish to parapet wall side (guard house)	m2	12		
C.	Finish to gutter side (guard rooms)	m2	5		
D.	Finish to gutter base (guard rooms)	m2	12		
E.	Finish to gutter side (vehicle screening area)	m2	9		
F.	Finish to gutter base (vehicle screening area)	m2	4		
G.	100mm Diameter 'Fullbora' rainwater outlet from East African Foundry or other equal and approved and fixing in concrete slab including jointing to down pipe (measured separately)	No.	4		
H.	200 x 200 x 18mm Mitchell Cotts (Kenya) Limited or other equal and approved precast concrete interlocking roofing tiles bedded, jointed and pointed in cement and sand screed on acrylic cementitious waterproofing (measured separately).	m2	99		
I.	Do. <u>but</u> skirting finish	m	58		
J.	Cut and fit interlocking tiles around 100mm diameter rainwater outlet.	No.	4		
				Shs.	
1155	<u>GATE HOUSE ROOF</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	<p><u>16 Gauge galvanised sheet mild steel</u></p> <p>250mm Horizontal flashing twice bent, one edge dressed over roof sheeting and the other turned into groove (measured separately)</p> <p align="center"><u>ELEMENT D</u></p> <p align="center"><u>ROOF CONSTRUCTION AND COVERINGS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from Page No. 3/7</p> <p> " " " " " 3/8</p> <p> " " " " " 3/9</p> <p><u>TOTAL AMOUNT OF ELEMENT D CARRIED TO SUMMARY AT END OF BILL NO. 3</u></p>	m	28	Shs.	
1155	<p><u>GATE HOUSE</u></p> <p><u>ROOF CONSTRUCTION</u></p> <p><u>COLLECTION</u></p>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT E</u>				
	<u>WINDOWS</u>				
A.	250 x 75mm Precast concrete (class 25) sunk, weathered and throated cill cast in convenient lengths reinforced as necessary for handling, bedded, jointed and pointed in gauged mortar and finished fair on all exposed faces.	m	9		
B.	Horizontal bitumen damp proof course to B.S. 743 250mm wide under window cill (measured net - no allowance made for laps).	m	9		
	<u>The following in window board</u>				
	<u>Wrot Mahogany</u>				
C.	100 x 25mm Window board with one rounded edge.	m	8		
D.	20 x20mm moulded quadrant.	m	8		
	<u>Supply, assemble and fix the following purpose made approved colour powder coated heavy gauge aluminium windows in approved sections minimum size 80 x 50 x 5mm thick complete with all necessary handles, levers or finger pulls and pins, catches and stays, sliding window complete with all necessary handles and approved small locking devices where applicable fixed at pre-determined positions, including snap on glazing beads building in lugs to jambs, plugging and screwing to head and cill and bedding frames in waterproof cement mortar and pointing in approved acrylic mastic and oiling easing and adjusting. All windows have permanent ventilators and include an additional transome at the top with 40mm mosquito gauze panel welded on and including an additional transome at the top.</u>				
	<u>Note: Glazing is measured separately</u>				
E.	Two pane window size 1200 x 900mm comprising one one pane top hung opening light, one one pane aluminium louver vents.((C32)18)	No.	3	Shs.	
1155	<u>GATE HOUSE</u> <u>WINDOWS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Four pane window size 1500 x 1400mm comprising one one pane side hung opening light, two one pane fixed lights and one one pane aluminium louver vents.(C32)17) <u>The following in MS Louvres in strict accordance to drawing No.(C32)19,20</u> <u>Supply, assemble and fix the mild steel section to be executed by an approved Sub-Contractor complete with fixing frames to jambs, bedding frame in waterproof cement and pointing in approved mastic, oiling easing and adjusting to the approval of the Architect.</u>	No.	3		
B.	75 x 50mm x 3mm thick Frame	m	36		
C.	Do. <u>but</u> middle and intermediate rails.	m	28		
D.	Supply, assemble and fix pre painted 18 gauge louveres 153 girth at 110mm centers fixed at 45 degrees to the approval of the architect. (frame measured seperately)	m2	28		
E.	6mm thick clear glass and glazing to aluminium with beads (supplied) in panes 0.10 - 0.50 square metres.	m2	2		
F.	Do. <u>but</u> in panes 0.50 - 1.00 square metres.	m2	5		
G.	6mm thick translucent glass and glazing to aluminium with beads (supplied) in panes 0.50 - 1.00 square metres.	m2	2		
H.	Supply, assemble and fix RAL 7022 powder coated aluminium louveres size 38 x 72 x 2mm at 65mm centers fixed at 45 degrees to the approval of the architect.	m2	2		
I.	Supply and fix one way white translucent film to aluminium windows (measured seperately) or other equal and approved sandblasted film to the approval of the Architect.	m2	8		
J.	Prepare and apply one coat of aluminium wood primer before fixing on backs of wood surfaces in contact with masonry, concrete or plaster.	m2	4		
				Shs.	
1155	<u>GATE HOUSE WINDOWS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	<p>Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on woodwork surfaces 100 - 200mm girth internally to be executed by an approved sub-contractor.</p> <p align="center"><u>ELEMENT E</u></p> <p align="center"><u>WINDOWS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from Page No. 3/10</p> <p>" " " " " 3/11</p> <p>" " " " " 3/12</p> <p><u>TOTAL AMOUNT OF ELEMENT E CARRIED TO SUMMARY AT END OF BILL NO. 3</u></p>	m	8	Shs.	
1155	<p><u>GATE HOUSE</u></p> <p><u>WINDOWS</u></p> <p><u>COLLECTION</u></p>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT F</u>				
	<u>DOORS</u>				
	<u>Mild Steel Loured Doors</u>				
A.	Double leaf door size 4000 x 3800mm comprising of 100 x 50 mm rectangular hollow section door frame with building in lugs and plugging, 200 x 50mm rectangular hollow section bottom stile, 100 x 50 mm rectangular hollow section top, side and middle rail with 18 guage mild steel louvre infill at 45 degrees at approved centres complete with all necessary hinges, catches, bolts etc including oiling and adjusting. C[31]20.	No.	1		
B.	Do.but size 2000 x 2400mm high C[31]19. <u>45mm (Finished) semi-solid core flush doors to B.S. 459 part 2 faced both sides with approved hardwood veneer and hardwood lipped on all edges.</u>	No.	2		
C.	Single leaf door size 900 x 2100mm high (C(31)15), (C(31)11). <u>Wrot mahogany framed frames and finishings</u>	No.	10		
D.	150 x 50mm Frame with one labour.	m	55		
E.	100 x 50mm moulded transome	m	13		
F.	50 x 20mm Architrave with three labours.	m	55		
G.	15 x 15mm Quadrant.	m	55		
H.	25 x 25mm Beading with three labours	m	5		
				Shs.	
1155	<u>GATE HOUSE</u> <u>DOORS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>Supply and fix only the following ASSA ABLOY catalogue ironmongery complete with all matching screws and keys to timber/metal (Reference to this particular catalogue is given as a guide to type and quality only and equal and approved alternatives may be used).</u></p> <p><u>To timber doors:</u></p>				
A.	Brass ball bearing 100 x 76 x 2mm (HN-BN-40320) hinges.	Prs.	15		
B.	3-Lever brass locks complete with matching handles.	No.	10		
C.	Overhead door closer	Prs.	6		
D.	Bathroom SS indicator bolt.	No.	4		
E.	Male/female symbol.	No.	2		
F.	Stainless steel coat hook	No.	4		
G.	Black PVC door stops.	No.	6		
H.	6mm thick clear sheet glass and glazing to timber doors with beads (measured separately) in panes 0.10 - 0.50 square metres.	m2	2		
I.	Prepare and apply one coat of aluminium wood primer on backs of wood surfaces as before.	m2	5		
J.	Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on general surfaces of timber doors internally to be executed by an approved Sub-Contractor.	m2	41		
				Shs.	
1155	<u>GATE HOUSE DOORS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Prepare, prime with one coat of zinc chromate primer and apply one undercoat and two gloss finishing coats of "Crown Paints Solo" or other equal and approved oil paint on general surfaces of metalwork externally to be executed by an approved sub-contractor.	m2	14		
B.	Do. <u>but</u> surfaces 100 - 200mm girth internally.	m	55		
<u>ELEMENT F</u>					
<u>DOORS</u>					
<u>COLLECTION</u>					
Brought forward from page No. 3/13					
" " " " " 3/14					
" " " " " 3/15					
<u>TOTAL AMOUNT OF ELEMENT F CARRIED TO SUMMARY AT END OF BILL NO. 3</u>					
1155	<u>GATE HOUSE</u> <u>DOORS</u> <u>COLLECTION</u>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT G</u>				
	<u>EXTERNAL WALL FINISHES</u>				
A.	15mm Cement and sand (1:4) external rendering on walls finished smooth with a wood float.	m2	431		
B.	Prepare and apply 'Crown Paints Solo' or other equal and approved wallmaster textured finish on rendered walls externally to be executed by an approved Sub-Contractor.	m2	431		
	<u>TOTAL AMOUNT FOR ELEMENT G CARRIED TO SUMMARY AT THE OF BILL NO. 3</u>			Shs.	
1155	<u>GATE HOUSE</u> <u>EXTERNAL WALL FINISHES</u> <u>COLLECTION</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT H INTERNAL</u>				
	<u>WALL FINISHES</u>				
A.	200 x 50mm hardwood coping, plugged.	m	21		
B.	12mm Two coat internal lime plaster on walls finished smooth with a steel trowel.	m2	232		
C.	Do. <u>but</u> finished to receive ceramic wall tiles (measured separately).	m2	86		
	<u>Saj Ceramics or other equal and approved coloured ceramic wall tiles fixed on backing plaster (measured separately) with an approved adhesive and jointed and flush pointed with grouting to match tile.</u>				
D.	300 x 450 x 8mm wall tiles (Maximum expected purchasing price Kshs 1200)	m2	86		
E.	Prepare and apply one coat of aluminium wood primer on backs of wood surfaces as before.	m2	4		
	<u>The whole of the following work is to be executed by an approved Sub-Contractor.</u>				
F.	Prepare and apply one skimming coat, one acrylic undercoat and two finishing coats of "Crown Wall Care" or other equal and approved silk vinyl emulsion paint on plastered walls internally.	m2	232		
G.	Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish on timber surfaces 200-300mm girth.	m	21		
	<u>TOTAL AMOUNT FOR ELEMENT H CARRIED TO SUMMARY AT THE OF BILL NO. 3</u>			Shs.	
1155	<u>GATE HOUSE</u> <u>INTERNAL WALL FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT I</u>				
	<u>FLOOR FINISHES</u>				
	<u>Cement and sand (1:3) beds and backings.</u>				
A.	42mm floor bed on concrete finished to various finishes (measured separately).	m2	81		
B.	40mm thick (average) M20 grade concrete screed as before (wet areas and terrace)	m2	15		
	<u>Saj ceramics or other equal and approved ceramic floor tiles fixed on floor screed (measured separately) with an approved adhesive, jointed and flush pointed with grout to match tile.</u>				
D.	400 x 400x 10mm Non-slip floor tiles (Maximum expected purchasing price Kshs 1500)	m2	35		
E.	Do. <u>but</u> 100mm high skirting.	m	10		
	<u>Powerfloat Floor Finish</u>				
F.	50mm thick powerfloated monolithic screed to concrete surfaces with Sika- 3 Quartz Top hardener as manufactured by Sika or other equal and approved supplier laid strictly in accordance with the manufacturer's printed specification.	m2	46		
G.	100mm high screed skirting.	m	51		
	<u>TOTAL AMOUNT OF ELEMENT I CARRIED TO SUMMARY AT END OF BILL NO. 3</u>			Shs.	
1155	<u>GATE HOUSE</u> <u>FLOOR FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>ELEMENT J</u></p> <p><u>CEILING FINISHES</u></p>				
A.	Armstrong minabord suspended ceiling comprising 600 x 600 x 15mm fine fisured laid in grid accoustic ceiling on and including tegular grid system complete with white perimeter, curved trim and wall angles where necessary.	m2	82		
B.	Extra over do. for trap door size 600 x 600mm to Architects approval.	No.	2		
	<u>Baffle Ceiling</u>				
C.	Supply and fix 30BD aluminium panel baffel ceiling as Luxalon available from Hunter Douglas or other equal and approved manufacturer fixed strictly in accordance with the Manufacturer's printed specification. (vehicle screening area)	m2	83		
	<u>TOTAL AMOUNT FOR ELEMENT J CARRIED TO SUMMARY AT END OF BILL NO. 3</u>			Shs.	
1155	<u>GATE HOUSE</u> <u>CEILING FINISHES</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A	<p align="center"><u>ELEMENT K</u></p> <p align="center"><u>JOINERY FITTINGS</u></p> <p><u>The following in Security Room Worktop</u></p> <p>2500mm long x 550mm wide 750mm High 18mm thick corian top on 18mm thick mdf worktop fixed on 50 x 50 x 3mm thick rectangular hollow section frame including all necessary ironmongery and fixing accessories complete with approved painting and decoration to the approval of the architect.</p>	No	1		
	<p><u>TOTAL AMOUNT FOR ELEMENT K CARRIED TO SUMMARY AT END OF BILL NO. 3</u></p>			Shs.	
1155	<p><u>GATE HOUSE</u> <u>JOINERY FITTINGS</u> <u>COLLECTION</u></p>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p><u>ELEMENT K</u></p> <p><u>BUILDER'S WORK IN CONNECTION WITH</u> <u>SPECIALIST SERVICES</u> <u>(ALL PROVISIONAL)</u></p> <p><u>Internal plumbing, fire-fighting and drainage</u> <u>installations.</u></p>				
A.	Hole through 150mm reinforced concrete slab for small pipe and make good.	No.	8		
B.	Do. <u>but</u> large pipe.	No.	1		
C.	Hole through 150mm thick masonry wall for small pipe and make good.	No.	2		
D.	Hole through 200mm thick masonry wall for small pipe and make good.	No.	4		
E.	Cut horizontal or vertical chase in masonry walling for small pipe and make good.	m	12		
	<p><u>Electrical Installation</u></p> <p><u>Cut away for and make good after electrician</u> <u>installing concealed conduit system to the following</u> <u>points including cutting or leaving holes, notches,</u> <u>mortices, sinking in both the structure and its</u> <u>covering and make good to them.</u></p>				
F.	Lighting points Lighting	No.	14		
G.	switch points. Single	No.	14		
H.	socket outlet points.	No.	2		
I.	Consumer unit point.	No.	1		
	<p><u>TOTAL AMOUNT FOR ELEMENT M CARRIED</u> <u>TO SUMMARY AT THE END OF BILL NO. 3</u></p>			Shs.	
1155	<p><u>GATE HOUSE</u> <u>B.W.I.C.</u> <u>COLLECTION</u></p>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>ELEMENT N</u>				
	<u>GATES</u>				
A.	Steel double swing gate size 5500 x 2550 mm in two panels of equal leaves each comprising 100 x 100 x 4mm rectangular hollow section columns on each end with fish lug tails, 75 x 75 x 3mm rectangular hollow section frame, 50 x 50 x 3mm rectangular hollow intermediate rails, 50 x 50 x 3mm middle rail, filled in with 25 x 25 x 3mm rectangular hollow section verticals at 100mm centres and 30 x 30 x 3mm verticals at top and bottom at 227mm centres; complete with one coat of red oxide primer & spray paint before fixing all to the approval of the Architect(Vehicle screening area) C[31]17	No.	1		
B.	Do.but size 1550 x 2550mm with 30 x 30 x 3mm verticals at top and bottom at 172mm centres(Pedestrian screening area) C[31]18	No.	1		
C.	Approved purpose made heavy duty hinge	Prs.	6		
D.	Approved purpose made hasp and staples	No.	2		
E.	Mass concrete (1:3:6) base size 400 x 400 x 600mm deep including all necessary excavation, formwork and disposal.	No.	4		
F.	Prepare, prime and paint one undercoat and two gloss finishing Coats of 'Crown Paints Solo" or other equal and approved oil paint on general surfaces of metal gates (measured flat overall) externally to be executed by an approved Sub-Contractor.	m2	36		
	<u>TOTAL AMOUNT FOR ELEMENT N CARRIED TO SUMMARY AT THE OF BILL NO. 3</u>			Shs.	
1155	<u>GATE HOUSE</u> <u>GATES</u> <u>COLLECTION</u>				

ITEM No.		Shs.	Cts.																																														
	<p><u>BILL NO. 3</u></p> <p><u>GATE HOUSE AND ASSOCIATED FACILITIES</u></p> <p><u>SUMMARY</u></p> <table border="0"> <thead> <tr> <th align="left"><u>Element</u></th> <th align="left"><u>Title.</u></th> <th align="right"><u>Page No.</u></th> </tr> </thead> <tbody> <tr> <td>A.</td> <td>Substructures (<u>All Provisional</u>).</td> <td align="right">3/4</td> </tr> <tr> <td>B.</td> <td>Frame.</td> <td align="right">3/5</td> </tr> <tr> <td>C.</td> <td>External Walls.</td> <td align="right">3/6</td> </tr> <tr> <td>D.</td> <td>Roof construction and rainwater disposal.</td> <td align="right">3/9</td> </tr> <tr> <td>E.</td> <td>Windows</td> <td align="right">3/12</td> </tr> <tr> <td>F.</td> <td>Doors</td> <td align="right">3/15</td> </tr> <tr> <td>G.</td> <td>External Wall Finishes.</td> <td align="right">3/16</td> </tr> <tr> <td>H.</td> <td>Internal Wall Finishes.</td> <td align="right">3/17</td> </tr> <tr> <td>I.</td> <td>Floor Finishes.</td> <td align="right">3/18</td> </tr> <tr> <td>J.</td> <td>Ceiling Finishes.</td> <td align="right">3/19</td> </tr> <tr> <td>L</td> <td>Joinery Fittings</td> <td align="right">3/20</td> </tr> <tr> <td>M</td> <td>Builder's Works in Connection with Specialist Services (<u>All Provisional</u>).</td> <td align="right">3/21</td> </tr> <tr> <td>N</td> <td>Gates.</td> <td align="right">3/22</td> </tr> <tr> <td></td> <td><u>TOTAL AMOUNT OF BILL NO. 3 CARRIED TO FINAL SUMMARY.</u></td> <td align="right">SHS.</td> <td></td> </tr> </tbody> </table>	<u>Element</u>	<u>Title.</u>	<u>Page No.</u>	A.	Substructures (<u>All Provisional</u>).	3/4	B.	Frame.	3/5	C.	External Walls.	3/6	D.	Roof construction and rainwater disposal.	3/9	E.	Windows	3/12	F.	Doors	3/15	G.	External Wall Finishes.	3/16	H.	Internal Wall Finishes.	3/17	I.	Floor Finishes.	3/18	J.	Ceiling Finishes.	3/19	L	Joinery Fittings	3/20	M	Builder's Works in Connection with Specialist Services (<u>All Provisional</u>).	3/21	N	Gates.	3/22		<u>TOTAL AMOUNT OF BILL NO. 3 CARRIED TO FINAL SUMMARY.</u>	SHS.			
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1155	<u>BILL NO. 3</u> <u>SUMMARY</u>																																																

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>BILL NO. 4</u> <u>EXTERNAL WORKS</u> <u>(ALL PROVISIONAL)</u> <u>SECTION A</u> <u>EARTHWORKS</u>				
A.	Excavate oversite to remove dumped material irrespective of depth.	m3	8,125		
B.	Remove surplus excavated material from site (dumped material).	m3	8,125		
	<u>TOTAL AMOUNT OF SECTION A</u> <u>CARRIED TO SUMMARY AT END OF BILL</u> <u>NO. 4</u>			Shs.	
1155	<u>EXTERNAL WORKS</u> <u>EARTHWORKS</u> <u>SUMMARY</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION B</u>				
	<u>PARKINGS AND DRIVEWAYS</u>				
A.	Excavate over site to reduce levels commencing at existing stripped level not exceeding 1.50m deep.	m3	3,081		
B.	Do. but 1.50m -3m deep.	m3	205		
C.	Extra over excavation for excavating in rock	m3	205		
D.	Remove surplus excavated material from site.	m3	3,286		
E.	Grade bottoms of excavations or surfaces of filling to falls and crossfalls including rolling and compacting to 95% MDD compaction.	m2	2,054		
F.	Approved fill material in making up levels, spread, levelled, watered and well rammed and consolidated in 150mm layers.	m3	2,000		
G.	100mm Bed of approved handpacked stone base compacted to refusal (Walkway).	m2	61		
H.	200mm Do.(Driveway).	m2	1,993		
I.	300mm natural gravel sub base compacted in layers not exceeding 150mm thick.	m2	2,054		
J.	Tevlar 'W' or other equal and approved weed killer under driveways and walkways.	m2	2,054		
K.	50mm Bed of approved sand/stone dust blinding finished to receive paving (measured separately).	m2	2,054		
L.	80mm Thick heavy duty 'Bamburi Blox' or other equal and approved precast concrete paving in approved pattern laid on sand bed (measured separately) to falls, crossfalls, and cambers including necessary compaction.	m2	1,993		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>PARKINGS AND DRIVEWAYS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Do. <u>but</u> 60mm thick medium duty (walkway)	m2	61		
B.	125 x 250mm Precast concrete (Class 15/20) kerb with one chamfered edge finished fair on all exposed surfaces bedded, jointed and pointed in cement mortar (1:3) on and including 325 x 100mm plain concrete (1:3:6) foundation haunched up on one side including all necessary excavation, formwork and soil disposal.	m	168		
C.	Do. <u>but</u> curved on plan to various radii.	m	305		
D.	125 x 100mm Precast concrete (class 15/ 20) channel finished fair on all exposed surfaces bedded, jointed and pointed in cement mortar (1:3) laid on and including 325 x 100mm plain concrete (1:3:6) foundation haunched up on both sides including all necessary excavation, formwork and soil disposal.	m	8		
E.	Prepare and apply three coats of 'Crown Paints Solo' or other equal and approved yellow road marking enamel paint 100mm wide on surfaces of parking to be executed by an approved Sub-Contractor.	m	180		
F.	Do. <u>but</u> on surfaces of kerbs 200-300mm girth	m	473		
<u>SECTION B PARKINGS AND DRIVEWAYS COLLECTION</u>				Shs.	
Brought forward from Page No. 4/2 " " " " " 4/3					
<u>TOTAL AMOUNT OF SECTION B CARRIED TO SUMMARY AT END OF BILL NO. 4</u>					
<u>EXTERNAL WORKS PARKINGS AND DRIVEWAYS COLLECTION</u>				Shs.	
1155					

