NATIONAL HOUSING CORPORATION

PROPOSED STONEY ATHI – SECTOR 2A

TENDER NO. NHC/TECH/015/21-22

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF 10 NO. LIFTS

TENDER DOCUMENT

ENGINEER

CHIEF ENGINEER,
NATIONAL HOUSING CORPORATION,
P.O. BOX 30257 - 00100
NAIROBI.

QUANTITY SURVEYOR

CHIEF QUANTITY SURVEYOR,
NATIONAL HOUSING CORPORATION,
P.O. BOX 30257 - 00100
NAIROBI.

ARCHITECT

CHIEF ARCHITECT,
NATIONAL HOUSING CORPORATION,
P.O. BOX 30257 - 00100
NAIROBI.

CLIENT

NATIONAL HOUSING CORPORATION,
P.O. BOX 30257 - 00100
NAIROBI.
info@nhckenya.go.ke

FEBRUARY, 2022

LIFT INSTALLATIONS

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FORM OF TENDER

TENDER PROPOSED STONEY ATHI – SECTOR 2A

SUPPLY, DELIVERY, INSTALLATION, TESTING AND

COMMISSIONING OF 10 NO. LIFTS

NOTE: All the Tender Documents when completed are to be placed in the enclosed envelope which is to be sealed and sent to the Managing Director, National Housing Corporation, P.O. BOX 30257, NAIROBI, or placed in the tender box at the Ground Floor, NHC House, Aga Khan Walk, Harambee Avenue – Nairobi so as to arrive not later than .....on ..... 20.....

Tenders will be opened immediately thereafter on the same day and Tenderers representatives are invited to be present.

1. We the undersigned hereby tender and offer to execute, complete and maintain the whole of the said works in conformity with the said Tender and Contract documents for the sum of Kenya Shillings:
.....
.....
.....(KSHs..... Cts.....)

2. I/We agree to be bound by and submit to the said Tender and Contract documents and agree that the rates set down herein shall form the basis for preparations of the Payment Certificates and for the valuations of variations which may be ordered in accordance with the Contract Conditions.

3. I/ We agree to complete the works within programme, or such extended time as the Conditions of Contract provide.

4. It is hereby understood that the National Housing Corporation is not bound to accept the lowest or any tender.

5. We agree that this tender shall remain valid and shall not be withdrawn within **one hundred and Fifty** (150) days from the date of opening of the tender.

6. I/We agree that this tender together with the execution of a formal Agreement shall constitute a binding contract between ourselves and the **Main Contractor** appointed by the Employer.

7. I/We agree that we shall upon award, execute a formal sub-contract agreement with the Main Contractor.

Signed:.....

Name of Firm:.....

(IN BLOCK LETTERS AND STAMP)

Address:.....

Date:.....

In the presence of:-

Witness (Name):.....

Signature:.....

Occupation.....

Address:.....

INSTRUCTIONS TO TENDERERS

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INSTRUCTIONS TO TENDERERS.

1. 1. General

1.1 The Procuring Entity/Employer as defined in the 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 in the Form of Tender, a preliminary description of the proposed work method and schedule.

1.3 To qualify for award of the Contract, Tenderers shall meet the following minimum qualifying criteria;

(a) Bid security from a recognized and licensed Bank in Kenya for a minimum of **Kshs.300,000.00** valid for a period of 180days from tender opening date.

(b) Include a preliminary description of the proposed work methodology and schedules.

(b) Registered & Licensed by Energy and Petroleum Regulatory Authority (EPRA) as Lift contractor (Class A2)

(c) Copy of valid Tax compliant certificate and Business permit.

(d) Integrity declaration.

1.4 Each Tenderer shall submit only one tender individually. 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.

1.5 The Tenderer shall bear all costs associated with the preparation and submission of his tender, and the Procuring Entity will in no case be responsible or liable for those costs.

1.6 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

expense.

1.7 The Procuring Entity's employees, committee members, Board members and their relatives (spouse and children) are not eligible to participate in the tender.

1.8 The price to be charged for the tender document shall not exceed Kshs. **1,000/=**

1.9 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.

(a) These Instructions to Tenderers
(b) Form of Tender and Contract Agreement
(c) Conditions of Contract
(d) Bills of Quantities
(e) Bid Security

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 Procuring Entity in writing or by email at the address indicated in the letter of invitation to tender. The Procuring Entity will only respond to requests for clarification received earlier than seven (7) days prior to the deadline for submission of

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 Procuring Entity 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 email to all Tenderers. Prospective Tenderers shall acknowledge receipt of each addendum in writing to the Procuring Entity.

2.5 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Procuring Entity may extend, as necessary, the deadline for submission of tenders, in accordance with Clause 2.4.

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) The Instructions to Tenderers, Form of Tender, Conditions of Contract

(b) Bid security of **Kshs.300,000.00** from a registered and licensed Bank in Kenya

(c) Priced Bill of Quantities ;

(d) Any other documents required to be completed and submitted by the Tenderers as stated in these instructions.

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 shall be included in the tender price submitted by the tenderer.

3.4 The rates and prices quoted by the Tenderer shall not be subject to adjustment during the performance of the Contract and shall be inclusive of all preliminaries like water, power, security, equipments, samples, insurances etc.

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

3.6 Tenders shall remain valid for a period of One hundred and fifty (150) 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.

3.7 The Tenderer shall prepare one original documents comprising the tender documents.

3.8 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.

3.9 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.

4. Submission of Tenders

4.1 The Tenderer shall seal the original tender in an envelope and shall:

(a) be addressed to the Procuring Entity 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 Procuring Entity at the address specified in the invitation to tender. However, the Procuring Entity may extend the deadline for submission of tenders by issuing an amendment in accordance with 2.4.

4.3 Any tender received after the tender closing/opening deadline will be rejected and 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 on the envelope "**MODIFICATION"** and "**WITHDRAWAL**", as appropriate. No tender may be modified after the deadline for submission of tenders.

5. Tender Opening and Evaluation

5.1 The tenders will be opened by the Procuring Entity, 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

tender and other details as may be considered appropriate, will be announced by the Procuring Entity at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Procuring Entity.

5.3 Tender will be subjected to a Preliminary, Technical and Financial Evaluations as below;

Preliminary Evaluation

A firm will fail preliminary evaluation and be subject to automatic disqualification if it does not provide any of the following mandatory requirements;

i. Bid security of Kshs 300,000.00

ii. Copy of company registration

iii. Copy of valid EPRA registration as a lift contractor (Class A2)

iv. Copy of a valid Tax compliance certificate

v. Copy of current Business permit

vi. Integrity declaration that the Tenderer will not be involved in corrupt and fraudulent practices.

- **Technical Evaluation**

Firms that pass Preliminary Evaluations will be subjected to Technical evaluation with a **maximum of 100 marks** as described in the evaluation criteria below;

1.1 Copies of Audited Accounts for the last six (6) years, demonstrating ability to finance the project. **(30 MARKS)**

Evaluation Criteria:

Average Turnover in KES	**Maximum score**
<30M	8
30-60M	15
61- 100M	22
101M+	30

1.2 Works of a **similar nature** and scope over the last ten (10) years. Also list details of work under way or committed, including expected completion date. Attach list as per the format below. **(30 MARKS)**

Project Name	Name of client and Contact person	Type of work performed and year of completion	No. of lifts

Evaluation Criteria

Biennial average number of lifts installed	**Maximum score**
0-1	0
1-5	16
5-9	27
10+	30

1.3 Works of a **similar nature** and **value** over the last ten (10) years. Also list details of work under way or committed, including expected completion date. Attach list as per the format below. **(20 MARKS)**

Project Name	Name of client and Contact person	Type of work performed and year of completion	Value of Contract	No. of lifts

Evaluation Criteria

Biennial average value of contracts	**Maximum score**
0-18M	5
18.1-37M	10
37.1- 56M	15
56.1M+	20

1.4 Professional competence (Qualifications and relevant experience) of key personnel proposed for administration and execution of the Contract. Attach biographical data. **(20MARKS)**

Position	Name	Years of experience (general)	Qualifications (attach certificates)
Project Manager _____ _____ Site Agent _____	_____ _____ _____	_____ _____ _____	Degree _____ Diploma _____