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION C</u>				
	<u>BOUNDARY WALL</u>				
A.	Keep excavations free from water by pumping, balling or otherwise including supporting sides of excavations.	Item	1		
B.	Excavate foundation trench commencing at existing ground level and not exceeding 1.50m deep.	m3	607		
C.	Do. <u>but</u> 1.50- 3.00m deep.	m3	223		
D.	Excavate for column bases commencing at reduced level and not exceeding 1.50m deep	m3	118		
E.	Do. <u>but</u> 1.50- 3.00m deep.	m3	43		
F.	Extra over excavation for excavating in rock.	m3	70		
G.	Return fill in and ram selected excavated material around foundations.	m3	121		
H.	Remove surplus excavated material from site	m3	870		
	<u>Plain Concrete (Class 1:3:6)</u>				
I.	50mm blinding under foundations.	m2	313		
J.	Do. <u>but</u> under column bases.	m2	78		
	<u>Vibrated reinforced concrete (Grade 25)</u>				
K.	Foundations.	m3	64		
L.	Column bases	m3	16		
M.	Substructure columns	m3	7		
N.	Superstructure columns	m3	8		
				Shs.	
1155	<u>EXTERNAL WORKS</u>				
	<u>BOUNDARY WALL</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Ribbed steel bar reinforcement as before</u>				
A.	8mm Bar	Kg.	1,300		
B.	10mm Bar	Kg.	920		
C.	12mm Bar	Kg.	495		
	<u>Sawn formwork</u>				
D.	Sides of foundations.	m2	202		
E.	Sides of column bases	m2	71		
F.	Sides of substructure columns	m2	141		
G.	Sides of superstructure columns	m2	24		
H.	200mm thick approved load bearing (7N/mm2) local stone walling in cement mortar (1:3) including hoop iron reinforcement where required by the Engineer.	m2	887		
I.	Do. (superstructure walling) .	m2	158		
J.	Extra over walling for attached pier 600mm wide x 400mm projection.	m	431		
	<u>Unframed Mild Steel</u>				
K.	100 x 100 x 3mm thick square hollow section column capped on one side.	Kg	1,881		
L.	200 x 200 x 10mm thick mild steel base plate four times drilled for 12mm diameter bolt (measured seperately).	No.	98		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>BOUNDARY WALL</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	12mm diameter holding down bolts 300mm long with head, nut and washer cast into and including mortice in concrete and run with gauged mortar.	No.	392		
B.	Extra over for welded connections	No.	7,197		
C.	25mm dia x 3mm thick circular hollow section mild steel vertical bars welded to horizontal rails on alternate sides at 150mm centres.	m	7,497		
D.	50 x 50mm x 3mm thick rectangular hollow section mild steel horizontal bars fixed to stone pillars.	m	1,071		
E.	350 x 70mm Coping twice throated and once weathered and reinforced as necessary for handling and finished fair on all exposed surfaces.	m	526		
F.	75mm (Average) thick coping piece size 700 x 700mm throated all round the top side four times weathered and fixed on top of masonry piers.	No.	98		
G.	200mm wide pluvex No. 1 or other equal and approved horizontal bitumen damp proof course to B.S. 743 (measured net - no allowance made for laps) under coping	m	526		
H.	25mm 'Flexcell' or other equal and approved expansion joint filler in 300mm thick concrete column.	m	165		
I.	Rake out expansion joint filler 20mm deep and point in approved mastic sealant.	m	330		
J.	15mm Cement and sand external rendering on walls and columns finished to receive Mazeras stone cladding (measured separately).	m2	892		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>BOUNDARY WALL</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	20mm thick random Mazeras stone facing pointed with neat flush vertical and horizontal joints including all necessary ties built or cast in to the architect's approval.	m2	892		
B.	Prepare, prime and apply one under coat and two gloss finishing coats of 'Crown Paints Solo' or other equal and approved oil paint on general surfaces of metal grille to be executed by an approved Sub-Contractor.	m2	271		
Shs.					
<p><u>SECTION C</u></p> <p><u>BOUNDARY WALL</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from Page No. 4/4</p> <p>" " " " " 4/5</p> <p>" " " " " 4/6</p> <p>" " " " " 4/7</p>					
<u>TOTAL AMOUNT OF SECTION C CARRIED TO SUMMARY AT THE END OF BILL NO. 4</u>					
Shs.					
1155	<u>EXTERNAL WORKS</u> <u>BOUNDARY WALL</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p align="center"><u>SECTION D</u></p> <p align="center"><u>CHAINLINK FENCE</u></p> <p><u>The following in strict accordance to drawing No. L(90)02.</u></p> <p>A. Chain link fencing 2624mm high overall comprising 150 x 150 x 2824mm long overall precast reinforced concrete (Grade 25) posts at 3100mm centre cranked at top for 600mm projections, with 5 No. 25mm dia. holes for barbed wires, fence comprising 6 No.strands for barbed wire through the holes in posts 2421mm high 50mm mesh 12 gauge galvanised wire infill securely attached to barbed wire with extra 420mm length of post below ground set in and including plain concrete (1:3:6) base size 450 x 450 x 500mm deep including all necessary excavation , formwork and disposal.</p> <p><u>TOTAL AMOUNT OF SECTION D CARRIED TO SUMMARY AT THE END OF BILL NO. 4</u></p>	m	125	Shs.	
1155	<u>EXTERNAL WORKS</u> <u>CHAINLINK FENCE</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION E</u>				
	<u>KOIPOND</u>				
A.	Excavate for koi pond commencing at existing ground level and not exceeding 1.50m deep.	m3	43		
B.	Extra over excavation for excavating in rock.	m3	22		
C.	Remove surplus excavated material from site	m3	43		
D.	50mm plain concrete (1:3:6) blinding under base.	m2	50		
	<u>Vibrated reinforced concrete (Grade 25)</u>				
E.	Beams	m3	1		
F.	200mm base.	m3	50		
G.	150mm thick suspended slab.	m3	13		
H.	200mm thick walling.	m3	21		
	<u>Ribbed steel bar reinforcement as before</u>				
I.	6mm Bar	Kg.	20		
J.	8mm Bar	Kg.	215		
K.	10mm Bar	Kg.	300		
L.	12mm Bar	Kg.	25		
M.	20mm Bar	Kg.	40		

R.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref: A 142 and K.S. 02 - 18: 1976 in concrete bed as before.	m2	50		
				Shs.	
1155	<u>EXTERNAL WORKS</u>				
	<u>KOIPOND</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Sawn formwork</u>				
A.	Sides and soffits of beams but curved on plan to 1950mm radius	m2	13		
B.	Sides of walling but curved on plan to 6075mm radius	m2	10		
C.	Do. <u>but</u> curved on plan to 2325mm radius	m2	32		
D.	Soffit of suspended slab.	m2	13		
E.	Edge of suspended slab 75 - 150 mm high	m	21		
F.	Edges of slab curved on plan to 6075mm radius	m	9		
G.	Do. <u>but</u> curved on plan to 2325mm radius	m	27		
H.	Form sinking size 1000 x 1000 x 950mm deep in unset concrete base including formwork to sides.	No.	1		
	<u>Beds and backings:</u>				
I.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m2	85		
J.	20mm thick on vertical sides of koi pond.	m2	21		
	<u>Waterproofing</u>				
K.	Supply and apply two coats of Dr.Fixit Pidifin 2k acrylic cementitious waterproofing coating as before.	m2	85		
L.	Do. <u>but</u> vertical sides of koi pond.	m2	21		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>KOI POND</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Finishes</u>				
A.	42mm floor bed on concrete finished to receive terrazzo floor finish (measured separately).	m2	85		
B.	Do. <u>but</u> 200mm on walling	m2	21		
C.	Do. <u>but</u> 200mm wide to edges of pond.	m	35		
	<u>Polished Terrazzo to be executed by an approved Sub-Contractor.</u>				
D.	40mm Paving laid on concrete.	m2	85		
E.	Do. <u>but</u> 200mm on walling	m2	21		
F.	Do. <u>but</u> 200mm wide to edges of pond.	m	35		
G.	Approved plastic dividing strips cut to lengths and set in terrazzo paving to form margins and patterns to details.	m	265		
	<u>Balustrading</u>				
H.	750mm high curved railing comprising of 60mm diameter polished stainless steel handrail, 4 No. 25mm diameter stainless steel intermediate railings at 175mm spacing, 50 x 10mm stainless steel flat bar balusters twisted on one end to receive railing with fishtail on one end fixed into reinforced concrete and grouted at approved centers in strict accordance with Architect's detail. (L(96)02)	m	18		
	<u>The following in RC Pump Room Chamber.</u>				
I.	Excavate for sump and chamber commencing at existing ground level and not exceeding 1.50m deep.	m3	4		
1155	<u>EXTERNAL WORKS</u> <u>KOIPOND</u>			Shs.	

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Extra over excavation for excavating in rock.	m3	4		
B.	Remove surplus excavated material from site	m3	4		
C.	50mm plain concrete (1:3:6) blinding under base.	m2	2		
	<u>Vibrated reinforced concrete (Grade 25)</u>				
D.	200mm thick concrete base.	m2	2		
E.	200mm thick walling .	m2	8		
F.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref: A 142 as before	m2	2		
G.	10mm ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007 to suspended slab.	Kg	109		
	<u>Sawn formwork</u>				
H.	Soffits of suspended slab.	m2	2		
I.	Sides of walling. _____	m2	16		
J.	Build end of 225mm pipe into 200mm thick walling and make good.	No.	1		
	<u>Beds and backings:</u>				
K.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m2	2		
L.	20mm thick on vertical sides of pump room chamber.	m2	8		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>KOIPOND</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Waterproofing</u>				
A.	Supply and apply two coats of Dr.Fixit Pidifin 2k acrylic cementitious waterproofing coating as before.	m2	2		
B.	Do. <u>but</u> vertical sides of pump room chamber.	m2	8		
C.	Approved 600 x 600mm medium duty cast iron filled gully grating complete with framing all to the engineer's approval.	No.	2		
	<u>SECTION E</u>			Shs.	
	<u>KOI POND</u>				
	<u>COLLECTION</u>				
	Brought forward from Page No. 4/9				
	" " " " " 4/10				
	" " " " " 4/11				
	" " " " " 4/12				
	" " " " " 4/13				
	<u>TOTAL AMOUNT OF SECTION E CARRIED TO SUMMARY AT THE OF BILL NO. 4</u>			Shs.	
1155	<u>EXTERNAL WORKS</u> <u>KOI POND</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION F</u>				
	<u>FOUL WATER DRAINAGE</u>				
A.	Excavate trench for drain pipe not exceeding 250mm diameter not exceeding 1.50m deep and average 1500mm deep part return fill in and ram and remainder remove from site.	m	65		
B.	225mm Diameter UPVC drain pipe laid and jointed in trench.	m	65		
C.	Inspection chamber size 750 x 750 x 2000mm deep internally 50mm plain concrete (1:3:6) blinding with 150mm thick natural stone walls, 150mm reinforced concrete (class 20) base and cover slab complete with medium duty cast iron manhole cover and frame, plain concrete (1:3:6) benching and channels, 15mm waterproof cement and sand (1:5) rendering to walls and base including all necessary reinforcement, formwork, excavation, backfill and soil disposal.	No.	7		
	<u>The following in 1 No. Sewer Manhole</u> Excavate				
D.	for manhole commencing at existing ground level and not exceeding 1.50m deep.	m3	3		
	Do. <u>but</u> 1.50- 3.00m deep.				
E.	Extra over excavation for excavating in rock.	m3	2		
F.	Remove surplus excavated material from site	m3	5		
G.	Approved filling around manhole well rammed and consolidated in 150mm layers	m3	5		
H.	75mm plain concrete (1:3:6) blinding under base.	m3	2		
I.		m2	2		
				Shs.	
	<u>EXTERNAL WORKS</u>				
1155	<u>FOUL WATER DRAINAGE</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Vibrated reinforced concrete (Class 25)</u>				
A.	Concrete base.	m3	1		
B.	150mm thick suspended slab.	m2	1		
C.	150mm thick concrete surround (Class 20)	m2	3		
D.	75mm thick precast concrete shaft chamber sections to be bedded with cement mortar (1:3)	m2	1		
E.	Benching 390mm (average) high to bottom of manhole size 1050mm internal diameter finished to falls including forming main or branch channels to any section or curve and finishing in 20mm thick waterproofed cement mortar (1:3) trowelled hard and smooth.	No.	1		
	<u>Ribbed steel bar reinforcement as before</u>				
F.	8mm bar	Kg	40		
G.	12mm bar	Kg	60		
	<u>Sawn formwork</u>				
H.	Soffits of suspended slab.	m2	1		
I.	Sides of wall curved on plan to 675mm mean radius.	m2	6		
J.	Edge of slab 150 - 225mm high curved on plan to 750mm mean radius.	m	5		
K.	Edge of slab 375 - 450mm high curved on plan to 525mm mean radius.	m	4		
L.	Edge of suspended slab 75 - 150mm high curved on plan to 675mm radius.	m	4		
M.	Precast concrete seating rings curved on plan to 525mm mean radius.	m2	1		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>FOUL WATER DRAINAGE</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Temporary boxing to form opening size 600 x 600mm in 175mm cover slab.	No.	1		
B.	Build end of 225mm pipe into 150mm manhole surround and make good.	No.	2		
C.	Galvanised mild steel step iron to B.S. 1247 type 2a built into side of manhole and make good.	No.	6		
D.	Standard triangular coated cast iron medium duty manhole cover and frame having an opening size 600 x 600mm to B.S MB2-60 and bed frame in mortar,proprietary bitumen or resin mastic sealant and seal cover with grease and sand.	No.	1		
E.	Allow for testing the whole of the foul drainage during the progress of the works and again on completion and leave in perfect working order to the satisfaction of the Architect.	Item			
<u>SECTION F</u>					
<u>FOUL WATER DRAINAGE</u>					
<u>COLLECTION</u>					
Brought forward from Page No. 4/14					
" " " " " 4/15					
" " " " " 4/16					
<u>TOTAL AMOUNT FOR SECTION F</u> <u>CARRIED TO SUMMARY AT THE END OF</u> <u>BILL NO. 4</u>					
Shs.					
<u>EXTERNAL WORKS</u>					
1155	<u>FOUL WATER DRAINAGE</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION G</u>				
	<u>UNDERGROUND WATER TANK</u>				
A.	Excavate for water tank commencing at existing ground level and not exceeding 1.50m deep.	m3	52		
B.	Do. <u>but</u> 1.50- 3.00m deep.	m3	33		
C.	Extra over excavation for excavating in rock.	m3	85		
D.	Remove surplus excavated material from site	m3	85		
E.	Apporved filling around underground water tank, well rammed and consolidated in 150mm layers.	m3	31		
F.	50mm plain concrete (1:3:6) blinding under base.	m2	47		
	<u>Vibrated reinforced concrete (Grade 25)</u>				
G.	200mm thick concrete base	m2	47		
H.	175mm thick suspended slab	m2	47		
I.	200mm thick walling.	m2	77		
	<u>Ribbed steel bar reinforcement as before</u>				
J.	8mm bar	Kg	120		
K.	10mm bar	Kg	1,115		
L.	12mm bar	Kg	730		
				Shs.	
1155	<u>EXTERNAL WORKS</u>				
	<u>UNDERGROUND WATER TANK</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Sawn formwork</u>				
A.	Soffit of suspended cover slab including withdrawing through confined opening.	m2	47		
B.	Sides of walling.	m2	154		
C.	Edges of base slab 150- 225mm high.	m	75		
D.	Temporary boxing to form rebated opening size 600 x 600mm in 175mm cover slab.	No.	3		
E.	Form sinking size 600 x 600 x 400mm deep in unset concrete base including formwork to sides.	No.	3		
	<u>Beds and backings:</u>				
F.	40mm thick (average) M20 grade concrete screed including curing of 15 days with hesian cloth.	m2	47		
G.	20mm thick on vertical sides of underground water tank.	m2	90		
	<u>Waterproofing</u>				
H.	Supply and apply two coats of Dr.Fixit Pidifin 2k acrylic cementitious waterproofing coating as before.	m2	47		
I.	Do. <u>but</u> vertical sides of underground water tank	m2	90		
J.	150mm diameter perforated drain pipe with and including approved heavy geotextile membrane wrapping and clean aggregate fill to the architect's approval.	m	30		
K.	Approved metallic water bar with centre bulb set horizontally in concrete.	m	35		
				Shs.	
1155	<u>EXTERNAL WORKS</u>				
	<u>UNDERGROUND WATER TANK</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Coated cast iron heavy duty manhole cover and frame size 600 x 600mm to B.S. 497 and bed frame in cement and sand (1:3) and seal cover with grease and sand.	No.	3		
	<u>GATE VALVE AND OVERFLOW CHAMBERS</u>				
B.	50mm Plain concrete (1:3:6) blinding under chamber bases.	m2	5		
	<u>Vibrated reinforced concrete (class 25) with and including 'Sika" plastocrete 'N' waterproofing concrete admixture</u>				
C.	200mm Base.	m2	5		
D.	150mm Suspended cover slab the top trowelled smooth with a steel trowel.	m2	1		
E.	10mm ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007 to suspended slab.	Kg.	30		
	<u>Sawn formwork</u>				
F.	Soffit of suspended cover slab including withdrawing through confined openings.	m2	1		
G.	Edge of suspended cover slab 150 - 225mm	m	7		
H.	Edge of chamber base 150 - 225mm high.	m	10		
I.	Temporary boxing to form rebated opening size 600 x 450mm, in 200mm cover slab for manhole cover and frame (formwork to soffits not deducted).	No.	2		
J.	200mm Approved stone walling in gauged mortar (1:3).	m2	5		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>UNDERGROUND WATER TANK</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Cement and sand (1:4) waterproofed with and including "Sika-1" or other equal and approved waterproofing admixture added in accordance with the manufacturers printed specifications finished smooth with a steel trowel</u>				
A.	20mm Finish to base.	m2	1		
B.	20mm Finish to sides.	m2	3		
C.	Coated cast iron medium duty manhole cover and frame size 610 x 457mm to B.S. 497 and bed frame in cement and sand (1:3) and seal cover with grease and sand.	No.	2		
	<u>SECTION G UNDERGROUND</u>				
	<u>WATER TANK COLLECTION</u>				
	Brought forward from Page No. 4/17				
	" " " " " 4/18				
	" " " " " 4/19				
	" " " " " 4/20				
	<u>TOTAL AMOUNT FOR SECTION G CARRIED TO SUMMARY AT THE END OF BILL NO. 4</u>				
				Shs.	
	<u>EXTERNAL WORKS</u>				
	<u>UNDERGROUND WATER TANK</u>				
1155					

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION H STORMWATER</u>				
	<u>DRAINAGE</u>				
A.	Excavate trench for 225mm diameter pipe not exceeding 1.50m deep and average 750mm deep commencing at existing ground level cart away and part return and fill with approved fill.	m	164		
B.	Do. <u>but</u> average 1500mm deep.	m	43		
C.	Do. <u>but</u> 1.50- 3.00m deep average 1250mm deep.	m	43		
D.	225mm Diameter UPVC drain pipe laid and jointed in trench.	m	198		
E.	150mm plain concrete (1:3:6) bed 525mm wide under 225mm pipe and surround pipe with similar concrete 150mm thick including all necessary formwork.	m	164		
F.	225mm diameter precast concrete ogee jointed drain pipe to B.S. 556 laid and jointed in trench.	m	9		
G.	Selected granular fill compacted in 300mm layers (maximum) over 225mm pipes over grassed areas (measured separately).	m3	46		
H.	Approved fillings compacted in 150mm layers (maximum) over 225mm pipes over grassed areas (measured separately).	m3	9		
	<u>The following in 11 no. Gully Pots</u>				
I.	50mm plain concrete (1:3:6) blinding under base.	m2	10		
J.	150mm thick concrete base (Class 20)	m2	10		
K.	150mm thick suspended slab	m2	6		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>STORMWATER DRAINAGE</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Steel wire fabric mesh reinforcement to B.S. 4483 Ref: A 142 as before	m2	10		
B.	8mm ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007 to suspended slab.	Kg	120		
	<u>Sawn formwork</u>				
C.	Soffits of suspended slab.	m2	6		
D.	Edges of base slab 75- 150mm high.	m	75		
E.	Temporary boxing to form rebated opening size 356x 405mm in 150mm suspended slab.	No.	11		
F.	150mm Approved load bearing (7N/mm2) concrete load bearing walling in cement mortar (1:3).	m2	16		
G.	Build end of 225mm pipe into 150mm manhole surround and make good.	No.	11		
H.	10mm Two coat internal lime plaster on walls finished smooth with a steel trowel.	m2	10		
I.	12mm Waterproofed cement and sand (1:4) with 5% 'Pudlo' or other equal and approved paving on concrete trowelled hard and smooth to base, and soffits of gully pot.	m2	12		
J.	Approved 356 x 405mm heavy duty cast iron filled gully grating complete with framing all to the engineer's approval.	No.	11		
	<u>The following in 3 no. Manholes</u>				
K.	Excavate for manhole commencing at existing ground level and not exceeding 1.50m deep.	m3	9		
L.	Do. <u>but</u> 1.50- 3.00m deep.	m3	3		
M.	Extra over excavation for excavating in rock.	m3	6		
				Shs.	
1155	<u>EXTERNAL WORKS</u> <u>STORMWATER DRAINAGE</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Remove surplus excavated material from site	m3	12		
B.	Return fill and ram selected excavated material around foundations.	m3	6		
C.	50mm plain concrete (1:3:6) blinding under manhole base. <u>Vibrated reinforced concrete (Class 25)</u>	m2	6		
D.	150mm thick concrete base	m2	6		
E.	150mm thick suspended slab <u>Ribbed steel bar reinforcement to B.S 4461 and K.S. ISO 6935-2:2007</u>	m2	4		
F.	10mm bars	Kg	139		
G.	12mm bars <u>Sawn formwork</u>	Kg	104		
H.	Soffit of suspended cover slab including withdrawing through confined opening.	m2	4		
I.	Edges of base slab 75- 150mm high.	M	31		
J.	Temporary boxing to form 300mm radius circular opening in 150mm cover slab (formwork to soffit not deducted).	No.	3		
K.	200mm Approved load bearing (7N/mm2) concrete block walling in cement mortar (1:3).	m2	26		
L.	Build end of 225mm pipe into 150mm manhole surround and make good.	No.	6		
M.	12mm Waterproofed cement and sand (1:4) with 5% 'Pudlo' or other equal and approved paving on concrete trowelled hard and smooth to base, sides and soffits of manhole.	m2	24		
1155	<u>EXTERNAL WORKS</u> <u>STORMWATER DRAINAGE</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	Galvanised mild steel step iron to B.S. 1247 type 2a built into side of manhole and make good.	No.	42		
B.	Fibre reinforced polyresin standard circular medium duty manhole cover and frame size 600mm diameter to B.S. EN 124 and bed frame in cement and sand mortar (1:3) and seal cover in grease and sand.	No.	6		
	<u>The following in Invert Block Drain</u>				
C.	Excavate for 'V' section open invert block drain exceeding 1.50m deep, average 1650mm deep and 800mm wide and cart away and trim sides to slope.	m	49		
D.	Precast concrete (grade 25) rainwater channel comprising 600mm long rectangular invert blocks each 450 x 300mm high with two top edges each twice splayed and 400mm wide x 200mm deep sinking on top, finished fair and reinforced as necessary for handling, bedded, jointed and pointed on and including 50mm bed of plain concrete (1:4:8) and with 100mm thick murrum backfilling to bottom and both sides.	m	49		
E.	75mm Precast concrete (grade 25) side slabs size 600 x 225mm finished fair, bedded on and including 100mm murrum well compacted to sides, reinforced as necessary and pointed in cement mortar.	m2	176		
F.	Allow for testing the whole of the stormwater drainage during the progress of the works and again on completion and leave in perfect working order to the satisfaction of the Architect.	Item			
G.	Allow for connection of new services to existing drain.	Item			
				Shs.	
	<u>EXTERNAL WORKS</u>				
1155	<u>STORMWATER DRAINAGE</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>SECTION H STORMWATER</u> <u>DRAINAGE COLLECTION</u> Brought forward from Page No. 4/21 " " " " " 4/22 " " " " " 4/23 " " " " " 4/24 <u>TOTAL AMOUNT OF SECTION H CARRIED</u> <u>TO SUMMARY AT THE END OF BILL NO. 4</u>				
				Shs.	
	<u>EXTERNAL WORKS</u> <u>STORMWATER DRAINAGE</u>				
1155					

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<p align="center"><u>SECTION I</u></p> <p><u>BUILDER'S WORK IN CONNECTION WITH EXTERNAL SPECIALIST SERVICES</u></p> <p><u>INSPECTION CHAMBERS</u> Inspection</p> <p>A. chambers size 600mm x 450mm x 750mm deep internally consisting of 150mm solid concrete block walls and bottom in cement mortar (1:4) complete with 450x600 mm medium duty cast iron cover and frame to BS 497, and as detailed in Clause 3.2 of the specifications.(Power Manholes)</p> <p>B. Do. but size 450mm x 450mm to JF6 Telephone manholes to KPTC standards.</p> <p><u>TOTAL AMOUNT OF SECTION I CARRIED TO SUMMARY AT THE END OF BILL NO. 4</u></p>	<p>No.</p> <p>No.</p>	<p>5</p> <p>5</p>	<p>Shs.</p>	
1155	<p><u>EXTERNAL WORKS</u></p> <p><u>BUILDER'S WORK IN CONNECTION WITH EXTERNAL SPECIALIST SERVICES</u></p>				

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ITEM No.		Shs. Cts.																														
	<p><u>BILL NO.4</u></p> <p><u>EXTERNAL WORKS</u> <u>(ALL PROVISIONAL)</u></p> <p><u>SUMMARY</u></p> <table border="0"> <thead> <tr> <th><u>Section</u></th> <th><u>Title.</u></th> <th><u>Page No.</u></th> </tr> </thead> <tbody> <tr> <td>A.</td> <td>Earthworks</td> <td>4/1</td> </tr> <tr> <td>B.</td> <td>Parking & Driveway</td> <td>4/3</td> </tr> <tr> <td>C.</td> <td>Boundary Wall</td> <td>4/7</td> </tr> <tr> <td>D.</td> <td>Chainlink Fence</td> <td>4/8</td> </tr> <tr> <td>E.</td> <td>Koi Pond</td> <td>4/13</td> </tr> <tr> <td>F.</td> <td>Foul water Drainage</td> <td>4/16</td> </tr> <tr> <td>G.</td> <td>Underground Water Tank</td> <td>4/20</td> </tr> <tr> <td>H.</td> <td>Stormwater Drainage</td> <td>4/25</td> </tr> <tr> <td>I.</td> <td>Builder's work in connection with External Specialist Services</td> <td>4/26</td> </tr> </tbody> </table>	<u>Section</u>	<u>Title.</u>	<u>Page No.</u>	A.	Earthworks	4/1	B.	Parking & Driveway	4/3	C.	Boundary Wall	4/7	D.	Chainlink Fence	4/8	E.	Koi Pond	4/13	F.	Foul water Drainage	4/16	G.	Underground Water Tank	4/20	H.	Stormwater Drainage	4/25	I.	Builder's work in connection with External Specialist Services	4/26	
<u>Section</u>	<u>Title.</u>	<u>Page No.</u>																														
A.	Earthworks	4/1																														
B.	Parking & Driveway	4/3																														
C.	Boundary Wall	4/7																														
D.	Chainlink Fence	4/8																														
E.	Koi Pond	4/13																														
F.	Foul water Drainage	4/16																														
G.	Underground Water Tank	4/20																														
H.	Stormwater Drainage	4/25																														
I.	Builder's work in connection with External Specialist Services	4/26																														
	<p><u>TOTAL AMOUNT OF BILL NO. 4 CARRIED TO FINAL SUMMARY.</u></p>	Shs.																														
1155	<p><u>BILL NO. 4</u> <u>SUMMARY</u></p> <p>4/27</p>																															

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Item	Description	Unit	Qty	Rate	Shs. Cts
	<p><u>BILL NO. 5</u></p> <p><u>ELECTRICAL INSTALLATIONS (ALL RATES SHOULD BE INCLUSIVE OF ALL TAXES)</u></p> <p><u>SECTION 1 - GENERAL ITEMS</u></p>				
A.	Allow for the preparation of all Working Drawings	Sum	1		
B.	Allow for the preparation of all "As Built" Drawings	Sum	1		
C.	The Tenderer is to describe hereunder inserting any relevant clause number, any other works, obligations or items that may be referred to in the Conditions of Contract, Specifications or Drawings in respect of the works for which he desires to enter a separate charge (<i>this charge is to be entered in the Amount column</i>). If no charge is entered hereunder, rates and amounts elsewhere in the schedule of prices shall be deemed to cover all expenses for such works, obligations or items	Sum	1		
<p>TOTAL FOR GENERAL ITEMS CARRIED FORWARD TO PRICE</p> <p>SUMMARY PAGE 5/23</p>				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
SECTION 2 - ELECTRICAL INSTALLATION - GROUND FLOOR LEVEL					
A	(200 x 50)mm two compartment, powder coated steel trunking complete with cover, dividing fillets between services, fixing screws and knock-out plates for power and data/voice cables (in services rooms), shall comply with BS EN 50085-2-1:2006+A1:2011 and BS EN 10346:2015	M	80		
B	Single face plates for data to the above	NO	13		
C	Twin face plates for power to the above	NO	25		
D	50mm dia PVC high grade pvc sleeves	M	200		
E	4x32mm dia PVC high grade pvc sleeves	M	100		
F	Grade 304 cable tray - (300x25)mm galvanised steel cable tray with fixing clips c/w bolts & nuts, plates, studs and mounting brackets all to approval (in services ducts), shall comply with BS EN 50085-2-1:2006+A1:2011 and BS EN 10346:2015	M	100		
G	Grade 304 cable tray - (600x50)mm galvanised steel cable tray with fixing clips c/w bolts & nuts, plates, studs and mounting brackets all to approval	M	100		
Equipment including all interconnections bushing, cable lugs and terminations sundries and fixing to backgrounds requiring plugging and all accessories.					
H	8 way TPN distribution board with 125A TP mains switch as manufactured by Havells/Schneider without MCBs (CS1,CS2,CS3,SR)	NO	4		
I	8 way SPN consumer unit with 100A DP mains switch as manufactured by Havells/Schneider without MCBs (BR/RC)	NO	2		
MINIATURE CIRCUIT BREAKERS					
J	10A SP MCB as Havells/Schneider	NO	13		
K	20A SP MCB as Havells/Schneider	NO	15		
L	32A SP MCB as Havells/Schneider	NO	10		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
A	20A TP MCB as Havells/Schneider	NO	4		
B	32A TP MCB as Havells/Schneider	NO	4		
C	63A TP MCB as Havells/Schneider	NO	5		
D	Blanking plate for spare way	NO	13		
	Final sub-circuits from DB in cable, floor duct/conduit and/or trunking installation comprising concealed 2.5mm² PVC insulated copper cables, 2.5 mm² copper earthing cable including accessories and fittings				
E	13 Amp switched twin socket outlet as MK-Logicplus, mounted on the trunking / wall /Floorboxes (Raw Power)	NO	114		
F	13 Amp switched non standard twin socket outlet as MK-Logicplus, mounted on the trunking / wall /Floorboxes (Clean Power)	NO	67		
G	General Purpose Outlet (GPO) Medical Horizontal, Twin 10 Amp 240V A.C., C/W Power Available Neon and Circuit Identification Provision	NO	4		
H	General Purpose Outlet (GPO) Medical, Cleaners, 15 Amp 250V A.C., C/W CLEANING PURPOSES ONLY engraving and Circuit Identification Provision	NO	4		
I	"Grosvenor" 4-compartment access floor box complete with all accessories as Electrium - Britmac Cable Management Systems Cat No GR04 - Excluding the outlets	NO	22		
J	50Amp TP isolator as MK-Commando wired in 5x16.0mm ² cu cables to Hospital lift 1 motor, cable length say 30m from Sub-board in Gnd fl.	NO	1		
K	20Amp DP switch as MK-Logic Plus wired in 3x2.5mm ² cu cables to hand drier/Solar water heater/Air Conditioning Unit in server room, cable length say 20m from DB/CU	NO	6		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	600/1000 volt grade multi core PVC insulated copper armoured cable to BS 5467:2016, including concealed heavy gauge PVC conduit, accessories and fittings				
A	4-Core 16mm ² XLPE/SWA/PVC cable as METSEC from Sub-board in Gnd fl service duct to DB (CS1, CS2, CS3, SR)	M	150		
B	2-Core 10mm ² XLPE/SWA/PVC cable as METSEC from Sub-board in Gnd fl service duct to Cus (BR/RC)	M	120		
	LIGHTING INSTALLATION				
	Final sub-circuits from distribution board in a cable and conduit/channel installation comprising concealed heavy gauge PVC conduit, 1.5 mm² PVC insulated copper cables, 1.5 mm² copper earthing cable including all accessories and fittings.				
C	Lighting point	NO	351		
D	6 Amp one gang one way switch as Panasonic-W1	NO	14		
E	6 Amp one gang two way switch as Panasonic-W1	NO	8		
F	6 Amp two gang two way switch as MK-Logic Plus	NO	17		
	LIGHTING FITTINGS				
	Light fittings complete with accessories, lamps and tubes, 1.5 mm² three core heat resisting cables and wiring to an adjacent lighting point (measured separately) and fixing				
G	Type 'P' - 597x597mm LED Panel, 24W, 4000K, IP20, as Philips LED SmartBright Slim Panel RC091V LED36S/840 PSU W60L60 PCV GM, 45w or an equivalent and approved.	No	83		
H	Type 'C' - 15W 174mm high performance LED high output downlight, 5000K Daylight as PHILIPS DN027B ESSENTIAL SMARTBRIGHT G2 LED15 Downlight D150 4000K or an approved equivalent	NO	39		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
A	Type 'R' - 6W high output downlight, cool white 4000K as Philips ClearAccent RS060B recessed spotlight, fixed version or an approved equivalent - Seminar room and Board rooms	No	105		
B	Type 'S' - 15W, Warm white LED oval Bulkhead, IP65, 1100 lumen, 4000K as Philips SmartBright WL008 Bulkhead - Security lights and Lift shaft	NO	21		
C	Type 'Exit' - 620 Safety flag LED with plastic housing and Plexiglass reflector with emergency run time of 180mins as as Awex LED Exit sign	NO	6		
D	Type 'FL' - 50W power LED floodlight in die cast aluminium housing IP65/IK07 and tempered glass diffuser as Philips SmartBright BVP161 50W 6500K LED Floodlight	NO	2		
E	Type 'E2' - 1127mm LED white 41W batten, Cool white 4000K, housing material Aluminum extruded as Philips WT066C 40W 3600 lumen 4ft IP65 6500K Batten or an approved equivalent	NO	8		
F	Type 'D' - 10.5W round downlight, 4000K cool white as PHILIPS DN032B IP44 or an approved equivalent	NO	42		
G	Type 'SL' - PHILIPS LL121X 1xLED80S/830 VWB OR BN058C LED11/WW L1200 GM or an equivalent and approved above wood slats in lounge and waiting areas	Item	42		
H	Type 'P1' - 28W decorative suspended luminaire, wide beam, grey finish, 840 neutral white, complete with power supply unit, as Philips Unicore compact LED pendant BPK561 DLM2000/840 PSU WB GR or an approved equivalent - Reception Desks	NO	3		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
A	<p>LED SOLAR STREET LIGHTS as Philips Solar All in One BRP710 SunStay complete with 5m height pole</p> <p>Supply and Install 612V, 3000lm (street) with Dim & PIR sensor</p> <ul style="list-style-type: none"> • 12V, Solar Panel Module inbuilt • 12V.8V, LiFePO4 inbuilt • Integrated MPPT Charger + Driver • Charger Efficiency : > 90% • Pressure Die-Cast Housing • High efficiency PC cover • IP65,CLASS I, CRI>70 • Life L70, 50k Hrs & CCT : 5700K Typical • Post Top & Lateral mounting Options • 0 to 15 degree adjustable angle for better light distribution • Recommended pole height – 5m & 6m • Dimming Profile • From Dusk – First 05Hours Sensor Enabled with 30% Brightness • Next 05Hours Sensor Disabled with Fixed at 30% Brightness • Next till dawn Sensor Enabled • Battery Back up • 2days Battery Back up with dimming profile & PIR sens metre pole with 1 Arm <p>SECURITY SYSTEM - ACCESS CONTROL SYSTEM INSTALLATION</p> <p>Final sub-circuits from intruder alarm control unit in a conduit installation comprising 25 mm diameter concealed heavy gauge PVC conduit complete with draw wires and all accessories and fittings</p>	No	12		
B	Single recessed (36x86x86) mm PVC box and cord outlet cover as MK-Logic Plus for CCTV camera point	NO	12		
C	Single surface (33x87x20) mm moulded box for access control as MK-Logic Plus	NO	6		
				Shs.	

#REF!