Evaluation Criteria

Relevant Experience (E)	**Maximum score**
<1	0
1-5 years	4
6-10 years	8
11+ years	10

Position	**Academic Qualification**	**Qualification Coefficient (K)**
Project Manager	1st Degree or above	1
	Diploma	0.5
	Others	0.1
Site Agent	Diploma or above	1
	Certificate	0.5
	Others	0.1

Professional Evaluation for **each position** carries a maximum of 10 MARKS follows:

PC = K x E

Where;

PC: Professional competence marks

E: Relevant experience score

K: Qualification coefficient

The overall score is a sum of the **professional evaluation marks** for the two positions, carrying a **maximum of 20 MARKS.**

Technical Evaluation

Only firms that score **70 Marks and above** in the Technical Evaluation will qualify and proceed to the Financial Evaluation.

Technical proposals with **70 marks and above** will all qualify on the same footing regardless of their technical evaluation marks.

6 Financial Evaluation

Firms that pass Technical Evaluations will be ranked according to Tender sums, with the lowest tender sum being ranked first.

7 Disqualification

The tender will be deemed unresponsive and subject to automatic disqualification on the following grounds:

a) If the Tenderer is currently involved in two or more running Projects with Corporation or has been awarded two or more tenders by the Corporation.

b) The Tenderer fails to submit any or the entire mandatory tender requirements stated in the tender notice and clause 1.7.

c) The Tenderer gives false information in the tender document.

d) Adverse report on the Tenderer is received after issuance of the Tender documents.

e) Failure to sign the Ethics and Integrity declaration in the Financial Proposal form.

f) Ethics and Integrity issues are raised regarding present or past Tender Process or Contractual performance with any Procurement Entity in the past three years.

g) Tender whose Financial Proposal has arithmetic errors in excess of 5% or whose pricing is uneconomical.

h) No written and signed Agreement among partners where a Joint Venture is submitted.

8 Contract Award

8.1 The Tender ranked first will be considered for the award of the Contract.

8.2 Upon Contract award to the successful Tenderer, the Procuring Entity shall notify the unsuccessful Tenderers accordingly and discharge their bid securities

ETHICS AND INTEGRITY DECLARATION

We the undersigned commit ourselves to maintain high Ethics and Integrity during the Tender process and performance of the Contract if successful, and declare to comply with all conditions in full and should any Ethics and Integrity questions arise regarding our conduct then the Employer reserves the right to disqualify our Tender, Terminate our Contract and debar us from future procurement.

Signed:.....

Name of Firm:.....

(IN BLOCK LETTERS AND STAMP)

Address:.....

Date:.....

In the presence of:-

Witness (Name):.....

Signature:.....

Occupation.....

Address:.....

Date.....

.....

PART A

SUB-CONTRACT AGREEMENT (KABCEC)

AGREEMENT AND CONDITIONS OF SUB-CONTRACT FOR BUILDING WORKS

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

June 2002 Edition

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ORIGINAL **COUNTERPART**

Embossed stamp Embossed stamp

1.0 AGREEMENT

1.1 This agreement is made on
……

between
……

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

……

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

and
……

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

……

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

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

Between
……

……

part .

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

……

……

……

hereinafter called "the sub-contract works"
at………………………………………………

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

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

……

……

(hereinafter referred to as "the sub-contract drawings), the specifications and the conditions of sub-contract have been signed by or on behalf of the parties thereto. And whereas the Sub-Contractor has had reasonable opportunity of inspecting the main contract or a copy thereof except the detailed prices of the Contractor included in the bills of quantities or schedule of rates.

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

NOW IT IS HEREBY AGREED AS FOLLOWS:

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

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

…………………………………………………………………………………………

……

……………………………………Kshs……………………………………

(hereinafter referred to as "the sub-contract price") or such sum as shall become payable hereinafter at the times and in manner specified in the said conditions.

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

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

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

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

1.12 AS WITNESS the hands of the said parties;

Signed by the said

……..(Contractor)

In the presence of

Name

……..

Address

…….

Signed by the said

…….(Sub-Contractor)

In the presence of

Name

……

Address

……

CONDITIONS OF SUB-CONTRACT

2.0 GENERAL OBLIGATIONS OF THE CONTRACTOR

The Contractor shall:

2.1 Timorously obtain from the Architect on behalf of the Sub-Contractor all drawings, necessary details, instructions and other information required by the Sub-Contractor for the proper carrying out of the sub-contract works.

2.2 Provide all such facilities and attend upon the Sub-Contractor as required and as provided in the specifications, bills of quantities and these conditions to the extent compatible with the provisions of the main contract

2.3 Observe, perform and comply with all the provisions of the main contract and of this sub-contract on the part of the Contractor to be observed, performed and complied with to ensure satisfactory completion of the sub-contract works.

3.0 GENERAL OBLIGATIONS OF THE SUB-CONTRACTOR

3.1 The Sub-Contractor shall be deemed to have notice of all the provisions of the main contract except the detailed prices of the Contractor included in the bills of quantities or in the schedule of rates.

3.2 The Sub-Contractor shall carry out and complete the sub-contract works in accordance with this sub-contract and in all respects to the reasonable satisfaction of the Contractor and of the Architect and in conformity with all reasonable directions and requirements of the Contractor regulating the due carrying out of the contract works.

3.3 The Sub-Contractor shall observe, perform and comply with all the provisions of the main contact on the part of the Sub-Contractor to be observed, performed and complied with so far as they relate and apply to the sub-contract works or any portion thereof and are not inconsistent with the expressions of this sub-contract as if all the same were set out herein.

3.4 Without prejudice to the generality of the foregoing requirements, the Sub-Contractor shall especially observe, perform and comply with the provisions of the main contract as they apply to the sub-contract works

4.0 SUB-CONTRACT DOCUMENTS

4.1 The sub-contract documents for use in the carrying out of the sub-contract works shall be: -

4.1.1 The agreement and these conditions

4.1.2 The sub-contract drawings as listed in the agreement

4.1.3 The sub-contract bill of quantities or schedule of rates as applicable

4.1.4 The specifications as separately supplied or as contained in the sub-contract bills.

4.2 Upon the execution of the sub-contract, the Contractor shall register the agreement with the relevant statutory authority and pay all fees, charges, taxes, duties and all costs arising there from.

The manner of supplying contract documents, their custody, display on site and their interpretation in the event of discrepancies shall be as provided in the main contract in respect of the main contract documents with the necessary amendments made to refer to the sub-contract.

5.0 GENERAL LIABILITY OF THE SUB-CONTRACTOR

5.1 The Sub-Contractor shall be liable for and shall indemnify the Contractor against and from:

5.1.1 Any breach, non-observance or non-performance by the Sub-Contractor, his servants or agents of any of the said provisions of the main contract and of this sub-contract.

5.1.2 Any act or omission of the Sub-Contractor, his servants or agents which involve the Contractor in any liability to the Employer under the main contract

5.1.3 Any claim, damage, loss or expense due to or resulting from any negligence or breach of duty on the part of the Sub-Contractor, his servants or agents.

5.1.4 Any loss or damage resulting from any claim under any statute or common law by an employee of the Sub-Contractor in respect of personal injury or death arising out of or in the course of his employment.

5.2 Provided that nothing contained in this sub-contract shall impose any liability on the Sub-Contractor in respect of any negligence or breach of duty on the part of the Employer, the Contractor, other sub-contractors or their respective servants or agents nor create any privity of contract between the Sub-Contractor and the Employer or any other sub-contractor.

6.0 INSURANCE AGAINST INJURY TO PERSONS AND PROPERTY

6.1 Without prejudice to his liability to indemnify the Contractor under clause 5.0 above, the Sub-Contractor shall maintain:-

6.1.1 Such insurances as are necessary to cover the liability of the Sub-Contractor in respect of injury or damage to property including damage to the works arising out of or in the course of or by reason of the carrying out of the sub-contract works except for liability against the contingencies specified at clause 6.3 herein.

6.1.2 The insurances required under sub clause 6.1.1 and 6.1.2 above shall be placed with insurers approved by the Contractor and the Architect.