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Item	Description	Unit	Qty	Rate	Shs. Cts
	FIRE & VOICE EVACUATION SYSTEM INSTALLATION				
	Final sub-circuits from intruder alarm control unit in a conduit installation comprising 25 mm diameter concealed heavy gauge PVC conduit complete with draw wires and all accessories and fittings				
A	Single surface (33x87x20) mm moulded box for Fire & voice evacuation system as MK-Logic Plus VOICE & DATA INSTALLATION	NO	60		
	Final sub-circuits from voice or data processing point in trunking/floor duct and/or conduit installation complete with draw - wires and all accessories and fittings (trunking, floor duct and conduits measured separately)				
B	Face Plate as MK-Logic Plus mounted on the (200 x 50)mm wall trunking or wall (trunking measured separately)	NO	67		
	EARTHING AND TESTING				
C	Earthing and bonding system of the installation as per IET regulations	ITEM	1		
D	Allow for testing and Comissioning the whole installation	ITEM	1		
				Shs.	
	<u>GROUND FLOOR LEVEL</u>				
	<u>COLLECTION</u>				
	Brought forward from page No. 5/2				
	" " " " " 5/3				
	" " " " " 5/4				
	" " " " " 5/5				
	" " " " " 5/6				
	" " " " " 5/7				
	TOTAL FOR ELECTRICAL INSTALLATION TO GROUND FLOOR CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
<u>SECTION 3 - ELECTRICAL INSTALLATION - FIRST FLOOR</u>					
POWER DISTRIBUTION					
CABLE TRUNKING, TRAYS AND CONDUITS					
A	(200 x 50)mm two compartment, powder coated steel trunking complete with cover, dividing fillets between services, fixing screws and knock-out plates for power and data/voice cables, shall comply with BS EN 50085-2-1:2006+A1:2011 and BS EN 10346:2015	M	120		
B	Single face plates for data to the above	NO	15		
C	Twin face plates for power to the above	NO	45		
D	50mm dia PVC high grade pvc sleeves	M	200		
E	4x32mm dia PVC high grade pvc sleeves	M	100		
F	38mm dia PVC high grade concealed conduit	M	30		
G	Grade 304 cable tray - (300x25)mm galvanised steel cable tray with fixing clips c/w bolts & nuts, plates, studs and mounting brackets all to approval (in services ducts), shall comply with BS EN 50085-2-1:2006+A1:2011 and BS EN 10346:2015	M	100		
H	Grade 304 cable tray - (600x50)mm galvanised steel cable tray with fixing clips c/w bolts & nuts, plates, studs and mounting brackets all to approval	M	100		
Equipment including all interconnections bushing, cable lugs and terminations sundries and fixing to backgrounds requiring plugging and all accessories.					
I	12way TPN distribution board with 125A TP mains switch as manufactured by Havells/Schneider without MCBs - DB 'LAB'	NO	1		
J	8 way TPN distribution board with 125A TP mains switch as manufactured by Havells/Schneider without MCBs (CS4, CS5, CS6)	NO	3		
K	4 way TPN distribution board with 125A TP mains switch as manufactured by Havells/Schneider without MCBs (AU, OP, RA)	NO	3		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	MINIATURE CIRCUIT BREAKERS				
A	10A SP MCB as Havells / Schneider	NO	13		
B	20A SP MCB as Havells/ Schneider	NO	8		
C	32A TP MCB as Havells/ Schneider	NO	10		
D	63A TP MCB as Havells/ Schneider	NO	10		
E	Blanking plate for spare way	NO	63		
	Final sub-circuits from DB in cable, floor duct/conduit and/or trunking installation comprising concealed 2.5mm² PVC insulated copper cables, 2.5 mm² copper earthing cable including accessories and fittings				
F	13 Amp switched twin socket outlet as MK-Logicplus, mounted on the trunking / wall /Floorboxes (Raw Power)	NO	79		
G	13 Amp switched non standard twin socket outlet as MK-Logicplus, mounted on the trunking / wall /Floorboxes (Clean Power)	NO	49		
H	General Purpose Outlet (GPO) Medical Horizontal, Twin 10 Amp 240V A.C., C/W Power Available Neon and Circuit Identification Provision	NO	4		
I	General Purpose Outlet (GPO) Medical, Cleaners, 15 Amp 250V A.C., C/W CLEANING PURPOSES ONLY engraving and Circuit Identification Provision	NO	4		
J	"Grosvenor" 4-compartment access floor box complete with all accessories as Electrium - Britmac Cable Management Systems Cat No GR04 - Excluding the outlets	NO	4		
K	20Amp DP switch as MK-Logic Plus wired in 3x2.5mm ² cu cables to hand drier, cable length say 20m from DB/CU	NO	2		
L	32Amp TP isolator as MK-Commando wired in 5x6.0mm ² cu cables to Special equipments, cable length say 25m from DB	NO	8		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	600/1000 volt grade multi core PVC insulated copper armoured cable to BS 5467:2016, including concealed heavy gauge PVC conduit, accessories and fittings				
A	4-Core 50mm ² XLPE/SWA/PVC cable as METSEC from Sub-board in Gnd fl service duct to DB 'LAB'	M	35		
B	4-Core 25mm ² XLPE/SWA/PVC cable from Sub-board in Gnd fl service duct to Special equipments.	M	120		
C	4-Core 16mm ² XLPE/SWA/PVC cable from Sub-board in Gnd fl service duct to DBs (CS4, CS5, CS6)	M	200		
D	4-Core 10mm ² PVC/SWA/PVC cable from Sub-board in Gnd fl service duct to DBs (AU, OP, RA)	M	250		
	Final sub-circuits from distribution board in a cable and conduit/channel installation comprising concealed heavy gauge PVC conduit, 1.5 mm² PVC insulated copper cables, 1.5 mm² copper earthing cable including all accessories and fittings.				
E	Lighting point	NO	214		
F	6 Amp one gang one way switch as Panasonic-W1	NO	4		
G	6 Amp one gang two way switch as Panasonic-W1	NO	6		
H	6 Amp two gang two way switch as Panasonic-W1	NO	22		
I	Type 'P' - 597x597mm LED Panel, 24W, 4000K, IP20, as Philips LED SmartBright Slim Panel RC091V LED36S/840 PSU W60L60 PCV GM, 45w or an equivalent and approved.	No	74		
J	Type 'CR1' - 597x597mm LED Panel, 31W, 4000K, front IP65/rear IP40, as Philips GreenPerform Cleanroom - CR468B LED55/NW PSU W60L60 or an equivalent and approved (LAB ONLY)	No	8		
K	Type 'D' - 10.5W round downlight, 4000K cool white as PHILIPS DN032B IP44 or an approved equivalent	NO	28		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
A	Type 'C' - 15W 174mm high performance LED high output downlight, 5000K Daylight as PHILIPS DN027B ESSENTIAL SMARTBRIGHT G2 LED15 Downlight D150 4000K or an approved equivalent	NO	40		
B	Type 'R' - 6W high output downlight, cool white 4000K as Philips ClearAccent RS060B recessed spotlight, fixed version or an approved equivalent - Lift lobby	No	8		
C	Type 'Exit' - 620 Safety flag LED with plastic housing and Plexiglass reflector with emergency run time of 180mins as as Awex LED Exit sign	NO	6		
D	Type 'SL' - PHILIPS LL121X 1xLED80S/830 VWB OR BN058C LED11/WW L1200 GM or an equivalent and approved above wood slats in lounge and waiting areas	Item	50		
	VOICE & DATA INSTALLATION				
	Final sub-circuits from voice or data processing point in trunking/floor duct and/or conduit installation complete with draw - wires and all accessories and fittings (trunking, floor duct and conduits measured separately)				
E	Face Plate as MK-Logic Plus mounted on the (200 x 50)mm wall trunking or wall (<i>trunking measured separately</i>)	NO	45		
	SECURITY SYSTEM - CCTV INSTALLATION				
	Final sub-circuits from CCTV control system in a conduit installation comprising 25 mm diameter concealed heavy gauge PVC conduit complete with draw wires and all accessories and fittings				
F	Single recessed (36x86x86) mm PVC box and cord outlet cover as MK-Logic Plus for CCTV camera point	NO	7		
G	Single recessed (36x86x86) mm PVC box and cord outlet cover as MK-Logic Plusfor CCTV Monitor	NO	1		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	SECURITY SYSTEM - ACCESS CONTROL SYSTEM INSTALLATION				
	Final sub-circuits from intruder alarm control unit in a conduit installation comprising 25 mm diameter concealed heavy gauge PVC conduit complete with draw wires and all accessories and fittings				
A	Single surface (33x87x20) mm moulded box for access control as MK-Logic Plus	NO	3		
	FIRE ALARM VOICE EVACUATION SYSTEM INSTALLATION				
	Final sub-circuits from intruder alarm control unit in a conduit installation comprising 25 mm diameter concealed heavy gauge PVC conduit complete with draw wires and all accessories and fittings				
B	Single surface (33x87x20) mm moulded box for fire alarm and voice system as Crabtree MK-Logic Plus	NO	55		
	EARTHING AND TESTING				
C	Earthing and bonding system of the installation as per IET regulations	ITEM	1		
D	Allow for testing and commissioning of the whole installation	ITEM	1		
				Shs.	
	<u>FIRST FLOOR LEVEL</u>				
	<u>COLLECTION</u>				
	Brought forward from page No. 5/8				
	" " " " " 5/9				
	" " " " " 5/10				
	" " " " " 5/11				
	" " " " " 5/12				
	TOTAL FOR ELECTRICAL INSTALLATION TO FIRST FLOOR CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	SECTION 4 - LV SWITCHBOARD, POWER FACTOR CORRECTION, BUSBAR TRUNKING, CABLING AND LIGHTNING ARRESTOR SYSTEM				
	<u>MAIN LV SWITCHBOARD AND PF CORRECTION</u>				
	One of free standing switchboard, Type "BLOCKSET" (Type Tested Assemblies) modular, extensible, metal clad, cubicle pattern to IP31, Form 3b, comprising of Merlin Gerlin, Terrasaki, or ABB Switchgear as follows:•				
A	Incomer				
i	Supply and install a 450Amps 3P MCCB, type NS450N, with adjustable overcurrent settings, having a short circuit breaking capacity of 50KA at 415Vac, 50Hz.	NO	1	}	P.T.O.
ii	Supply and install a set of digital energy multimeter (complete with current transformers and fuse holder/fuses) for indication of voltage, current, kW, kWh, KVA, power factor, etc	ITEM	1		
iii	Supply and install Surge Protection Unit ESP 415N1	NO	1		
B	Automatic Changeover:- Mains to Generator				
	Supply and install a set of 450 Amps 4P motorised automatic changeover comprising of: •				
i	Supply and install one set of 450Amps 4P mechanically interlocked motorised MCCB, Type NS450N with adjustable overcurrent settings, having a short circuit rating of 50kA at 415Vac at 50Hz	NO	1		
ii	Supply and install control unit for auto-changeover Type UA-1	NO	1		
iii	Supply and install Under/Over Voltage sensing relay	NO	1		
iv	Supply and install a set of indication to show mains supply Available/In use or generator supply Available/In use	ITEM	1		
v	Supply and install a set of indication to show mains supply Available/In use or generator supply Available/In use	ITEM	1		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
vi	Supply and install a set of voltage free normally open/closed contacts for generator start/stop signal	ITEM	1		
C	Outgoers Maintained				
	Supply and Install:-				
i	- 300A TP&N MCCB, type NS300N (To 150KVAR PFC Bank)	NO	1		
ii	-315A TP&N MCCB, to SUBBOARD 1	NO	1		
iii	-80A TP&N MCCB, to Pump room DB	NO	1		
vi	- All other necessary items to complete (<i>specify</i>)	ITEM	1		
vii	Supply and install complete all earthing requirements for the switchboard under item A above including concrete inspection pits, rods, tapes etc all as per the requirements	ITEM	1		P.T.O.
D	150KVAR POWER FACTOR CORRECTION BANK	LOTS	1		
	One off 150kVAR Power Factor Correction Bank, to IP20, comprising dry type capacitors 'type VARPLUS from MERLIN GERIN Rectiphase, complying to IEC 831 Standards				
	The PFC Bank will comprise the following: •				
i	2 Nos Varplus Capacitors 5 KVAR 415V, 50Hz, 3-phase				
ii	4 Nos Varplus Capacitors 10 KVAR 415V, 50Hz, 3-phase				
iii	4Nos Varplus Capacitors 25 KVAR 415V, 50Hz, 3-phase				
iv	10Nos Special Contactors for capacitor switching				
v	10Nos Fuse bases and fuses for each capacitor protection				
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
vi	10Nos Step indicators lamps			}	
vii	1No Control circuit protection fuse/holder				
viii	1No 10 step automatic control regulator for maintaining power factor at the set level and regulating the switching of capacitor steps				
ix	1No 450/5A current transformer, (mounted after incomer circuit breaker)				
x	Allow for transport, fixing, testing and commissioning of the MV Switchboard and P.F. Correction Equipment	ITEM	1		}
E	SUBMAIN CABLES (Allow for trenching, laying, tiling, backfilling of underground cables and termination with lugs and glands/shrouds)				
i	Supply and install a 4c 240mm ² XLPE/SWA/PVC cable from Generator to main changeover breaker	M	10		
ii	Supply and install a 4c 240mm ² XLPE/SWA/PVC cable from main changeover to Switchboard	M	5		
iii	Supply and install a 4c 120mm ² XLPE/SWA/PVC cable from main switchboard to power factor correction equipment	M	10		
iv	Supply and install a 4c 120mm ² PVC/SWA/PVC cable from Main Switchboard (MSB) to subboard '1' (SB1)	M	120		
v	Supply and install a 4c 35mm ² PVC/SWA/PVC cable from Main Switchboard to DB in Pump Room	M	30		
vi	Supply and install a 4c 10mm ² PVC/SWA/PVC cable from DB in Pump Room to Bore Hole Pump (include cost of 63A TP isolator)	M	50		
vii	Supply and install a 4c 10mm ² PVC/SWA/PVC cable from DB in Pump Room to Sprinkler Pump (include cost of 40A TP isolator)	M	10		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
viii	Supply and install a 4c 4mm ² PVC/SWA/PVC cable from DB in Pump Room to Hose Reel Pump <i>(include cost of 32A TP isolator)</i>	M	10		
ix x	Supply and install a 4c 6mm ² PVC/SWA/PVC cable from DB in Pump Room to Booster Water Pump Set <i>(include cost of 32A TP isolator)</i>	M	10		
G i	Supply and install a 4c 4mm ² PVC/SWA/PVC cable from DB in Pump Room to Garden Irrigation Pump (Rain Water) <i>(include cost of 20A TP isolator)</i>	M	10		
	315A PANEL SUBBOARD SB 1				
H i	315A 18 way wall mounted panel sub-board as Crabtree, with fault short circuit capacity of 35kA and an MCCB incomer of 315A, List No. 1712/315PBM or an approved equivalent <i>(Schneider, Merlin Gerin, Terasaki, Legrand or ABB preferred)</i>	NO	1		
	LIGHTNING ARRESTOR SYSTEM				
ii	(25X3)mm copper tape as down conductor and for horizontal runs installed as per contract drawings (including test clamps and copper saddles)	M	128		
iii	15mm dia.x1000mm long copper spike air terminal jointed to copper cable with appropriate air terminal base.	LOTS	4		
I	Complete earthing and bonding to the lightning system tested to Engineer's satisfaction as detailed in the drawings and in accordance to specifications and to IEE Regulation's	LOTS	4		
	GATE CONTROL SYSTEM PATHWAYS				
i	Final gate control system from the barriers, entry/exit station in 32mm conduit installation comprising concealed PVC conduit, including all accessories and fittings.				
	Gate Control System (CONDUITING ONLY)	M	25		
				Shs.	
	SECTION 4 - LV SWITCHBOARD, POWER FACTOR CORRECTION, BUSBAR TRUNKING, CABLING AND LIGHTNING ARRESTOR SYSTEM				
	COLLECTION				
	Brought forward from page No. 5/13				
	" " " " " 5/14				
	" " " " " 5/15				
	" " " " " 5/16				
	TOTAL FOR ELECTRICAL INSTALLATION TO LV SWITCHBOARD, POWER FACTOR CORRECTION, CABLING AND LIGHTNING ARRESTOR SYSTEM CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23			Shs.	

Item	Description	Unit	Qty	Rate	Shs. Cts
<u>SECTION 5 - POWER RETICULATION & SOLAR POWERED ELECTRIC FENCE</u>					
<u>POWER DUCTS AND MANHOLES</u>					
A	Provide 2x100mm power cable ducts (rate inclusive), part- backfill and compact excavated material, remove surplus soil from site, including 150mm bed of 1:2:3 (12mm aggregate) concrete mixture and covering ducts with concrete grade 20 (at road crossings) from K.P.L.& Co. manholes (<i>Builders works shall be done by the MC</i>)	M	120		
B	Provide 1x100mm voice / data cable duct (rate inclusive), part- backfill and compact excavated material, remove surplus soil from site, including 150mm bed of 1:2:3 (12mm aggregate) concrete mixture and covering ducts with concrete grade 20 from JF6 telephone / data manholes (<i>Builders Works Shall be done by the MC</i>)	M	120		
Heavy gauge PVC conduit or duct complete with all accessories, boxes etc. and joints in the running length					
C	50mm conduit fixed underground including saddles, plugging, trenching and backfilling from power manhole to adaptable box	M	100		
D	32mm conduit fixed underground including saddles, plugging, trenching and backfilling from voice / data manhole to adaptable box	M	100		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
	<u>SOLAR ELECTRIC FENCE</u>				
A	Supply and install 120W solar modules	No	4		
	SOLAR BATTERIES				
B	Supply and install 100A/h maintenance free batteries as Deep Cycle/Marine	No	4		
	CHARGE CONTROLLER/REGULATOR				
C	Supply and install 63A charge controller	No	1		
	GALVANISED CABLE				
D	8No. strands of 1.6mm double heavily galvanised high tensile steel wire with ultra violet stabilised insulators	m	450		
	UNDERGATE CABLE				
E	Double insulation high resistance under gate cable	m	20		
	ALARM CABLE				
F	4core alarm cable to approval	m	20		
	SIREN / STROBE LIGHTS				
G	High decibel siren / strobe lights to approval	No	1		
	EARTHING				
H	Do comprehensive earthing applying the 4.3.2.1 rule using 16mm x 1200mm pure copper earth rods to approval	Item	3		
	HATARI FENCE SIGNS				
I	Hatari fence signs to approval	No	20		
	ENERGIZER				
J	2 zone energizer JVA Z 28 or an approved equivalent with battery back-up, battery charger, display panel, siren and back-up alarm capability.	No	1		
	JOINT CLAMPS				
K	Connect a lead set between the fence terminal and the fence ensuring that the connection is firm (use G603 joint clamps)	Item	1		
				Shs.	
	<u>SECTION 5 - POWER RETICULATION & SOLAR POWERED ELECTRIC FENCE</u>				
	<u>COLLECTION</u>				
	Brought forward from page No. 5/17				
	" " " " " 5/18				
	TOTAL FOR POWER RETICULATION AND SOLAR POWERED ELECTRIC FENCE			Shs.	
	CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23				

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Item	Description	Unit	Qty	Rate	Shs. Cts
<u>SECTION 6 - EARTHING SYSTEMS INSTALLATION</u>					
A EARTHING OF 415V LV SWITCHBOARD					
i	Supply and install Earth Mat for incoming 415V supply to the Library Building. The lattice Mat shall be constructed in 1.0M x 1.0M with 25mm wide x 3mm thick copper tape with copper rivets and laid 2.0 Meters in Ground and covered with Marconite Concrete and filled back with soil. The lead from the copper lattice Mat to the Ground level shall also be 25mm x 3mm copper tape. The Contractor to carry out an Earth Test	1	No.		
ii	Supply and install 600mm L x 50mm W x 6 mm thick Equipotential Earth Bar on Insulators in the Electrical Switchboard Room	1	No.		
iii	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Earth Mat to the Equipotential Earth Bar in the Electrical Switchboard Room complete with Lugs	20	LM		
iv	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Equipotential Earth Bar to the above Equipment complete with lugs	20	LM		
EARTHING OF IT SYSTEM IN THE SERVER ROOM					
B					
i	Supply and install Earth Mat for the Server Room IT System. The lattice Mat shall be constructed in 1.0M x 1.0M with 25mm wide x 3mm thick copper tape with copper rivets and laid 2.0 Meters in Ground and covered with Marconite Concrete and filled back with soil. The lead from the copper lattice Mat to the Ground level shall also be 25mm x 3mm copper tape. The Contractor to carry out an Earth Test and forward the result to the Engineer.	1	No.		
ii	Supply and install 600mm L x 50mm W x 6 mm thick Equipotential Earth Bar on Insulators in the Server Room	1	No.		
Shs.					

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Item	Description	Unit	Qty	Rate	Shs. Cts
iii	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Earth Mat to the Equipotential Earth Bar in the Server Room complete with Lugs	50	LM		
iv	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Equipotential Earth Bar to the above Equipment complete with lugs	15	LM		
C	EARTHING OF GENERATOR PAD				
i	Supply and install Earth Mat for the Generator Pad. The lattice Mat shall be constructed in 1.0M x 1.0M with 25mm wide x 3mm thick copper tape with copper rivets and laid 2.0 Meters in Ground and covered with Marconite Concrete and filled back with soil. The lead from the copper lattice Mat to the Ground level shall also be 25mm x 3mm copper tape. The Contractor to carry out an Earth Test and forward the result to the Engineer.	1	No.		
ii	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Earth Mat to the Generator Pad	6	LM		
D	EARTHING OF GENERATOR METALLIC BODY				
i	Supply and install Earth Mat for the Generator Metallic bodies. The lattice Mat shall be constructed in 1.0M x 1.0M with 25mm wide x 3mm thick copper tape with copper rivets and laid 2.0 Meters in Ground and covered with Marconite Concrete and filled back with soil. The lead from the copper lattice Mat to the Ground level shall also be 25mm x 3mm copper tape. The Contractor to carry out an Earth Test and forward the result to the Engineer.	1	No.		
ii	Supply and install 600mm L x 50mm W x 6 mm thick Equipotential Earth Bar on Insulators in the Electrical Room	1	No.		
iii	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Earth Mat to the Equipotential Earth Bar in the Electrical Room complete with Lugs	20	LM		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
iv	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Equipotential Earth Bar to the Generator body complete with lugs	20	LM		
E	EARTHING OF WATER PUMPS & STREET LIGHTS				
i	Supply and install Copper Earthing Rods, 19.05mm nominal Diameter and 1.2m long to be driven into ground 2.0 m deep in soil mixed with marconite concrete. Copper thickness to be minimum of 250 microns as Furse RB305 or approved equivalent. The resistance to be measured and results	18	No		
ii	Supply and Install Furse Concrete Inspection Pit Part No. PTO05 with the following Dimensions 320mmx192mmx146mm	18	No		
iii	Supply and install 300mm L x 50mm W x 6 mm thick Equipotential Earth Bar on Insulators in the Electrical Room	2	No.		
iv	Allow for 1x 35mm ² PVC-PVC Earth copper conductor cable from the Equipotential bars to the earth electrodes	50	LM		
				Shs.	
	<p align="center"><u>SECTION 6 - EARTHING SYSTEMS INSTALLATION</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from page No. 5/19</p> <p> " " " " " 5/20</p> <p> " " " " " 5/21</p>				
	TOTAL FOR EARTHING SYSTEMS INSTALLATION CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts
<p align="center"><u>SECTION 7 - ATTENDANCE TO AND LIASING WITH OTHER SUB-CONTRACTORS</u></p>					
<p align="center">ATTENDANCE TO AND LIASING WITH OTHER SUB-CONTRACTORS</p>					
A	Allow for Attendance to, and liasing with the structured cabling installation sub-contractor for the installation of Fire Alarm and IT Network	ITEM	1		
B	Allow for Attendance to, and liasing with the Generator sub-contractor for the installation of Generator	ITEM	1		
C	Allow for Attendance to, and liasing with the security system sub-contractor for the CCTV / Alarm / Access Control System	ITEM	1		
D	Allow for Attendance to, and liasing with the Esacalator sub-contractor for the installation of Lifts and Escalators	ITEM	1		
<p>TOTAL FOR ATTENDANCE TO AND LIASING WITH OTHER SUB-CONTRACTORS</p> <p>CARRIED FORWARD TO PRICE SUMMARY PAGE 5/23</p>				Shs.	

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ITEM NO.	DESCRIPTION	Shs. Cts
	<u>BILL NO. 5</u>	
	<u>ELECTRICAL INSTALLATIONS</u>	
	<u>SUMMARY</u>	
		<u>PAGE NO.</u>
A	SECTION 1 - GENERAL ITEMS	5/1
B	SECTION 2 - ELECTRICAL INSTALLATION TO GROUND FLOOR	5/7
C	SECTION 3 - ELECTRICAL INSTALLATION TO FIRST FLOOR	5/12
D	SECTION 4 - LV BOARD, PFC, CABLING AND LIGHTNING ARRESTOR INSTALLATION	5/16
E	SECTION 5 - POWER RETICULATION AND SOLAR POWERED ELECTRIC FENCE	5/18
F	SECTION 6 - TOTAL FOR EARTHING SYSTEM	5/21
G	SECTION 7 - ATTENDANCE AND LIASING WITH OTHER CONTRACTORS	5/22
H	SUB-TOTAL FOR ELECTRICAL INSTALLATIONS (INCLUSIVE OF VAT)	Shs.
I	PC SUM CAPITAL CONTRIBUTION TO KENYA POWER	1,500,000.00
J	PC SUM FOR 250KVA GENERATOR	3,800,000.00
K	PC SUM FOR 1 NO 2 NO. STOPS HOSPITAL LIFT (1600KG)	4,800,000.00
L	PC Sum for supply and install - 18W LED , 25K LUX-50K LUX, 4600 Kelvin, 40,000 hours LED life, 5 years warranty, as Philips Burton NOVA EXAM NXFL02 (240V), Complete with Mobile floor stand for General Examination purposes - Consultation rooms (Optional)	300,000.00
M	PC Sum for supply and install - 1200mm High-strength Aluminum Alloy Medical Bed Head Hospital Equipment Unit, include medical gas outlet e.g. O2, Vacuum, N2O (Specialist to advise), two electric non-standard 240V outlets, 1 No. Data point, head lamp & light switch and Nurse call system (Optional)	750,000.00
TOTAL FOR BILL NO. 5 ELECTRICAL INSTALLATIONS CARRIED TO FINAL SUMMARY PAGE		Shs.

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
	<p><u>BILL NO. 6</u></p> <p><u>PLUMBING, DRAINAGE AND FIREFIGHTING INSTALLATIONS</u></p> <p><u>SECTION A - GENERAL ITEMS</u></p>				
A	Allow for the preparation and submitting of all Working Drawings	Sum	1		
B	Allow for the preparation and submitting of all As Built Drawings	Sum	1		
C	Allow for flushing out and sterilization of the whole plumbing and storage system with chlorine to the satisfaction of the engineer	Sum	1		
D	Allow for setting to proper functioning, testing and commissioning of the whole system of plumbing, drainage and fire fighting installations to the satisfaction of the Mechanical Engineer.	Sum	1		
E	Allow for Local Authority Water main and Sewer line cutting, connection and any other fee to facilitate the connection.	Sum	1		
F	The tenderer is to describe hereunder inserting any relevant clause number, any other works, obligations or items that may be referred to in the Conditions Of Contract, Specification or Drawings in respect of the works for which he desires to enter a separate charge (this charge is to be entered in the Amount column) If no charge is entered hereunder, rates and amounts elsewhere in the shedule of prices shall be deemed to cover all expenss for such works, obligations or items.	Sum	1		
	TOTAL FOR SECTION A GENERAL ITEMS CARRIED FORWARD TO SUMMARY PAGE 6/21			Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
2.0	<p>SECTION B - SANITARY WARE AND FITTINGS INSTALLATIONS</p> <p><i>Supply, deliver, install, test and commission the following sanitary ware and fittings, complete with all necessary accessories for proper function as described and shown on the drawings. Rates MUST be inclusive of VAT.</i></p> <p>NOTE: the trade name and Reference number of the fitting MUST NOT be changed without Engineer's written approval.</p> <p>Water Closet and Fittings</p> <p>A Wall Hung Water Closet with horizontal outlet WC Pan</p>				
i)	<p>#E11909WH complete with brackets and bolt assembly for wall hung toilet #SR8138XX, pan connector P-trap #WF1240WH, soft close seat and cover with quick release metal hinge #E17858WH as Twyford E100 Square or equal and approved.</p>	Set	17		
ii)	<p>Flush valve for WC for concealed installation #37048000, ¾" connection to solenoid valve, stop valve 6 - 9 liter adjustable flow, pressure range from 1.2 - 5.0 bar with flow rate adjustment, 2 m connecting cable box for concealed installation with flush elbow concealed flush pipe as Grohe or equal and approved.</p>	Set	17		
iii)	<p>Close Coupled Standard WC pan with bottom outlet and 6/4 litre square bottom inlet supply and internal overflow cistern with push button #E11148WH complete with seat and cover with metal bottom fix hinge #E17815WH, pan connector P-trap #WF1240WH and angle valve as Twyford E100 Square or equal and approved.</p>	Set	3		
B	<p>Urinal and Fittings</p> <p>Rimless 445x300x375mm single urinal bowl</p>				
i)	<p>#VC7002WH with concealed inlet for 15mm connection complete with jet nozzle, inlet-set, waste, chrome bottle trap Ø32mm and fixings as Twyford Clifton or equal and approved.</p>	Set	4		
ii)	<p>Urinal division including fixing #VC7051WH as Twyford or equal and approved.</p>	No	2		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
iii)	Urinal flush valve set for final concealed installation, with transformer with supply voltage 230 V AC, 50 Hz, 3.2 VA; adjustable flow time -24 h flushing activateable with function check lamps; solenoid valve with dirt strainer; front plate 156x197 mm; complete with roughing-in set #37 006 adjustable by infra-red control #36 206 GROHE EcoJoy Technology for less water and perfect flow and angle valve as GROHE StarLight chrome finish or equal and approved.	Set	4		
C	Wash Hand Basin and Fittings				
i)	550x450mm countertop basin with tap hole and overflow #E14511WH complete with plastic 1¼" modern bottle trap with extension #IE6800CP as Twyford E100 Square or equal and approved.	Set	17		
ii)	450x340mm handrinse basin with tap hole and overflow #E24811WH complete with plastic 1¼" modern chrome plated bottle trap with extension #IE6800CP , 140mm bolts pair for masonry wall installations #SR1018XX as Twyford E200 or equal and approved.	Set	9		
iii)	Chrome finish Lavatory Centerset single lever basin mixer for minimum 1.0 bar water pressure with adjustable flow rate limiter, pop-up waste set for 1¼" outlet, stainless steel braided flexible supplies, temperature limiter and angle valve as Grohe Europlus Monobloc #32612002 or equal and approved.	No	18		
iv)	Chrome finish Lavatory Centerset single lever basin mixer with medical handle for minimum 1.0 bar water pressure with adjustable flow rate limiter, pop-up waste set for 1¼" outlet, stainless steel braided flexible supplies, temperature limiter and angle valve as Grohe Euroeco Special #32788000 or equal and approved.	No	6		
v)	Chrome finish Lavatory Centerset single lever basin pillar tap for minimum 1.0 bar water pressure with adjustable flow rate limiter, flexible supplies and angle valve as Grohe BauEdge #20421000 or equal and approved.	No	2		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
D	Shower Fittings				
i)	Chrome finish Shower system complete with single-lever shower mixer #19 340 002 with diverter # 35 016 000 ; head shower #27 492 000 with ball joint of rotation angle $\pm 15^\circ$ with minimum recommended pressure 1.0 bar on horizontal 12" (305 mm) shower arm #28 577 000 and Wall-mounted shower spout #13 284 002 as Grohe or equal and approved.	Set	5		
ii)	Chrome finish Shower set #431 complete with chrome plated brass underwall shower tap with $\frac{1}{2}$ " BSP FxF inlets; Shower arm #029 and shower head #068BJ as Cobra Star or equal and approved.	Set	2		
E	Bath Accessories				
i)	Chrome finish 600mm towel rail as Grohe Essential #40 366 001 or equal and approved.	No	5		
ii)	Chrome finish 600mm towel ring as Grohe Essential #40 365 001 or equal and approved.	No	13		
iii)	Chrome finish Robe hook as Grohe Essential #40 364 or equal and approved.	No	20		
iv)	Glass Soap dish #40 368 with soap dish holder #40 369 as Grohe Essential or equal and approved.	No	7		
v)	Chrome finish toilet paper holder as Grohe Essential #40367001 or equal and approved.	No	18		
vi)	Toilet brush with glass brush holder in chrome finish wall mounted containment as Grohe Allure Brilliant #40 314 000 or equal and approved.	No	20		
vii)	150x150mm stainless steel floor drain tile filled to match the floor tiles to approval	No	20		
viii)	400x600mm rectangular mirror with bevelled edges complete with DO demista Pad 150x274mm #37005 as HIB Johnson #76900000 or equal and approved.	No	13		
ix)	Basin mirror size: 400x600 wall hung rectangular shape bevelled edge standard mirror to approval.	No	2		
x)	Ditto, but 1,800x600	No	2		
xi)	Ditto, but 2,000x600	No	4		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
xii)	Stainless steel AISI 304 stain finish 1.5 Litre capacity vertical wall mounted soap dispenser with push button dispenser as Mediclinics #DJ0040CS or equal and approved.	No	21		
xiii)	Stainless steel AISI 304, satin finish, wall-mounted folded tissue paper dispenser , 400 sheets capacity complete with nuts and bolts as Mediclinics #DTH100CS or equal and approved.	No	21		
xiv)	Stainless steel AISI 304, satin finish, wall-mounted toilet seat cover dispenser , capable of holding between 2 and 3 toilet paper rolls complete with nuts and bolts as Mediclinics #DCA100CS or equal and approved.	No	19		
xv)	Infrared sensor automatic hand drier capable of delivering 26litres/s of warm air at 50°C above ambient temperature at an average air speed of 50 m/s and drying time of 12 seconds with rated Power of 1.8 kW, heating power of 1.15kW, motor power of 0.25kW 240V 50Hz and max. noise emission of 74dB as Mediclinics #M06ACS or equal and approved.	No	4		
F	Sinks and Fittings				
1	Kitchen Sink				
i)	Polished steel finish single bowl single drain (DBSD) nickel stainless steel kitchen sink of size: 965x500mm [WxD] with cut-out of 945x480mm and Bowl of Size: 450x395x160mm [WxDxH] and Swiss-edge profile complete with basket strainer waste and 1½" tubular plastic bottle traps, Siphon Plumbing Kit and Tap Brace as Elba ELN 611 96 #101.0182.626 or equal and approved.	Set	2		
ii)	Chrome finish single lever kitchen mixer for 140° spout swivel, normal spray, operating pressure between 1-6 bars #33977002 complete with ¾" connections as GROHE Eurostyle Cosmopolitan or equal and approved.	No	1		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
iii)	10-litres under-sink water heater with 3kW, 240V rod-type alloy-sheathed heating element, flame retardant expanded polystyrene thermal insulations and capillary type thermostat externally adjustable from 5°C - 90°C with dry-start cut-out lockable at 40°C in moulded thermoplastic outer casing as Heatrae Sadia Streamline #10/3 US or equal and approved.	No	1		
2	Other Sinks				
i)	Polished steel finish Single Bowl (SB) stainless steel grade 304 kitchen sink of size: 351x371mm [WxD] with bowl of 330x350x160mm [WxDxH] Swiss-edge profile with overflow, complete with basket strainer waste set, siphon plumbing kit and tap brace and angle valve as FRANKE Ariane ARX 110 33 #1220154919 or equal and approved.				
ii)	Chrome finish wall or deck mounted installation single lever medical sink mixer for 100° spout swivel with temperature scale handle with pre-adjustable and safety stop between 35°C and 45°C complete with ½" connections as Grohe Grohtherm Ergomix Thermostat Basin Mixer Tap #34020000 or equal and approved.	Set	12		
iii)	Chrome finish Shower set #431 complete with chrome plated brass underwall shower taps with ½" BSP FxF inlets; Shower arm #029 and shower head #068BJ as Cobra Star or equal and approved.	No	7		
iv)	Star chrome plated brass wall tap with ½" Heavy pattern, cold indices, 15mm BSP male, inlet flexible supply and angle valve as Cobra Star #206EXT-15 or equal and approved.	No	4		
		No	2		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
H	<p>Disabled toilet Pack White finish WC pack including:</p> <p>a) E100 700mm projection rimfree wall hung horizontal outlet pan: -E100 50mm extension for WC -Supporting brackets screwed to floor for non load bearing walls up to 100mm thick. -Concealed 4/2.6 litre dual flush cistern and 150x230mm chrome plated large plate dual flush air button. -E100 seat ring with metal top fix bar hinge</p> <p>b) Hand Rinse Medical Basin: -1 tap hole and no overflow complete with -grid waste -bottle trap and -Mirror</p> <p>c) Sola Thermostatic Tap: -Chrome finish single lever sequential monobloc basin mixer. -Minimum operating pressure is 0.2 bar, maximum dynamic pressure is 5.0 bar and maximum static pressure is 10.0 bar. -Comes with flexible inlets, brass backnuts, flow straightener, check valves, strainers and angle valve. -Pre-set factory temperature setting 41°C</p> <p>d) Doc.M Support Rails: -5 x Doc.M support rails. -1 x Hinged support rail and toilet paper roll holder. -Back support with cushion.</p> <p>i) The pack as Twyford Doc.M right handed #PK8351WH or equal and approved.</p>	Set	2		
				Shs.	
	<p><u>SECTION B - SANITARY WARE AND FITTINGS</u> <u>INSTALLATIONS</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 6/2</p> <p>" " " " " 6/3</p> <p>" " " " " 6/4</p> <p>" " " " " 6/5</p> <p>" " " " " 6/6</p> <p>" " " " " 6/7</p>				
2.1	TOTAL FOR SECTION B SANITARY WARE AND FITTINGS INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 6/21			Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
3.0	SECTION C - PLUMBING INSTALLATIONS				
	<i>Supply, deliver, install, test and commission the following to European Standards and fixed by polyfusion to manufacturer's printed instructions and Engineer's approval as described and/or shown on drawings. Rates MUST be inclusive of VAT.</i>				
3.1	Water Disribution				
	<i>PPR PN25 plastic pipes & fittings for both Hot and Cold water supply and distribution as DIZAYN HI-TECH or equal and approved for proper satisfactory functioning system to withstand test pressure up to 6 bars.</i>				
1	Pipe Work				
A	PPR Plastic pipes				
i)	25mm dia pipe #13304 chased in walls or in duct	Lm	520		
ii)	32mm ditto #13306	Lm	164		
iii)	40mm ditto pipe #13308 in ground or in duct	Lm	56		
B	Bends/elbows				
i)	25mm dia 90° elbow #13604	No	226		
ii)	32mm ditto #13606	No	98		
iii)	40mm ditto #13608	No	88		
iv)	25x½" male transition 90° elbow #14626	No	64		
v)	32x1" ditto #13626	No	54		
vi)	25x½" female transition 90° elbow #14606	No	64		
vii)	32x1" ditto #13626	No	54		
C	Tees				
i)	25mm dia equal tee #13704	No	98		
ii)	32mm ditto #13706	No	84		
iii)	40mm ditto #13708	No	64		
iv)	25x20x25mm dia reducing tee #13738	No	54		
v)	32x25x32mm ditto #13756	No	46		
vi)	40x25x40mm ditto #13730	No	34		
vii)	40x32x40mm ditto #13732	No	34		
viii)	20x½" male transition 90° tee #14716	No	64		
ix)	25x½" female transition tee #14706	No	64		
x)	25x¾" ditto #14708	No	64		
xi)	32x1" ditto #1412	No	44		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
D	Sockets				
i)	25mm dia sockets #13404	No	96		
ii)	32mm ditto #13406	No	84		
iii)	40mm ditto #13408	No	68		
iv)	25/20mm reducing socket #13504	No	76		
v)	32/25mm ditto #13508	No	68		
vi)	40/32mm ditto #13514	No	54		
vii)	25x½" male transition round #14408	No	46		
viii)	25x¾" ditto #14406	No	46		
ix)	25x½" female transition socket #14208	No	46		
x)	25x¾" ditto #14204	No	46		
xi)	40x1¼" male transition hex with movable head #11516	No	32		
xii)	40x1¼" female ditto #11314	No	32		
2	Valves and Associated Fittings				
A	Gate Valve				
i)	25mm dia screw down full way non-rising stem, solid gunmetal wedge gate valve to BS 5154 series B, PN 25 rating, with wheel and head joints to tubing as PEGLER or equal and approved.	No	30		
ii)	40mm ditto	No	8		
B	Non Return/Check Valve				
i)	25mm dia bronze swing type check valves to BS5154 series B for either horizontal or vertical with upwards flow positions. PN 25 Rated and low minimum pressure to open as PEGLER or equal and approved.	No	12		
ii)	40mm ditto	No	8		
C	Ball Valve				
i)	25mm dia ball valve PN 25 rated, brass body full bore, quarter turn operation with ball seals for cold/hot water as Hi-Tech2 #14838/14828 or equal and approved.	No	10		
ii)	40mm ditto #14842/14832	No	8		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
D	Ball Float and Float Valve				
i)	25mm dia brass rubber diaphragm flow control float valve to BS1212 PART 1 for pressures up to 14 bar complete with Bricon 4½" dia high pressure polypropylene plastic float ball as MOH pattern or equal and approved.	No	4		
E	Foot Valve				
i)	50mm dia brass foot valve with horizontal, vertical or oblique fixing, stainless steel spring, maximum operating temperature, 90°C, stainless steel filter and ABS body to filter connection as Pegler #124276 or equal and approved.	No	1		
F	Breeching inlet valve				
i)	63 mm dia male bowser breeching inlet to BS 5041-3 with integral non-return valves, 25 mm drain valve, and rubber blank caps and chains. For use with a 63 mm connecting pipe with Gunmetal fittings Flanged outlets 63 mm to BS 4504 PN 16 for horizontal mounting for connecting as Kidde or equal and approved.	No	1		
3	Bulk Water Meter				
i)	32mm dia water check meters with 9 digit display (6 for m ³ , 3 for litres); pressure up to PN16 and temperature range between 0.1-50°C conforming to local authority specifications as Sensus 420PC or equal and approved.	No	2		
4	Water Storage Tanks and Associated				
A	Roof Tanks				
i)	5,000-litre capacity deluxe plastic cylindrical (<i>heavy duty</i>) water storage tank Ø2,350 x 1260mm height (<i>shorter</i>) in roof slab complete with cover and connections for 25mm dia inlet, 32mm dia outlets and overflow as TOP TANK #LACCYLH16 or equal and approved.	No	1		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
B	Associated Plumbing to Underground Tank <i>50m³ reinforced concrete Underground Water Storage Tank to be constructed by others to S.E's details.</i>				
i)	Allow for provision sleeves for: 40mm dia inlet, 50mm dia outlet, 100mm dia overflow, 75mm dia bowser inlet, 100mm dia breather pipe and 450x450mm wash out drain sump.	Item	1		
ii)	100 mm dia breather/Vent pipes connection including 300x300 mm GMS paddle flanges and mosquito netting to approval.	Item	1		
iii)	Allow for 450mm wide 300mm step spacing ladder in AISI 304 stainless steel, and 38mm dia polished stainless steel bars to approval.	No	3		
iv)	100mm dia PVC Non-return valves for the underground water tank overflow pipe	No	3		
5	Pump Sets and Accessories				
A	Booster Pump Set				
i)	Booster set of two pumps (<i>duty and standby</i>) operating in sequence capable of 9m³/h and 4 bars with 1.1kW, 3x414V IE3 motor efficiency, pre-installed complete with Grundfos CU352 multi pump control unit, dry-run protection mechanism, support brackets, valves, sensors, 8-liter diaphragm tank and all items necessary for proper satisfactory functioning set as Grundfos Hydro Multi-B CME 3-5 or equal and approved.	Set	1		
ii)	Booster set of two pumps (<i>duty and standby</i>) capable of 2m³/h at head of 35m with 0.55kW, 1x240V water-cooled permanent magnet motor; tank; sensor; drive; non-return valve and a noise level of 47 dB(A) complete with Intelligent pump control panel; dry running protection; Self-priming and a suitable rated MCB or 10A fuse as Grundfos Scala2 or equal and approved.	No	1		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
B	Hot Water Circulator Pump Set				
i)	Hot Water circulator set of two pumps (duty and standby) capable of 2m³/h at head of 10m with 153W, 1x240V 4-pole motor capable of wireless communication between two single pumps as Grundfos Circulator Pump Model: MAGNA3 25-100 #97924247 or equal and approved.	No	1		
3.2	Garden Irrigation <i>HDPE PN16 plastic pipes & fittings for proper and satisfactory functioning of the system to withstand test pressure up to 4 bars.</i>				
1	Pipe Work				
A	HDPE PN16 Plastic pipes				
i)	25mm ditto pipe in ground	Lm	260		
ii)	32mm ditto	Lm	98		
iii)	40mm ditto	Lm	160		
C	Tees				
i)	25mm dia equal tee	No	16		
ii)	32mm ditto	No	14		
iii)	40mm ditto	No	8		
iv)	32x25x32mm dia reducing tee	No	16		
v)	40x25x40mm ditto	No	14		
vi)	40x32x40mm ditto	No	8		
vii)	32x1" female transition tee	No	12		
D	Sockets				
iv)	32/25mm reducing socket	No	12		
v)	40/25mm ditto	No	8		
vi)	40/32mm ditto	No	8		
2	Valves and Associated Fittings				
A	Gate Valve				
i)	25mm dia screw down full way non-rising stem, bronze threaded globe gate valve to BS 5154 series B, PN 32 rating as Pegler #112009 or equal and approved.	No	8		
ii)	40mm ditto #112011	No	4		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
B	Non Return/Check Valve				
i)	25mm dia bronze threaded swing type check valves to BS5154 series B for either horizontal or vertical with upwards flow positions. PN 25 Rated and low minimum pressure to open as Pegler #122009 or equal and approved.	No	4		
iii)	40mm ditto #122011	No	2		
C	Garden Sprinkler Set				
i)	20mm dia by 300mm high GMS stand pipe complete with a bib tap to approval	No	18		
ii)	Automatic irrigation sprinkler head to approval	No	18		
iii)	Automatic irrigation sprinkler control to approval	No	1		
3	Pump Sets and Accessories				
i)	Garden Irrigation pump set (duty and standby) each capable of delivering 20m³/hr against a total head of 9m complete with support brackets, valves, sensors, 24 liter diaphragm tank and control cabinet with Grandfos control unit with pump sequence control, dry run protection by float switches with selectable auto restart and max no. of start/hour, min cycle time, over pressure and motor over current protections and all connecting wiring, piping and pipe fittings as Grandfos submersible pumps #AP.50.08.03, Power: 0.8kW, 3x415V or equal and approved.	Set	1		
				Shs.	
	<p>SECTION C - PLUMBING INSTALLATIONS</p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 6/8</p> <p>" " " " " 6/9</p> <p>" " " " " 6/10</p> <p>" " " " " 6/11</p> <p>" " " " " 6/12</p> <p>" " " " " 6/13</p>				
3.3	TOTAL FOR SECTION C PLUMBING INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 6/21			Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
4.0	SECTION D - INTERNAL DRAINAGE INSTALLATIONS				
	<i>Supply, deliver, install, test and commission the following plastic pipes & fittings for internal drainage to European Standards and fixed by push-fit and solvent cement to manufacturer's printed instructions and to Engineer's approval as described and shown on the drawings for proper and satisfactory functioning of the system. Rates MUST be inclusive of VAT.</i>				
4.1	Foul Water Drainage				
	<i>MuPVC as TERRAIN Soil and Waste System or equal and approved</i>				
A	Straight Pipe				
i)	32mm dia #200.125 Grey pipe	Lm	60		
ii)	40mm ditto #200.15	Lm	30		
iii)	50mm ditto #200.2	Lm	160		
iv)	110mm dia single socket-ended #100P.4	Lm	220		
B	Elboes/Bends				
i)	32mm dia 90° swept bend double socket #201.125.91	No	64		
ii)	40mm ditto #201.15.91	No	74		
iii)	50mm ditto #201.2.91	No	56		
iv)	110mm dia 90° swept bend spigot/ socket #101P.4.92	No	14		
v)	40mm dia 45° swept bend double socket #201.15.135	No	12		
vi)	110mm dia access bend single socket #103P.4	No	8		
C	Branchs				
i)	110mm dia 90° single branch, spigot outlet with 5 boss horns #104P.4.92	No	3		
ii)	110mm dia 90° double branch, spigot outlet with 4 boss horns #106P.4.92	No	3		
D	Tees and Cross				
i)	32mm dia 90° swept tee, all socket #204.125.91	No	22		
ii)	40mm ditto #204.15.91	No	20		
iii)	50mm ditto #204.2.91	No	12		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
E	Boss Connectors				
i)	110/40mm two part waste boss solvent socket #112.4.15	No	56		
F	Access Plugs				
i)	32mm dia access plugs #237.125	No	32		
ii)	40mm ditto #237.15	No	28		
iii)	50mm ditto #237.2	No	24		
iv)	110mm ditto #136P.4	No	18		
G	Reducers				
i)	40/32mm reducer #223.15.125	No	48		
ii)	50/40mm ditto #223.15	No	44		
iii)	110/50mm ditto #124P.4.2	No	24		
H	Venting				
i)	110 mm vent cowl #150.4	No	2		
ii)	110mm dia weathering apron #131.4	No	2		
iii)	110mm dia weathering slate #149.16.00	No	2		
I	Traps				
i)	110/50mm Under-floor trap with 3 sockets to accept Ø40mm waste pipe. Seal depth: 50mm #281.43	No	20		
4.2	Rainwater Drainage <i>PVC rainwater systems as TERRAIN or equal and aproved to conform to EN607/EN12200/EN1462.</i>				
A	Rainwater down pipe				
i)	50mm dia #200.2 Grey pipe	Lm	14		
ii)	110mm dia plain ended grey pipe #100.4	Lm	70		
B	Elboes/Bends				
i)	50mm dia 90° swept bend, double socket #103.4.92	No	2		
C	Branches				
i)	110mm dia access branch #105.4.92	No	2		
D	Coupler				
i)	110mm dia Straight coupler #110.4	No	36		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
E	Reducer				
i)	110/50mm reducer #124P.4.2	No	2		
F	Downpipe Brackets				
i)	110mm dia Straight one-piece downpipe bracket #143.4	No	36		
G	Shoes				
i)	100mm dia shoe to terminate rainwater downpipe discharging over gully #2110.4	No	9		
H	Roof and Balcony Outlets				
i)	110mm large domed Roof Outlet to drain surface water from flat roof #2171.4	No	9		
ii)	50mm small domed Roof Outlet to drain surface water from balconies #2181.2	No	2		
				Shs.	
<p align="center">SECTION D - INTERNAL DRAINAGE INSTALLATIONS</p> <p align="center"><u>COLLECTION</u></p> <p align="center">Brought forward from page No. 6/14</p> <p align="center">" " " " " 6/15</p> <p align="center">" " " " " 6/16</p>					
4.3	TOTAL FOR SECTION D INTERNAL DRAINAGE INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 6/21			Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
5.0	SECTION E - FIREFIGHTING INSTALLATIONS				
	<i>Supply, deliver, install, test and commission the following UL listed and FM approved fire fighting equipment and fittings as described and shown on the drawings to European Standards, fixed to manufacturer's printed instructions and to Engineer's approval for proper and satisfactory functioning of the system to withstand test pressure up to 20 bars. Rates MUST be inclusive of VAT.</i>				
5.1	Pipes and Fittings				
	<i>The following red and hot-dipped galvanized Grade B steel pipe and fittings for grooved end connection fire protection as TPMC STEEL or equal and approved.</i>				
A	Schedule 40 Pipe				
i)	25mm dia pipe	Lm	300		
ii)	50mm ditto	Lm	260		
iii)	100mm ditto	Lm	200		
B	Elbows/Bends				
i)	25x½" dia 90° end of run fitting with female thread	No	75		
ii)	25mm dia 90° elbow	No	48		
iii)	50mm ditto	No	42		
iv)	100mm ditto	No	26		
v)	50mm dia 90° drain elbow	No	8		
C	Tees				
i)	50mm dia equal tee	No	28		
ii)	100mm ditto	No	12		
iii)	50/25/50mm dia unequal tee	No	94		
iv)	100/50/100mm ditto	No	24		
v)	50/25x½"/50 with female thread	No	75		
D	Cross				
i)	50mm dia equal cross	No	22		
ii)	100mm ditto	No	8		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
E	Coupling				
i)	25mm dia coupling	No	284		
ii)	50mm ditto	No	354		
iii)	100mm ditto	No	125		
F	Reducing bushes				
i)	50x25mm dia reducing bush	No	140		
ii)	100x50mm ditto	No	86		
5.2	Valves and Controls				
A	Gate Valve				
i)	100mm dia grooved end OS&Y gate valve to ISO 6182 with PN16 working pressure.	No	2		
B	Non Return/Check Valve				
i)	100mm dia grooved end check valves ISO6182 with PN 16 working pressure.	No	1		
C	Zone Control Valve Assembly				
i)	Zone control valve assembly for 100mm dia pipe comprising: grooved signal butterfly valve with manual override, waterflow indicator connected to fire alarm control panel, pressure gauge pressure gauge with isolation ball valve and test & drain valve .	Set	4		
D	Pressure Regulating Valve				
i)	100mm dia Pressure Regulating Valve with pressure range from 2-10bars.	No	2		
E	Breeching inlet valve				
i)	Fire Brigade Breeching inlet breechings to BS 5041-3. Inlets 63 mm male instantaneous to BS 336 with integral non-return valves, 25 mm drain valve, and rubber blank caps and chains. For use with a 100 mm rising main. SG Iron body with Gunmetal fittings Flanged outlets 100 mm BS 4504 NP 16 for horizontal mounting for connecting to Fire Brigade Pumps.	No	1		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
5.3	Sprinkler and Hose Reel				
A	Fire Sprinkler Head <i>Sprinkler head flow rate shall not to be less than 60litres/min and minimum operating pressure not less than 0.5bar.</i>				
i)	25x½"NPT automatic sprinkler head for concealed connectin with universal deflector and red bulb for 68° temperature.	No	150		
B	Fire Hose Reel <i>Fire hose reel with each hose flow rate shall not to be less than 3m³/hr at minimum operating pressure not less than 2 bar.</i>				
i)	Automatic wall or cabinet mounted swinging type hose reel with 25mm x 30m long rubber fire hose, nylon Jet spray on/off nozzle and mounting bracket.	No	4		
5.4	Pumps and Accessories				
1	Sprinklers Booster Pump Set				
a)	Dual Fire Pump set (electric motor driven duty and deisel engine driven standby) each capable of 60 m³/hr at a total differential pressure of 4 bars . Pre-assembled set to be complete with jockey pump, control panes and all necessary items as GRUNDFOS HYDRO EN Fire Set #50-200 or equal and approved.	Set	1		
2	Hose Reel Pump Set				
i)	Hose Reel Pump Set dual electric driven (duty and standby) each capable of flow rate of 9m³/hr against 4 bars head with Grundfos CRE 5-4 pumps each with 1.1kW, 3x415V motor of efficiency class IE3. The pumps to be connected in parallel and mounted common stainless steel base with dry-running protection, floatswitch, 18 litres diaphragm tank, Control Panel, and all necessary fittings as GRUNDFOS Hydro Multi-E CME 3 5 or equal and approved.	Set	1		
				Shs.	