6.2 Notwithstanding the provisions of clause 23.0 of these conditions, the Contractor shall not be obliged to make payments to the Sub-Contractor before the said policies have been provided.

6.3 Where the relevant clause of the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works, shall as regards loss or damage by the contingencies stated therein, namely, fire, earthquake, fire following earthquake, lightning, explosion, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, aircraft and other aerial devices or articles dropped there from, riot and civil commotion, be at the sole risk of the contractor. The Contractor shall cover his liability for the works by procuring insurances as required in the said clause.

6.4 Where relevant clauses in the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works shall, as regards loss or damage by the contingencies stated therein be at the sole risk of the Employer. The Employer shall cover his liability for the works by procuring insurances as required in the said clause.

6.5 The Sub-Contractor shall observe and comply with the conditions contained in the policy or policies of insurance of the Contractor or of the Employer, as the case may be, as regards loss or damage which may be caused by the stated contingencies. For this purpose, the Contractor or the Employer as the case may be, shall avail the said policies to the Sub-Contractor for his perusal.

6.6 If any loss or damage affecting the sub-contract works or any part thereof or any unfixed goods or materials is occasioned by any one or more of the said contingencies, then;

6.6.1 The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the Sub-Contractor under the sub-contract, and

6.6.2 The Sub-Contractor shall, with due diligence, restore the work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with the carrying out and completion of the sub-contract works.

6.6.3 The restoration of work damaged the replacement and repair of unfixed materials and goods and the removal of debris shall be deemed to be a variation required by the Architect. Such work shall be paid for in accordance with relevant clause of the main contract.

7.0 PERFORMANCE BOND

Before commencing the works, the Sub-Contractor shall provide one surety who must be an established bank or insurance company to the approval of the Contractor and who will be bound to the Contractor in the sum equivalent to ten per cent (10%) of the sub-contract price for the due performance of the sub-contract until the certified date of practical completion. Notwithstanding the provisions of clause 23.0 of these conditions, no payments shall be made to the Sub-Contractor before the said bond is provided.

8.0 POSSESSION OF SITE AND COMMENCEMENT OF WORKS

8.1 Within the period stated in the appendix to these conditions, the Contractor shall give possession of the site works to the Sub-Contractor and such access as may be necessary to enable the Sub-Contractor to commence and proceed with the sub-contract works in accordance with the sub-contract.

8.2 On or before the date of commencement of works stated in the appendix to these conditions, the Sub-Contractor shall commence the carrying out of the sub-contract works and shall proceed regularly and diligently with the same in accordance with the sub-contract program, the main contract program and or with the progress of the main contract works and complete on or before the date stated in the appendix to these conditions as the date for practical completion or within any extended time granted under clause 25.0 of these conditions.

8.2 On or before the date for commencement of works stated in the appendix to these conditions, the Sub-Contractor shall commence the carrying out of the sub-contract works and shall proceed regularly and diligently with the same in accordance with the sub-contract programme, the main contract programme and or with the progress of the main contract works and complete on or before the date stated in the appendix to these conditions as the date for practical completion or within any extended time granted under clause 25.0 of these conditions.

9.0 ARCHITECT'S INSTRUCTIONS

9.1 The Sub-Contractor shall forthwith comply with all the instructions issued to him by the Architect, either directly or through the Contractor, in regard to any matter in respect of which the Architect is expressly empowered by the main contract conditions to issue instructions.

9.2 The manner of complying with or querying the validity of an Architect's instruction shall be as provided in relevant clause of the main contract. The Sub-Contractor shall not be obliged to carry our instructions not issued in the manner provided therein.

10.0 VARIATIONS

10.1 in the main contract.

10.2 The valuation of variations shall be made by the Quantity Surveyor in accordance with variations clause in the main contract.

10.3 Effect shall be given to the measurement and valuation of variations in interim certificates and by the adjustment of the sub-contract price.

11.0 LIABILITY FOR OWN EQUIPMENT

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

12.0 PROVISION OF FACILITIES BY THE CONTRACTOR

12.1 Where provided in the main contract, the Contractor shall supply at his own cost all necessary water, lighting, electric power, telephones and security required for the sub-contract works. Where not so provided, the Sub-Contractor shall provide the said services at his own cost.