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
5.5	Portable Fire Extinguishers <i>The portable fire extinguishers must be complete with initial charge and mounting brackets.</i>				
A	Water/CO₂ Fire Extinguisher				
i)	9-Litres H₂O/CO₂ gas portable fire extinguisher complete with cap, syphon-tube, CO₂ cartridge, flexible rubber hose and nozzle as SAFECO #WHC1010 or equal and approved.	No	4		
B	CO₂ Gas Fire Extinguisher				
i)	5kg CO₂ gas portable fire extinguisher complete with squeeze grip operating head and discharge nozzle as SAFECO #CD 5-G or equal and approved.	No	4		
C	Automatic Dry Powder Fire Extinguisher				
i)	45kg Automatic dry powder fire extinguisher gas cartridge type fixed to ceiling complete with automatic pressure controlled actuator with manual override and red bulb for 68°C sprinkler heads as SAFECO #PD10-Matic or equal and approved.	No	6		
D	Fire Blanket				
i)	1.8x1.8m fire blanket with 3-layer cloth and protective vapour barrier for easy deployment to BS EN 1869 as SAFECO #SFB200 or equal and approved.	No	2		
				Shs.	
	<p>SECTION E - FIREFIGHTING INSTALLATIONS</p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 6/17</p> <p> " " " " " 6/18</p> <p> " " " " " 6/19</p> <p> " " " " " 6/20</p>				
5.6	TOTAL FOR SECTION E FIRE FIGHTING INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 6/21			Shs.	

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Item No.	Description	Page No.	Shs. Cts.																								
	<p style="text-align: center;"><u>BILL NO. 6</u></p> <p style="text-align: center;"><u>PLUMBING, DRAINAGE AND FIREFIGHTING INSTALLATIONS</u></p> <p style="text-align: center;"><u>SUMMARY</u></p> <table border="0" style="width: 100%;"><thead><tr><th style="text-align: left;"><u>Section</u></th><th style="text-align: left;"><u>Title</u></th><th></th><th></th></tr></thead><tbody><tr><td>1</td><td>A Preliminaries and General Items</td><td>6/1</td><td></td></tr><tr><td>2</td><td>B Sanitary Ware and Fittings Installations</td><td>6/7</td><td></td></tr><tr><td>3</td><td>C Plumbing Installations</td><td>6/13</td><td></td></tr><tr><td>4</td><td>D Internal Drainage Installations</td><td>6/16</td><td></td></tr><tr><td>5</td><td>E Fire Fighting Installations</td><td>6/20</td><td></td></tr></tbody></table>	<u>Section</u>	<u>Title</u>			1	A Preliminaries and General Items	6/1		2	B Sanitary Ware and Fittings Installations	6/7		3	C Plumbing Installations	6/13		4	D Internal Drainage Installations	6/16		5	E Fire Fighting Installations	6/20			
<u>Section</u>	<u>Title</u>																										
1	A Preliminaries and General Items	6/1																									
2	B Sanitary Ware and Fittings Installations	6/7																									
3	C Plumbing Installations	6/13																									
4	D Internal Drainage Installations	6/16																									
5	E Fire Fighting Installations	6/20																									
6	TOTAL FOR PLUMBING, DRAINAGE AND FIRE FIGHTING INSTALLATIONS CARRIED TO FINAL SUMMARY (VAT Inclusive)	Shs.																									

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<u>BILL NO. 7</u>				
	<u>MATV, STRUCTURED CABLING, FIRE ALARM, SECURITY SYSTEMS, GATE AND ACCESS SECURITY INSTALLATION WORKS, (ALL RATES SHOULD BE INCLUSIVE OF ALL TAXES)</u>				
	<u>SECTION A - GENERAL ITEMS</u>				
A	Allow for the preparation of all Working Drawings	Sum	1		
B	Allow for the preparation of all "As Built" Drawings (3 sets of drawings both DWG and Hardcopies)	Sum	1		
C	Allow for supply and installation of all labels and danger warning notices	Sum	1		
D	Allow for co-ordination with all other services	Sum	1		
E	Liaise with main contractor for all builders works in connection with provisions for Low Current Systems Installations	Sum	1		
F	The Tenderer is to describe hereunder inserting any relevant clause number, any other works, obligations or items that may be referred to in the Conditions of Contract, Specifications or Drawings in respect of the works for which he desires to enter a separate charge (<i>this charge is to be entered in the Amount column</i>). If no charge is entered hereunder, rates and amounts elsewhere in the schedule of prices shall be deemed to cover all expenses for such works, obligations or items	Sum	1		
TOTAL FOR SECTION A - GENERAL ITEMS CARRIED FORWARD TO SUMMARY PAGE 7/19				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
<u>SECTION B - CENTRALIZED SATELLITE/ DIGITAL AERIAL INSTALLATION WORKS</u>					
A	Grid UHF Aerial,<12dB in Gain, magneto sprayed as Ellies or an equal and approved	No.	1		
B	Aerial mast - 20ft (full length), aluminium and light weight	No.	1		
C	Aerial clamp - 3 legged	No.	1		
D	Masthead Amplifier<35dB in Gain, 115dB in Output. European makes preferred, as Televes or an equal and approved	No.	1		
E	24 port MultiSwitch, 5X24 (R/F,VL,VH,HL,HH). European make preferred	No.	1		
F	Ku-band Satellite dishe, 90 cms,LNBF complete	No.	1		
G	RG6 high resolution cable - minimum 60% shielded, Minimum loss 29dB per 100 metres, as Astel or an equal and approved	M	240		
H	RG11 underground cable - double shielded, minimum loss of 19dB per 100 metres, as Astel or an equal and approved	M	30		
I	Professional TV socket outlets - separate ports for TV and satellite, 5 - 2300 mhz as Televes or an equal and approved	No.	8		
J	Labour inclusive of testing and commissioning charges	Item	1		
K	Any other Item not detailed but required for the satisfactory completion and operation of installation, specify:				
TOTAL FOR SECTION B - CENTRALIZED SATELLITE/DIGITAL AERIAL INSTALLATION WORKS CARRIED FORWARD TO SUMMARY PAGE 7/19				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<u>SECTION C - STRUCTURED CABLING</u>				
A	22U free standing equipment and server cabinet for the IT Room as TOTEN (19"-600mmx600mmx1166mm) with lockabe door, fan and power (additional 6-way power extension cable, surge protected within the cabinet)-Server room	No	2		
B	18U Wall mounted equipment and server cabinet for different floors as TOTEN, (19" - 600mmx450mmx850mm) with lockabe door, fan and power (additional 6-way power extension cable, surge protected within the cabinet)	No	2		
C	24 ethernet 10/100 ports and 2 dual-purpose uplinks (each dual-purpose uplink port has one 10/100/1000 Ethernet port and 2 SFP-based Gigabit Ethernet port,1 port active, Power Over Ethernet (POE) as ZyXELor an equivalent to approval	No	6		
D	24 port Flat patch panel, light weight ,high strength steel with black finish and additional space for custom user labeling as Siemon	No	6		
E	Multimode 6 core OM3 fiber optic cable (to Cascade all network switches)	M	200		
F	Siemon Cat 6 UTP cable / box of 305m	Roll	15		
G	Multi-access horizontal cable manager, provides cable management for both the front and rear of the rack, compact in size (1 RMS), high capacity slots for entering and exiting cables with a single piece removable cover as Siemon or an equivalent to approval	Item	6		
H	CORE SWITCH, as GINUIN D-LINK DXS-3600-32S/SI of the following specifications; <ul style="list-style-type: none"> ● Up to 24 SFP network modules with Gigabit Ethernet or 10 Gigabit Ethernet ● Dual redundant, modular power supplies and fans ● MACsec hardware-based encryption ● Flexible NetFlow and switch-to-switch hardware encryption with the uplink service module ● Open Shortest Path First (OSPF) for routed access in IP Base image ● Complete with PSU and any Licences 	1	No.		
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
A	Wireless N Business WLAN 1000 Series Long Range PoE Access Point as ZyXEL Z-NWA1100-NH or an equal and approved of the following specifications (Different floors indoor); * High output power of up to 28dBm delivers extended coverage * 2 external antennas with high 5dBi gain optimised for mobile devices * Fast 802.11n Wi-Fi with speed up to 300Mbps improves transmission of large files or videos * Easy deployment via client mode or repeater AP and IEEE 802.3af PoE support ZON Utility and ZAC minimise repetitive configuration processes and efforts * Certified WPA2 Enterprise, access control management and user traffic control for strict network protection	No	11		
B	Siemon Cat 6 UTP Patch Cord 1 Meter	No	123		
C	Siemon Cat 6 UTP Patch Cord 3 Meter	No	123		
D	4 port fiber adaptable patch panel, light weight ,high strength steel with black finish and additional space for custom user labeling as Siemon complete with accessories	No	2		
E	SC-LC mm Fiber Patchcord 1M	No	2		
F	Double wall face plates (Voice & Data)	No	112		
G	Single wall face plates (Data)	No	11		
H	Fittings, Accessories and consumables	Item	1		
I	Labelling, testing and Certifications	Item	1		
J	Installations and Commissioning	Item	1		
K	Any other Item not detailed but required for the satisfactory completion and operation of installation, specify:	Item	1		
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<p><u>SECTION C - STRUCTURED CABLING</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 7/3</p> <p>" " " " " 7/4</p>				
TOTAL FOR SECTION C - STRUCTURED CABLING WORKS CARRIED FORWARD TO SUMMARY PAGE 7/19				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
<u>SECTION D - SECURITY SYSTEM INSTALLATIONS</u>					
<u>CABLING, SERVER AND SOFTWARE</u>					
A	Security outlet point wired in 4 pair UTP Cat 6 cable complete with RJ 45 modules drawn in 25mm dia.PVC Heavy gauge conduits concealed in walls and casted in floor or ceiling slab.	No.	25		
B	<p>NETWORK VIDEO CONTROLLER</p> <p>Supply and install network Video Recorder (NVR) for IP surveillance management software configured for 32 cameras with RAID 5 — Up to 4 x 3.5" SATA (AV rated), Records up to 32 MB/s of image data for a total storage up to 12TB , 8GB RAM and Windows operating system; with capability of setting up IP camera recording schedules, 24 POE ports, Recording period of 30 days before overwriting, notification parameters , Alarms, Camera settings, and motion detection features, scheduling options allowing to include and exclude dates and times , as well as set trigger conditions, time stamping and record video to hard drive options, alert management and messaging delivery (Server room)</p>	Item	1		
C	Fittings, Accessories and Consumables				
D	Labeling, testing and certifications				
E	Installations and commissioning				
F	Any other Item not detailed but required for the satisfactory completion and operation of installation, specify:				
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
A	<p>VIDEO SURVEILLANCE SYSTEM</p> <p>Camera (Type T1) Indoor static dome ceiling mounted as IPIXA or equivalent approved</p> <p>The product must provide the following requirements;</p> <ul style="list-style-type: none"> ● Image Sensor: 1/3" Progressive Scan RGB CMOS ● Lens: Vari focal 3.3-12 mm (82-24 degrees), F1.4, DC-iris ● Minimum illumination Colour 0.18 lux, Mono 0 lux with IR on ● Video compression H.264 ● Resolution: 2MP ● Frame rate 30 fps ● Power Class 3 PoE: 12.1 watt max with IR LEDs on ● Bubble Clear lens: 96mm diameter ● Built-in IR LEDs up to 30 meters ● Remote focus and zoom ● P-iris control ● Wide dynamic range support ● Light finder technology ● Operating conditions 0–50 °C (32–122 °F), Humidity 10-85% RH (non-condensing) 	No.	19		
	B	<p>Camera (Type T5) Outdoor static colour mono IP camera in housing as IPIXA OR EQUIVALENT APPROVED</p> <p>External cameras where identified shall meet the following specification as a minimum:</p> <ul style="list-style-type: none"> ● Input Voltage Power over Ethernet ● Power Consumption PoE IEEE 802.3af/802.3af Type 1 Class 3, max 12.97 W, typical 4.3 W. ● Connector RJ45 10Base-T/ 100Base-TX PoE ● Video Standards H.264 <p>Sensor 1/4 in. Progressive Scan RGB CMOS</p> <ul style="list-style-type: none"> ● Resolution: 2592 x 1944 ● Sensitivity (F1.3) ● Night Mode 0.05 lux ● Colour 0.3 lx ● Frame Rate: 30 ips ● Lens: Varifocal IR-corrected, CS-mount: 2.8-8 (84-39 degree angle) 	No	6	
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
A	<p>TILT DOWN POLE (2m) for Roof top cameras cameras</p> <ul style="list-style-type: none"> ● 2 metre tilt down pole ● Galvanised ● Payload Equipment Capacity 60kgs ● Pole Diameter: 139 mm ● Post Size 150mm x150mm ● Post height 1700 mm 	No.	6		
B	Fittings, Accessories and Consumables				
C	Labeling, testing and certifications				
D	Installations and commissioning				
E	Any other Item not detailed but required for the satisfactory completion and operation of installation, specify:				
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
A	<p>CONTROL EQUIPMENT</p> <p>CLIENT MONITORING WORKSTATION C/W SOFTWARE, AS DELL OR EQUAL APPROVED</p> <ul style="list-style-type: none"> ● Intel® Xeon® Processor E5-1620 v2, Quad Core HT, 3.7GHz Turbo, 10MB ● Windows 7 Professional 64-bit (includes Windows 8.1 License) ● Ram 8GB (4 x 2GB) 1600MHz, DDR3 Non-ECC ● 2 nr RJ45 Ethernet ports ● 8X DVD+/-RW ● 256GB 2.5inch Serial ATA Solid State Drive ● Video graphics card 4GB AMD FirePro™ W7000 (4DP) <p>(4DP-DVI adapter) - Dual output for two screens</p> <ul style="list-style-type: none"> ● Power 635W ● USB (6) USB 2.0 ports, (4) USB 3.0 ports ● Standard 101-key keyboard and 2-button wheel ● Integrated sound with speaker 	1			
B	<p>CCTV HEAVY DUTY MONITORS - WALL MOUNTED, 40" AS DELL OR EQUIVALENT APPROVED</p> <p>DISPLAY</p> <ul style="list-style-type: none"> ● Panel Size: 43" ● Panel Type: LCD panel with LED backlight ● Frequency 100Hz ● Aspect ratio 16:9 ● Video system: H.264 ● Resolution 3840 x 2160 at 60 Hz (DP only) ● Contrast Ratio: 1000:1 (typical) ● Brightness: 350 cd/m2 (typical) ● Response Time: 8ms (gray to gray) ● Viewing Angle: 178° / 178° (typical) <p>CONNECTIVITY</p> <ul style="list-style-type: none"> ● 1 x DP 1.2 ● 1 x mDP 1.2 ● 2 x HDMI 1.4 (MHL) ● 1 x USB 3.0 port - Upstream ● 4 x USB 3.0 port ● 1 x Audio Input ● 1 x Headphone output ● 1 x RS232 	No.	1		
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<p>COLOR, SIZE AND WEIGHT</p> <ul style="list-style-type: none"> ● Dimensions (W x D x H): 658 mm x 973.1mm x 259mm ● Weight (Monitor Only) Weight 24.4 Kg ● Colour: Black <p>ELECTRICAL</p> <ul style="list-style-type: none"> ● 100 to 240 VAC / 50 or 60 Hz ± 3Hz / 2 A (typical) ● Power Consumption (Operational): ● 70W (typical) / 160 W (maximum) ● Power Consumption Stand by / Sleep: Less than 0.3 W 				
C	22U free standing equipment and server cabinet for the IT Room as TOTEN , with lockabe door, fan and power (additional 6-way power extension cable, surge protected within the cabinet)	No	1		
D	<p>ACCESS SWITCH, as Cisco Catalyst 2960S-X of the following specifications - (2 No. Switches shall be Complete with enclosure for gate houses)</p> <p>CONNECTORS</p> <ul style="list-style-type: none"> ● 24 10BASE-T/100BASE-TX PoE ports ● 10/100 and 10/100/1000 ports are auto-negotiating, configured as auto-MDI/MDIX ● RJ-45 console port ● IEEE 802.3af in-line power on all 10/100 ports (PWR model) <p>PERFORMANCE</p> <ul style="list-style-type: none"> ● 41.7 Mpps forwarding rate (max.) ● Wirespeed performance across ports in full mesh ● Store-and-forward switching; latency <10 µs <p>CONVERGENCE</p> <ul style="list-style-type: none"> ● Four hardware queues per port ● Weighted Round Robin queuing ● IEEE 802.1p Class of Service/Quality of Service (CoS/QoS) on egress ● Link Layer Discovery Protocol (LLDP) and LLDP-MED <p>SECURITY</p> <ul style="list-style-type: none"> ● IEEE 802.1X Network login user authentication: ● EAP over LAN (EAPoL) transport with EAP-MD5, PAP, CHAP, PEAP and EAP-TLS authentication 	No	2		
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<ul style="list-style-type: none"> ● Multiple users per port <p>POWER SUPPLY</p> <ul style="list-style-type: none"> ● AC Line Frequency: 50/60 Hz ● Input Voltage: 100-240 VAC ● Current rating (AC) 5 to 2A <p>ENVIRONMENTAL REQUIREMENTS</p> <ul style="list-style-type: none"> ● Operating temperature: 0° to 45°C ● Storage temperature: -25° to 70°C ● Humidity (operating and storage): 10 to 85% non-condensing <p>A Fittings, Accessories and Consumables</p> <p>B Labeling, testing and certifications</p> <p>C Installations and commissioning</p> <p>D Any other Item not detailed but required for the satisfactory completion and operation of installation, specify:</p>				
				Shs.	
	<p align="center"><u>SECTION D - SECURITY SYSTEM INSTALLATIONS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from page No. 7/6</p> <p> " " " " " 7/7</p> <p> " " " " " 7/8</p> <p> " " " " " 7/9</p> <p> " " " " " 7/10</p> <p> " " " " " 7/11</p>				
TOTAL FOR SECTION D - SECURITY SYSTEM INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 7/19				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
<u>SECTION E - FIRE DETECTION AND ALARM SYSTEM</u>					
Supply,install,test and commission the following as described below or equal and approved. The proposed system shall comply fully with requirements of NFPA standard 72 for protected premises signaling systems.					
A	Fire alarm points wired in 2C-1.5sq.mm Fire Tuff FP 200 cables drawn in 25mm dia.PVC Heavy gauge conduits concealed in walls and casted in floor or ceiling slab.	No	125		
B	Supply and install four loops with expandable to 1-10 loop addressable fire alarm control panel complete with charger 12V DC, Voice evacuation system, BACNet Interface module, 17Ah sealed lead acid batteries , CPU with 640-character display with all requirmentsand Serial Port As Honeywell or an equivalent to approval.	No	1		
C	Supply and install addressable photoelectric smoke detector complete with mounting base, low standby current, 360 degrees viewing LED and soft addressed as Honeywell or equal and approved.	No	84		
D	Supply and install addressable thermal detector complete with mounting base, low standby current, 360 degrees viewing LED and soft addressed as Honeywell or equal and approved.	No	2		
E	Supply and install addressable manual break glass complete with one key for test, high visibility status LED and soft addressed as Honeywell or equal and approved.	No	17		
Shs.					

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
A	Supply and install sounders with strobe as Honeywell or equal and approved.	No	17		
B	supply and install isolator module unit plug in base, intelligent system as Honywell or an equivalent to approval	No	4		
C	Testing and commissioning	No	1		
D	Any other item which may be required to have the system	Item			
Shs.					
<p><u>SECTION E - FIRE DETECTION AND ALARM SYSTEM</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 7/12</p> <p>" " " " " 7/13</p>					
TOTAL FOR SECTION E - FIRE DETECTION AND ALARM SYSTEM CARRIED FORWARD TO SUMMARY PAGE 7/19					Shs.

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
<u>SECTION F - GATE CONTROL SYSTEM AND ACCESS CONTROL INSTALLATIONS</u>					
<u>GATE CONTROL SYSTEM</u>					
Supply,install,test and commission the following as described below:					
A	<p>Supply and install manual rising arm barrier Constructed from high quality steel, barrier boasts a sturdy arm to prevent access to un-authorized areas. Counterbalanced with a well-placed handle for opening and closing.</p> <p>Wide variety parking areas, road access points and traffic management requirements;</p> <ul style="list-style-type: none"> • IP 65 • Strong steel main construction • Aluminium Boom • Lockable Tip Support (to be included) • Lockable by Padlock (to be included) • For bolting down only (4 x M20 160mm fixing bolts - Included) • sizes from 5.4 m (Final size, to be determined as per the attached layouts) • Up to 17m span, as a pair, pole to pole locking • Zinc and Paint finish • Pole to pole locking available extra POA 	No.	1	-	Omitted
B	<p>Supply and install Entry Station comprising a galvanized equipment cabinet, LCD Display, Proximity Card Reader, magnetic stripe Ticket Issuing Machine, system controller, communication module and Entry station software, to handle casual and seasonal parkers including antipass back and complete with all other necessary accessories as KAPS or equivalent to approval (Mall entrance)</p>	No.	1	-	Omitted
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
C	Supply and install Exit Station to validate exiting parkers and allow exit to paid tickets, consisting of galvanized equipment cabinet, ticket validator, LCD Display, control unit, communication interface and validating software, to handle casual and seasonal parkers including anti-pass back and complete with all necessary accessories as KAPS or equivalent to approval (Main exit)	No.	1	-	Omitted
A	Supply and install automatic Pay Station for Casual Parker Software, Ticket Validator, POS Printer, Cash drawer, complete with communications hardware and software for remote monitoring and control situated at the near the mall. Rate to be complete with all necessary accessories as KAPS or equivalent to approval	No.	1	-	Omitted
B	Supply and install Management Station and System Application Server to Host parker system software for casual and season parker management. Creates and prints reports, creates new tariffs, generates season cards. Receives maintenance and operations data from all parking terminals including warnings and other alarms as KAPS or equivalent to approval	Set	1	-	Omitted
C	Supply and install metal detector gate with Multi-Zone Walk-Through Metal Detector, comply with the new NIJ Standard-0601.02, IP65 in stainless steel, Programming via built-in keypad and display and Multi-zone display bar for 'height on person' localization as RapiScan or equivalent to approval	No.	1	-	Omitted
D	Supply and install Hand-Held Metal Detector with beeping sound and visual LED, 280gr sturdy and lightweight, 9V nickel metal rechargeable battery as RapiScan or equivalent to approval	No.	2		
E	Any other item not detailed but required for the satisfactory completion and operation of the installation, Specify:	Item			
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
5.10	ACCESS CONTROL				
A	Access Control Outlets for doors comprising of wiring with multi strand 4/6 core unscreened cable drawn in conduits provided by others	No.	9		
B	<u>Door Access Control consists of the following:</u>				
B.1	<p>BioEntry, IP-based fingerprint access control device with the following specifications as Suprema or an equal and approved</p> <ul style="list-style-type: none"> ● Sophisticated biometric system based on fingerprint and RF card ● Time & attendance, standalone access control, building security and data collection ● CPU: 400MHz DSP ● 4MB flash memory + 8MB RAM ● Fingerprint sensor: 500dpi optical sensor ● Fingerprint identification speed: 2,000 matches in 1sec ● Fingerprint capacity: 10,000 templates (5,000 users) ● Log capacity: 50,000 events ● RF cards: EM (125KHz), HID Prox, Mifare (13.56MHz) ● Authentication: RF card, RF card + fingerprint ● Network interface: TCP/IP, RS485 ● Wiegand output configurable up to 64 bits TTL I/O 2 inputs for exit switch and door sensor Internal relay: deadbolt, EM lock, door strike, automatic door ● Multi-colour LED and multi-tone buzzer ● Operating temperature: -20°C-50°C ● Size: 50mm W x 160mm H x 37mm D 	No.	9		
B.2	Request For Exit push button with stainless steel plate, designed with a very sensitive switch, easy to mount, heavy duty, 12V AC/DC - 5A AC/DC, IP68 as Suprema or an equal and approved	No.	9		
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
B.3	Electromagnetic Lock (100lbs to 1500 lbs) Applicable for Steel Door ,glass door, wooden door, fireproof door, Surface magnet depend on Model, Strike plate : 185 L x 60 W x 13 H (mm), Voltage : 12/24 VDC	No.	9		
C	Emergency Door release unit with frexible membrane, resettable, surface mount, protective cover, single or double pole complete with all accessories as Suprema or an equal and approved	No.	9		
D	4- Door controller provided with12V AUX and 12V Lock power, in total 4A power supply and mounted in a small enclosure as Lenel or an equivalent to approval	No.	2		
E	RAM Memory expansion unit	No.	2		
F	Workstation with all required software licences	No.	1		
G	Door closer complete with all accessories- To be supplied by door supplier	No.	9		By Door Supplier
H	Enclosure with PSU and 7 Amp/hr battery	No.	9		
I	Users Access Cards	No.	100		
J	Fittings, Accessories and consumables	Item			
K	Labelling, testing and Certifications	Item			
L	Installations and Commissioning	Item			
M	Any other item not detailed but required for the satisfactory completion and operation of the installation, Specify:	Item			
				Shs.	

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ITEM No.	DESCRIPTION	UNIT	QTY.	RATE	Shs. Cts.
	<p><u>SECTION F - GATE CONTROL SYSTEM AND ACCESS CONTROL INSTALLATIONS</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 7/14</p> <p>" " " " " 7/15</p> <p>" " " " " 7/16</p> <p>" " " " " 7/17</p>				
TOTAL FOR SECTION F - GATE SECURITY AND ACCESS CONTROL INSTALLATION TO BE CARRIED FORWARD TO SUMMARY PAGE 7/19				Shs.	

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ITEM No.	DESCRIPTION	PAGE No.	Shs. Cts.
	<u>BILL NO. 7</u>		
	<u>MAIN LOW CURRENT INSTALLATIONS (ALL RATES SHOULD BE INCLUSIVE OF ALL TAXES)</u>		
	<u>SUMMARY</u>		
	<u>Section</u>		
	<u>Title</u>		
1	A - General Items	7/1	
2	B - Centralized Satellite and Digital Ariel TV Installation works	7/2	
3	C - Structured Cabling (Hybrid System WIFI & Physical Data/ Voice Points)	7/5	
4	D - Video Surveillance System	7/11	
5	E - Fire Detection and Alarm System	7/13	
6	F - Gate and Access Control system	7/18	
A	SUB-TOTAL AMOUNT (INCLUSIVE 16% VAT)	Shs.	
B	<u>ADD</u>		
C	Supply and Install - 1 No 30KVA UPS (3 Phase in – 3 Phase out), Input Voltage Variation range ±15% to ±20%, Output Voltage Variation range ±1% to ±5%. Price shall include the following; <ul style="list-style-type: none"> • Complete with 40KVA Stabilizer • Installation Price, testing & commissioning to the above • Warranty period to the above • Service Level Agreement • Confirmation letter to Spare Parts availability 		
D	PC Sum for supply Basic fiber connection, Router and Access point ready to supply Internet connection not less than 10Mb / month as Liquid Telecom Kenya		200,000.00
E	PC Sum for Audio Visual in Seminar room & Board room (Kshs 7.5M)		CLIENT SUPPLIED
F	PC Sum for BMS Infrastructure Only		100,000.00
	TOTAL FOR LOW CURRENT INSTALLATIONS CARRIED TO FINAL SUMMARY PAGE	Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
	<p><u>BILL NO. 8</u></p> <p><u>HVAC INSTALLATIONS</u></p>				
1.0	<u>SECTION A - GENERAL ITEMS</u>				
A	Allow for the preparation and submitting of all Working Drawings	Sum	1		
B	Allow for the preparation and submitting of all As Built Drawings	Sum	1		
C	Allow for setting to proper functioning, testing and commissioning of the whole system of HVAC installations to the satisfaction of the Mechanical Engineer.	Sum	1		
1.1	TOTAL FOR SECTION A - GENERAL ITEMS CARRIED FORWARD TO SUMMARY PAGE 8/9			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
2.0	<p><u>SECTION B - STAIRCASE PRESSURIZATION INSTALLATIONS</u></p> <p><i>Supply, deliver, install, test and commission the following staircase pressurization fittings and equipment complete with all necessary materials required to set the units in perfect operational stauts as described and shown on the drawings to conform to current European Standards (BS 5720 etc) for installatios, manufacturer's printed instructions and to the Engineer's approval. Rates MUST be inclusive of VAT.</i></p>				
A	Air Supply Fan and Accessories				
i)	<p>Fan capable of of 0.64 m³/s at 80 Pa pressure with aerofoil blade impeller of SPL of 51/43 dB (A) at 4/10 m and 0.14kW 1x240V speed control standard motor suspended on vibration dampers in aluminium casing and galvanized steel base frame complete with aluminium flat roof socket #FDS, aluminium socket silencer #SSD, aluminium chamber connecting socket silencer to fix inlet accessories and duct system #ASK, galvanized steel inlet flange #ASF, motor driven shutter #VKV/F, flexible connection #ASS, wall mounted thermal automatic motor protection #STDT16, two speed switch #S2S 160, manual five-step trasnformer (with motor control) #RTRD, Isolator #REV and all other necessary for proper functioning of the unit as SYSTEMAIR Roof fan DHA 400E4 #30514 or equal and approved.</p>	Set	2		
B	Louver Shutter				
i)	<p>142x142mm wall mounted gravity Louver shutter able to open fully at low air velocities with maximum air velocity of 12m/s as SYSTEMAIR VK #10 or equal and approved.</p>	No	4		
C	Volume control dampers				
i)	<p>Volume Control damper for measuring and adjusting the air flow as SYSTEMAIR #SPI80 or equal and approved.</p>	No	4		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
<p>C</p> <p>i)</p>	<p>Duct Work and Associated</p> <p>22-gauge galvanised mild steel sheet complete with bends, hangers, support, sleeves, flexible connections, branch take offs, flanges, access doors, test holes, stiffeners, expanders, reducers, splitters, turning vanes and all other necessary accessories associated with the duct work for proper functioning system.</p>	m ²	22		
<p>D</p> <p>i)</p>	<p>Electrical works</p> <p>Allow for all electrical works associated with the installation of the roof fans</p>	Item	1		
				Shs.	
	<p align="center"><u>SECTION B - STAIRCASE PRESSURIZATION</u></p> <p align="center"><u>INSTALLATIONS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from page No. 8/2</p> <p> " " " " " 8/3</p>				
<p>2.1</p>	<p>TOTAL FOR SECTION B - STAIRCASE PRESSURIZATION INSTALLATION CARRIED FORWARD TO SUMMARY PAGE 8/9</p>			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
3.0	<u>SECTION C - TOILETS VENTILATION INSTALLATIONS</u>				
	<i>Supply, deliver, install, test and commission the following toilet ventilation fittings and equipment complete with all necessary materials required to set the units in perfect operational stauts as described and shown on the drawings to conform to British Standards installed to manufacturer's printed instructions and to the Engineer's approval. Rates MUST be inclusive of VAT.</i>				
A	Extract Fans				
i)	Wall or Window mounted toilet extract fan capable of 0.1m³/s at 75Pa static pressure with speed of 1,169 RPM ; Noise Level of 59 dB(A) with 1x240V 0.87.8W, 0.387A motor; motor protection #AWE-S and thyristor speed controller #REE1 ; as SYSTEMAIR Axial Fan Model #AW250E2 sileo (sickle blade type) or equal and approved.	No	2		
	Extract Diffusers				
B	240mm dia powder coated steel extract diffuser capable				
i)	of extracting 0.04m³/s air from wet room sat SPL of less than NR25 at 2.5m from the outlet with terminal velocity of 2.4m/s, secured to the duct and fixed to the ceiling as SYSTEMAIR Balance-E or equal and approved.	No	2		
	Volume control dampers				
C	Volume Control damper for measuring and adjusting the				
i)	air flow as SYSTEMAIR #SPI80 or equal and approved.	No	2		
	Duct Work and Associated				
D	22-gauge galvanised mild steel sheet omplete with				
i)	bends, hangers, support, sleeves, flexible connections, branch take offs, flanges, access doors, test holes, stiffeners, expanders, reducers, splitters, turning vanes and all other necessary accessories associated with the duct work for proper functioning system.	m ²	16		
	Electrical works				
E	Allow for all electrical works associated with the				
i)	installation of the fans	Item	1		
3.1	TOTAL FOR SECTION C - TOILET VENTILATION INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 8/9			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
4.0	<p><u>SECTION D - AIR CONDITIONING AND WATER HEATING INSTALLATIONS</u></p> <p><i>Supply, deliver, install, test and commission the following Air Conditioning and water heating fittings and equipment complete with all the necessary materials required to set the units in perfect operational stauts as described and shown on the drawings to conform to British Standards installed to manufacturer's printed instructions and to the Engineer's approval. Rates MUST be inclusive of VAT.</i></p>				
4.1	Air Conditioning				
A	Indoor Unit				
i)	Round-Flow 4-way cassette (600x600) of 3.6kW cooling capacity; power 38W, 1x240V 50Hz as DAIKIN indoor unit model FXFQ32A or equal and approved complete with: wired remote control; remote sensor; mounting kit; voltage surge protector; interconnecting wiring, piping, initial charge and all other items necessary for proper and satisfactory operation of the unit.	Set	6		
ii)	Ditto, but of 5.6kW cooling capacity; power 53W, 1x240V 50Hz as DAIKIN FXFQ50A .	Set	2		
iii)	Ditto, but of 7.1kW cooling capacity; power 61W, 1x240V 50Hz as DAIKIN model FXFQ80A .	Set	4		
B	Outdoor Unit				
i)	VRV heat recovery outdoor condensing unit of cooling capacity 61.6kW (22hp), Power: 16.38kW, 3x415V, 50Hz operating on R410A refrigerant as DAIKIN model REYQ22T or equal and approved.	Set	1		
ii)	Outdoor condensing unit for split of cooling capacity 8kW (4hp),Power: 1x240V, 50Hz operating on R410A refrigerant as DAIKIN model RCQG71F or equal and approved.	Set	1		
C	Heat Recovery				
i)	Individual branch selector for VRV heat recovery for 12 no. indoor units with power input of 0.005kW, 1x240V as DAIKIN #BSV100P9B or equal and approved.	No	1		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
4.2	Water Heating				
A	Domestic Hot Water Tank				
i)	500 liter capacity hot water storage tank for connection to VRV heat recovery and solar collectors as DAIKIN model EKHWP500B or equal and approved.	No	1		
B	Solar Collectors				
i)	2,000x1,300x85mm solar collector with volume of 1.7 litres, aperture area of 2.35m ² , tilting 15° - 80°, max operating pressure of 6 bar as DAIKIN model EKSV26P or equal and approved.	No	3		
C	Pump station				
i)	Pump station with digital temperature difference controller for power requirement: 2W 1x20V, solar panel temperature sensor #Pt1000, storage tank sensor #PTC, return flow sensor #PTC and feed water temperature and flow sensor as DAIKIN model EKSRPS2A or equal and approved.	No	1		
D	High temperature hydrobox for VRV				
	Air to water connection to VRV IV heat recovery for applications such as bathrooms, sinks etc water temperature range from 25°C to 80°C as DAIKIN model HXHD-A8 or equal and approved.	No	1		
E	Controllers				
	Solar controller with 7 sensor heavy duty 3-phase water proof for controlling the thermal fluid circulator pumps, hot water circulator pumps and over-heating + contactor box	No	1		
F	Connecting Hose				
	22mm dia EZ-Flex Insulated Solar Hoses made of flexible steel single role Pipes with silicon base sensor wire, armoured braided insulation for closed loop tolerant to 11 bars, 360°C.	Lm	20		
				Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
	<p>SECTION D - AIR CONDITIONING AND WATER HEATING</p> <p align="center"><u>INSTALLATIONS</u></p> <p align="center"><u>COLLECTION</u></p> <p>Brought forward from page No. 8/5</p> <p> " " " " " 8/6</p>				
4.3	<p>TOTAL FOR SECTION D - AIR CONDITIONING AND WATER HEATING INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 8/9</p>			Shs.	