12.2 Except as otherwise provided in the main contract, the Sub-Contractor shall construct at his own expense all necessary workshops, stores, offices, workers' accommodation and other temporary buildings required for the carrying out of the works at such places on site as the Contractor shall identify. The Contractor undertakes to give the Sub-Contractor the required space and all reasonable facilities for such construction. Upon practical completion of the works, the Sub-Contractor shall remove the said facilities and reinstate disturbed surface to the satisfaction of the Contractor.

12.3 The Contractor shall provide, without charge, general attendance to the Sub-Contractor to facilitate the carrying out of the works which attendance shall include facilities for access to and movement within the site and sections or parts of the building or buildings where the sub-contract works are being carried out, the use of temporary roads, paths and access ways, sanitary and welfare facilities.

12.4 The Contractor shall permit the Sub-Contractor to use, without charge, at all reasonable times, any scaffolding and hoisting equipment belonging to or provided by the Contractor while it remains so erected upon the site. The use by the Sub-Contractor of any other equipment, facilities or services provided by the Contractor for the works shall be subject to private arrangements between the parties hereto and shall not be regulated by these conditions.

12.5 Provided that such use of the scaffolding and hoisting equipment shall be on the express condition that no warranty or other liability on the part of the Contractor shall be created or implied in regard to fitness, condition or suitability for the intended purpose except that the Sub-Contractor shall be liable for any damage caused thereto or thereby.

12.6 Where required, the Contractor shall provide the facilities, equipment and the like and of the request by the Sub-Contractor to enable timely performance of the sub-contract.

13.0 LIABILITY FOR OWN WORK

13.1 The Contractor and the Sub-Contractor shall be liable for the due carrying out of their respective works in accordance with their respective contracts without causing damage or injury to the works of the other sub-contractors, and in particular:

13.2 Should the carrying out of the sub-contract works cause injury or damage to the main contract works, or to the work of the other sub-contractors, the Sub-Contractor shall rectify the damage so caused at his own cost.

13.3 Should the carrying out of the main contract works cause damage or injury to the sub-contract works, the Contractor shall rectify the damage at his own cost.

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

14.0 CO-OPERATION IN USE OF FACILITIES

14.1 The Contractor and the Sub-Contractor undertake to co-operate with each other and co-ordinate work arrangements and procedures required in carrying preventing interference, disruption or disturbance to the progress of the works or to the activities of other sub-contractors.

14.2 The Contractor and the Sub-Contractor undertake not to wrongfully use or interfere with equipment, scaffolding, appliances, ways, temporary works, temporary buildings and other property belonging to or provided by the other part or by other sub-contractors.

14.3 Provided that nothing contained in this clause shall prejudice or limit the rights of the Contractor or of the Sub-Contractor in carrying out their respective statutory and or contractual duties under this sub-contract or under the main contract.

15.0 ASSIGNMENT AND SUBLETTING

15.1 Neither the Contractor nor the Sub-Contractor shall, without the written consent of the other and the Employer, assign this sub-contract.

15.2 The Sub-Contractor shall not sub-let the whole of the works without the written consent of the Contractor and the Architect.

15.3 Provided that any assignment and any sub-contracts as well as this sub-contract shall terminate immediately upon (for whatever reason) of the main contract.

16.0 WORK PRIOR TO APPOINTMENT OF CONTRACTOR

16.1 Where the Sub-Contractor is appointed before the Contractor is appointed, any work done by the Sub-Contractor prior to the said appointment shall be treated as a Separate contract between the Employer and the Sub-Contractor and shall be valued by the Quantity Surveyor and paid for directly by the Employer without the involvement of the Contractor.

16.2 Where the Sub-Contractor is appointed before the Contractor is appointed, the Sub-Contractor shall be permitted, when the identity of the Contractor is known and within 30 days thereof, to raise objections (on reasonable grounds) against entering into a sub-contract with the Contractor

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

17.0 SUB-CONTRACTOR DESIGN

Where the sub-contract includes a design component by the Sub-Contractor, the design shall be to the approval of the Architect and the Employer. Not withstanding and approvals, the Sub-Contractor shall be liable directly to the Employer for any consequences of failure of the design to comply with the requirements of the Employer or to be fit or suitable for the purposes for which the sub-contract works or the relevant part thereof were intended.