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Item	Description	Unit	Qty	Rate	Shs. Cts.
5.0	<p><u>SECTION E - COLD ROOM EQUIPMENT AND INSTALLATIONS</u></p> <p><i>Supply, deliver, install, test and commission the following Cold Room fittings and equipment complete with all the necessary materials required to set the units in perfect operational stauts as described and shown on the drawings to conform to British Standards installed to manufacturer's printed instructions and to the Engineer's approval. Rates MUST be V.A.T. Inclusive.</i></p> <p>A Split Refrigeration System</p> <p>i) Split cold room refrigerattion system with cooling capacity of 3.015kW (1.2hp) #CSP/0245-HZ with hermetic and scroll compressor #CAJ 4517 Z and air cooled condenser #PSE 30.21.6; power supply 2.51kW, 1x220V or equal and approved complete with: Mounting kit; Voltage surge protector; inter-connecting wiring, piping, initial charge as Tekop or equal and approved.</p> <p>B Insulation</p> <p>i) 100mm thick insulating material made from polyurethane foam sandwiched between aluminium foil (<i>aluminium embossed</i>) with thermal conductivity: $\lambda = 0.021 - 0.022$ W/mk according to EN ISO 11925-Part 2 complete with mounting kits as Nicolaides & Kountouris or equal and approved.</p>	1	Set		
5.1	<p>TOTAL FOR SECTION E - COLD ROOM EQUIPMENT AND INSTALLATIONS CARRIED FORWARD TO SUMMARY PAGE 8/9</p>			Shs.	

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Item	Description	Page	Shs. Cts.
<u>BILL NO. 8</u>			
<u>HVAC INSTALLATIONS</u>			
<u>SUMMARY</u>			
	<u>Section</u>	<u>Title</u>	
1	A -	General Items	8/1
2	B -	Staircase Pressurization Installations	8/3
3	C -	Toilet Ventilation Installations	8/4
4	D -	Air Conditioning and Water Heating Installations	8/7
5	E -	Cold Store Equipment and Installations	8/8
6	TOTAL FOR HVAC INSTALLATIONS CARRIED TO FINAL SUMMARY (VAT Inclusive)		Shs.

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
	<p><u>BILL NO. 9</u></p> <p><u>BOREHOLE</u></p> <p><u>SECTION A - GENERAL ITEMS</u></p>				
A	Allow for the preparation and submitting of all Working Drawings	Sum	1		
B	Allow for the preparation and submitting of all As Built Drawings	Sum	1		
C	Allow for the conducting of hydrological survey for Five possible locations on site.	Sum	1		
D	Allow for Setting to proper functioning, testing and commissioning of the boreholes to the Engineer's satisfaction.	Sum	1		
1.1	TOTAL FOR SECTION A GENERAL ITEMS CARRIED FORWARD TO SUMMARY PAGE NO. 9/5				

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
2.0	<u>SECTION B : BOREHOLE DRILLING INSTALLATIONS</u> <i>Supply, deliver, install, test and commission the following borehole drilling complete with all necessary accessories for proper function as described to the WHO requirement for borehole drilling. Tender rates must be inclusive of V.A.T.</i> <i>Note: The actual depths of the Boreholes may change depending on aquifer levels.</i>				
A	Mobilisation				
i)	Mobilisation, setting up demobilisation and shifting to the project area all plant, materials, equipment and personel.	Sum	1		
B	Drilling and Casing				
i)	Drilling development of 200mm dia borehole from ground level up to water level depth.	m	200		
	Ditto, but depth more than 200m	m	100		
ii)	150mm dia plain steel casing.	m	50		
iii)	150mm dia screen steel casing.	m	50		
iv)	Gravel park	ton	5		
C	Testing				
i)	Test pumping for the yield	hrs	24		
ii)	Air lift test and recovery measurements	hrs	12		
D	Completion				
i)	Construct concrete slab to the borehole and provide well cap.	sum	1		
ii)	Provide the chemical analysis of the water sample and borehole report.	sum	1		
E	Allow for any other necessary item for proper functioning boreholes	sum	1		
2.1	TOTAL FOR SECTION B BOREHOLE DRILLING INSTALLATIONS CARRIED TO SUMMARY PAGE NO. 9/5				

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
2.0	<p><u>SECTION C: BOREHOLE EQUIPPING</u></p> <p><i>Supply, deliver, install, test and commission the following borehole equipping with all necessary items for complete and satisfactory operation of the system. Tender rates must be inclusive of V.A.T.</i></p> <p><i>Note: The pump size and cable length may change depending on the actual Borehole yield and depth.</i></p>				
A	Borehole Pump				
i)	Multistage centrifugal impeller borehole pump capable of 10m³/hr at 200m head complete with 30kW, 3x415V submersible liquid cooled 2-pole asynchronous GRUNDFOS motor with speed up to 2,900 rpm ; strainer between the pump and motor; cooling sleeves; remote controller for control against fluctuating power input and GRUNDFOS MP204 controller featuring: warning and tripping against detected overload, underload (dry run), high temperature, missing phase, wrong phase sequence, overvoltage, undervoltage, low power factor or current unbalance and all the necessary items required to set the units in perfect operational status as GRUNDFOS SP60-17 or equal and approved.	Set	1		
ii)	Allow for all pipe work to ground surface with all necessary fittings for proper and satisfactory function of the pumping system.	Item	1		
B	Cables				
i)	Allow for 25 mm ² 4-core submersible copper cables to BS 5467 and BS EN 50525: 2011 complete with all accessories from well head into the borehole connected to pump (provisional - to be re-measured)	Lm	200		
C	Allow for drawing samples of the borehole water, submitting for water quality testing by Government Agency and providing the water quality test results.	Item	1		
D	Allow for Setting to proper functioning, testing and commissioning of the borehole equipment and water purification systems of plumbing and equipment installations to the Engineer's satisfaction.	Sum	1		
2.3	TOTAL FOR SECTION C BOREHOLE EQUIPPING INSTALLATIONS CARRIED TO SUMMARY PAGE NO. 9/5				

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Item No.	Description	Unit	Qty	Rate	Shs. Cts.
3.0	<p><u>SECTION D : WATER PURIFICATION</u></p> <p><i>Supply, deliver, install, test and commission the following water purification fittings and equipment complete with all the necessary materials required to set the units in perfect operational status as described to conform to European Standards.</i></p> <p>Note: The RO specifications may change depending on the Borehole water quality test results.</p>				
3.2	<p>Reverse Osmosis Plant</p> <p>A Reverse Osmosis (WRO) plants capable of 250m³ permeate flow, with Recovery rate of 40%, able to treat high salinity ground water, with <40,000 mg/L of dissolved solids (TDS) and <30 mg/L of suspended solids (TSS), to achieve potable water quality. The standard treatment process involving:</p> <ul style="list-style-type: none"> i) Low Pressure Feed Pump capable of more than 15kPa pressure and standard efficiency High Pressure RO Pump capable of 40kPa pressure and power consumption of 25kW, 3x415V (c/w ERD) ii) Pre-filtration (<i>auto backwashing multimedia filters and cartridge filters</i>), iii) Anti-scalant dosing system, iv) Membrane CIP and Auto Flush System v) PLC Control System with HMI vi) Pre-RO and post-RO treatment steps as required to suit feed water conditions and/or treated water quality requirements. vii) Permeate distribution pump set viii) Standard Package Instrumentation: <ul style="list-style-type: none"> a) Pressure Gauges b) HP RO Pump Inlet Low Pressure Switch c) Flow Gauges (<i>Rotameters</i>) d) Conductivity Transmitter (4-20 mA) e) Float Switches (<i>Feed/Permeate, Chemical Dosing & CIP Tanks</i>) <p>The Plant to be as MK WATER, Model: SWRO 0250 XX C C X F X (<i>from Australia</i>) or equal and approved.</p>	Set	1		
3.3	<p>TOTAL FOR SECTION D WATER PURIFICATION INSTALLATIONS CARRIED TO SUMMARY PAGE NO. 9/5</p>				

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ITEM NO.	DESCRIPTION	Page No.	Shs. Cts.
	<p style="text-align: center;"><u>BILL NO. 9</u></p> <p style="text-align: center;"><u>BOREHOLE</u></p> <p style="text-align: center;"><u>SUMMARY</u></p> <p style="text-align: center;"><u>Section</u> <u>Title</u></p>		
1	A General Items	9/1	
2	B Borehole Drilling Installations	9/2	
3	C Borehole Equipping Installations	9/4	
4	D Water Purification Installations	9/5	
5	TOTAL FOR BOREHOLE INSTALLATIONS CARRIED TO FINAL SUMMARY (V.A.T Inclusive)		

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Item	Description	Unit	Qty	Rate	Shs. Cts.
<u>BILL NO. 10</u>					
<u>WATER FEATURE INSTALLATIONS</u>					
A	Allow for the preparation and submitting of all Working Drawings	Sum	1		
B	Allow for the preparation and submitting of all As Built Drawings	Sum	1		
C	Allow for Setting to proper functioning, testing and commissioning of the water feature to the Engineer's satisfaction.	Sum	1		
1.1	TOTAL FOR SECTION A GENERAL ITEMS CARRIED TO SUMMARY PAGE 10/5				

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Item	Description	Unit	Qty	Rate	Shs. Cts.
2.0	SECTION B : WATER FEATURE INSTALLATIONS <i>Supply, deliver, install, test and commission the following water feature pool equipment and all other necessary items for the complete and satisfactory operation.</i>				
2.1	Equipments				
A	Filter				
i)	Filter capable of up to 4m ³ /hr flow rate with up to 0.07m ² filter area and working pressure of up to 3 bars featuring:- non-corroding filter body; flange connected multiport valves with union connections; Internal collector laterals and High-grade silica sand media as DAYLIFF DX300 or equal and approved.	No	1		
B	Circulation Pump				
i)	Circulation pump set (Duty and Standby) each capable of 4m ³ /hr flow rate and working pressure of 10m. Features to include an extra large strainer basket, transparent strainer cover with a sturdy, easy removable clamp and a non-overloading closed impeller complete with 0.6kW 1x240V TEFC motor with built-in thermal overload protection as DAYLIFF QP3 or equal and approved.	Set	1		
C	Chlorine Water Treatment Kit				
i)	Chlorinator capable of up to 20g/hr of Chlorine gas as EcoSalt MES20CE complete with 6 bags 50kg pool salt as DAYLIFF or equal and approved.	Set	1		
D	Jets and Nozzles				
i)	Fountain jets and nozzles made from cast bronze, cast brass and machined brass capable of displaying to approval.	No	4		
E	Main Drain Suction Grating				
i)	300x300mm square main sump inlet grating with anti-vortex drain installed into precast suction chamber at deep end as DAYLIFF GRP GRATING or equal and approved.	No	2		
1.1	TOTAL FOR SECTION B WATER FEATURE INSTALLATIONS CARRIED TO COLLECTION PAGE 10/4				

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Item	Description	Unit	Qty	Rate	Shs. Cts.
F	Pool Lights				
i)	4 no. 25W white LED underwater lights with necessary accessories including cable, conduit and deck boxes POOLMAID Supreme and single 100W 240/12V step-down safety transformer as DAYLIFF or equal and approved.	Set	1		
	Drainage Pump				
G	Pump room submersible drain pump capable of draining water at 7m ³ /hr to 5m head with 0.37kW motor, surge protection as PEDROLLO TOP 20 complete with Automatic Voltage Switcher AVS13 or equal and approved.	Set	1		
	Pipe Work				
2.2	<i>Water feature plumbing & drainage pipe work in PVC class D plastic pipes to BS Standards and fixed to manufacturer's printed instructions and to Engineer's approval as described and/or shown on the drawings for proper and satisfactory functioning system to withstand test pressure up to 6 bars.</i>				
	PVC class D plastic pipe				
A	25mm Ø Pipe				
i)	40mm Ditto	Lm	32		
ii)		Lm	48		
	Elbows/Bends				
B	25mm dia PVC class D elbow				
i)	40mm ditto	No	6		
ii)		No	12		
	Tees				
C	25mm dia PVC class D equal tee				
i)	40mm ditto	No	6		
ii)		No	12		
	Reducing bushes				
D	40x25mm dia PVC class D reducing bush				
i)	50x40mm ditto	No	4		
ii)		No	6		
1.1	TOTAL FOR SECTION B WATER FEATURE INSTALLATIONS CARRIED TO COLLECTION PAGE 10/4				

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Item	Description	Unit	Qty	Rate	Shs. Cts.
E	Valves and Associated Fittings				
1	Gate Valve				
i)	25mm dia high pressure screw down full way non-rising stem, solid gunmetal wedge gate valve to BS 5154 series B, PN20 rating, with wheel and head joints to tubing as PEGLER or equal and approved.	No	2		
ii)	40mm ditto	No	4		
2	Ball Valve				
i)	25 mm dia PN 25 pressure rated, full bore, quarter turn operation, blow-out and vandal-proof assembly, P.T.F.E (Teflon) ball seals, double 'O' ring Viton stem seals and taper thread cast brass ball valve as PEGLER or equal and approved.	No	2		
ii)	40mm ditto	No	4		
3	Non Return/Check Valve				
i)	40mm dia bronze swing type check valves to BS5154 series B for either horizontal or vertical with upwards flow positions. PN 20 Rated and low minimum pressure to open as PEGLER or equal and approved.	No	2		
1.1	TOTAL FOR SECTION B WATER FEATURE INSTALLATIONS CARRIED TO COLLECTION PAGE 10/4				
	<p><u>SECTION B : WATER FEATURE INSTALLATIONS</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page No. 10/2</p> <p>" " " " " 10/3</p> <p>" " " " " 10/4</p>				
1.1	TOTAL FOR SECTION B WATER FEATURE INSTALLATIONS CARRIED TO SUMMARY PAGE 10/5				

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Item No.	Description	Page No.	Shs.	Cts.
	<p><u>BILL NO. 10</u></p> <p><u>WATER FEATURE INSTALLATIONS</u></p> <p><u>SUMMARY</u></p>			
1	Section A - General Items	10/1		
2	Section B - Water Feature Installations	10/4		
3	<p>TOTAL FOR WATER FEATURE INSTALLATIONS CARRIED TO FINAL SUMMARY PAGE (V.A.T Inclusive)</p>		Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
1155	<p align="center"><u>BILL NO. 11</u></p> <p align="center"><u>DAYWORKS (ALL</u></p> <p align="center"><u>PROVISIONAL)</u></p> <p align="center"><u>Labour</u></p> <p>A. Payment of labour authorised by the Architects to be employed on Dayworks will be the net amount of wages paid in respect of such labour, in accordance with the rates to be inserted below by the Contractor, plus the percentage addition also to be inserted by the Contractor.</p> <p>B. The rates inserted against each category of labour will be deemed to be the hourly wages paid to workmen and chargehands, working with their gangs, inclusive of allowances for housing, holidays with pay, annual leave, sick leave, safari allowance and all other allowances required by Government enactments concerning regulations of wages and conditions of employment.</p> <p>C. The percentage addition on net amount of wages defined above will be deemed to cover:-</p> <p>Supply, transport about the site, use, maintenance and removal of ordinary hand tools and equipment used in Dayworks (such as picks, shovels, barrows, ladders, buckets, trestles, stages, scaffolding, hoses, rubber boots, special clothing, tarpaulins, and all items of a like nature), insurance superintendence (including wages of foreman), water supply, artificial lighting overheads, head office, site staff and establishment charges profit, and all other liabilities and obligations whatsoever.</p>				<p align="right">Shs.</p>

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Net Amount of Wages</u>				
A.	Labourer.	Hours	75		
B.	General tradesman, category learner.	Hours	25		
C.	Do. <u>but</u> ungraded.	Hours	25		
D.	Do. <u>but</u> Grade III trade tested.	Hours	25		
E.	Do. <u>but</u> Grade II trade tested.	Hours	25		
F.	Do. <u>but</u> Grade I grade tested.	Hours	25		
G.	Light plant operator (compressors, mixers, tractors, rollers, etc.)	Hours	25		
H.	Heavy plant operator (D7 tractors, graders, excavators, etc.).	Hours	25		
I.	Junior headman.	Hours	25		
J.	Senior headman.	Hours	25		
	<u>Sub total of net amount of wages</u>			Shs.	
	Allow a percentage addition on net amount of wages to cover tools, insurances, etc. as defined above.		%		
				Shs.	
1155	<u>DAYWORKS</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>Materials</u>				
A.	Payment for materials authorised by the Architect to be used in Dayworks will be the approved net cost of supply and delivery to site of such materials, plus the percentage addition to be inserted below by the Contractor.				
B.	The percentage addition on net cost of materials as defined above will be deemed to cover insurances, overheads, head office, site staff and establishment charges, profit, and all other liabilities and obligations whatsoever.				
C.	Include the Provisional Sum of Shillings Five Thousand (Shs. 5,000/-) for the approved net cost of supply and delivery to site of materials to be used in Dayworks.		Sum		5,000.00
D.	Allow a percentage addition on net cost of materials to cover insurances, overhead charges, profit, etc., as defined above.		%		
	<u>Plant</u>				
E.	Payment for the use of heavy plant (such as compressed air equipment, concrete mixers, pumps, excavators and the like) authorised by the Architect to be used in Dayworks will be the approved net hire charges, plus the percentage addition to be inserted below by the Contractor.				
				Shs.	
1155	<u>DAYWORKS</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	The 'approval net hire charges' of heavy plant (covered by a Provisional Sum below) shall mean the approved invoiced hire charges including delivery to site, and subsequent removal, after deduction of trade discounts, but without deduction of cash discounts not exceeding 2 1/2% which shall be retained by the Contractor, or, in the case of use of the Contractor's own heavy plant, current hire charges plus justifiable charges for handling, delivery to and removal from the site.				
B.	Include the Provisional Sum of Shillings Five Thousand (Shs. 5,000/-) for the approved net hire charges of heavy plant to be used in Dayworks.		Sum		5,000.00
C.	Allow a percentage addition on net hire charges of heavyplant to cover insurances, overhead charges, profit, etc. as defined above.		%		
	<u>Direct Charges</u>				
1155	<u>DAYWORKS</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
A.	The 'approved net cost of direct charges' (covered by a Provisional Sum below) shall mean the approved invoiced cost of work executed by sub-contractors or specialists after deduction of trade discounts, but without deduction of cash discounts not exceeding 2 1/2% which shall be retained by the Contractor.				
B.	The percentage addition on net cost of direct charges as defined above will be deemed to cover insurances, overheads, head office, site staff and establishment charges, profit, attendance and all other liabilities and obligations whatsoever.				
C.	Include the Provisional Sum of Shillings Five Thousand (Shs. 5,000/-) for the approved net cost of direct charges incurred in Dayworks.				
			Sum		5,000.00
D.	Allow a percentage addition on net cost of direct charges to cover insurances, overhead charges, profit, etc., as defined above.		%		
1155	<u>DAYWORKS</u>			Shs.	

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>BILL NO. 11</u> <u>DAYWORKS</u> <u>(ALL PROVISIONAL)</u> <u>COLLECTION</u> Brought forward from Page No. 11/1 " " " " " 11/2 " " " " " 11/3 " " " " " 11/4 " " " " " 11/5				
	<u>TOTAL AMOUNT OF BILL NO. 11</u> <u>CARRIED TO FINAL SUMMARY</u>			Shs.	
1155	<u>DAYWORKS</u> <u>COLLECTION</u>				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	Shs./Cts.
	<u>BILL NO. 12</u>				
	<u>PRIME COST AND PROVISIONAL SUMS</u>				
	<u>Note:</u> See Appendix 'E' for preambles to Prime Cost and Provisional Sums				
	<u>Provisionals sums</u>				
A.	Include the sum of shillings three million only (Shs. 3,000,000/-) for soft and hard landscaping		Sum		3,000,000.00
B.	Include the sum of shillings fifteen million only (Shs. 15,000,000/-) for contingencies.		Sum		15,000,000.00
	<u>TOTAL AMOUNT OF BILL NO.12 CARRIED TO FINAL SUMMARY</u>			Shs.	
1155	<u>P.C. & PROVISIONAL SUMS COLLECTION</u>				

VOLUME I OF II: TENDER NO. KCAA/011/2019-2020

ITEM NO.	DESCRIPTION	Shs.	Cts.																																							
	<u>PROPOSED REGIONAL CENTRE FOR AVIATION MEDICINE</u> <u>FINAL SUMMARY</u>																																									
	<table border="0"> <thead> <tr> <th align="left"><u>BILL No.</u></th> <th align="left"><u>TITLE</u></th> <th align="right"><u>PAGE No.</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Preliminaries and General Conditions</td> <td align="right">1/15</td> </tr> <tr> <td>2</td> <td>Main Block</td> <td align="right">2/43</td> </tr> <tr> <td>3</td> <td>Gate House and Associated facilities</td> <td align="right">3/23</td> </tr> <tr> <td>4</td> <td>External Works (<u>All Provisional</u>)</td> <td align="right">4/27</td> </tr> <tr> <td>5</td> <td>Electrical Installations</td> <td align="right">5/23</td> </tr> <tr> <td>6</td> <td>Plumbing and Drainage Installations</td> <td align="right">6/21</td> </tr> <tr> <td>7</td> <td>Low Current Installations</td> <td align="right">7/19</td> </tr> <tr> <td>8</td> <td>HVAC Installations</td> <td align="right">8/9</td> </tr> <tr> <td>9</td> <td>Borehole Drilling</td> <td align="right">9/5</td> </tr> <tr> <td>10</td> <td>Water Feature Installation.</td> <td align="right">10/5</td> </tr> <tr> <td>11</td> <td>Day Works (<u>All Provisional</u>)</td> <td align="right">11/6</td> </tr> <tr> <td>12</td> <td>Prime Cost and Provisional Sums</td> <td align="right">12/1</td> </tr> </tbody> </table>	<u>BILL No.</u>	<u>TITLE</u>	<u>PAGE No.</u>	1	Preliminaries and General Conditions	1/15	2	Main Block	2/43	3	Gate House and Associated facilities	3/23	4	External Works (<u>All Provisional</u>)	4/27	5	Electrical Installations	5/23	6	Plumbing and Drainage Installations	6/21	7	Low Current Installations	7/19	8	HVAC Installations	8/9	9	Borehole Drilling	9/5	10	Water Feature Installation.	10/5	11	Day Works (<u>All Provisional</u>)	11/6	12	Prime Cost and Provisional Sums	12/1		
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	Signature of Contractor.....																																									
	Address																																									
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