18.0 SPECIFICATION OF GOODS, MATERIALS AND WORKMANSHIP

18.1 All materials, goods and workmanship shall, so far as procurable, be of the respective kinds and standards described in the sub-contract bills, specifications and drawings.

18.2 The provisions of the clause of the main contract regulating the procurement, specification and quality assurance of materials, processes and workmanship and the requirements of clause 24.0 therein dealing with the provision of samples and the carrying out of specified tests shall apply to the sub-contract in the same manner as they apply to the main contract.

19.0 COMPLIANCE WITH STATUTORY AND OTHER REGULATIONS

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

20.0 ROYALTIES AND PATENT RIGHTS

20.1 All royalties or other sums payable in respect of the supply and use of any patented articles, processes or inventions in carrying out the works as described by or referred to in the sub-contract bills, specifications or drawings shall be deemed to have been included in the sub-contract price.

20.2 The provision of the clause of the main contract dealing with royalties shall apply to the sub-contract in the same manner as they apply to the main contract.

21.0 ANTIQUITIES AND OTHER OBJECTS OF VALUE

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

22.0 SUSPENSION OF WORKS

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

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

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

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

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

23.0 PAYMENTS

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

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

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

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

23.5 Provided that where the minimum amount of a certificate inserted in the appendix to these conditions has been achieved but the corresponding minimum inserted in the

or the Contractor has not applied for payment within the stated period, the Architect may with the consent of the Contractor, issue a payment certificate directly to the Sub-Contractor for payment by the Employer.

23.6 Within 7 days of receipt by the Contractor of payment by the Employer, the Contractor shall notify and pay to the Sub-Contractor the total value certified therein in respect of the sub-contract works less the portion of the retention money attributable to the sub-contract works and less amounts previously paid to the Sub-Contractor.

23.7 Where certificates are not paid by the Employer within the prescribed period, the Sub-Contractor shall be entitled to be paid by the Contractor, upon receipt of payment from the Employer, the interest certified for the delay in accordance with relevant clause of the main contract in respect of the portion of the sub-contract works included in the certificate.

23.8 Where the Contractor has received payment from the Employer but has not released the appropriate amount to the Sub-Contractor within the stated period, the Contractor shall pay to the Sub-Contractor in addition to the amount not paid, simple interest on the unpaid amount for the period it remains unpaid at the commercial bank lending rate in force during the period of default.

23.9 If, upon application by the Sub-Contractor and Architect agree, or if the Contractor fails to make payment to the Sub-Contractor in accordance with sub-clause 23.6 herein and continues such default for 14 days thereafter, the Architect may issue a payment certificate directly to the Sub-Contractor for payment by the Employer, where applicable, and deduct the amount from subsequent payment to the Contractor.

23.10 Upon the issue of the certificate of practical completion and the release of one half of the total amount of the retention of money to the Contractor, the Contractor shall pay the portion attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.

23.11 Upon the issue of the certificate of rectification of defects and receipt of the balance of the retention money by the Contractor, the Contractor shall pay the balance of the portion of the retention money attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.

23.12 The sub-contract final account shall be agreed between the Sub-Contractor, the Contractor, the Quantity Surveyor and the Architect and shall be annexed to the n the main contract.
For purpose of finalizing the accounts, the Quantity Surveyor may request the Sub-Contractor to submit further documents as he may deem necessary.

23.13 The final certificate issued under relevant clause of the main contract shall be final and binding on the Sub-Contractor in the same manner it is binding on the Contractor.

23.14 If the Architect desires to secure final payment to the Sub-Contractor before final payment is due to the Contractor, the provisions of relevant clause of the main contract shall apply.

23.15 The Contractor shall be entitled to deduct from or set off against any money due from him to the Sub-Contractor in interim certificates any sum or sums which the Sub-Contractor is liable to pay to the Contractor arising under or in connection with the sub-contract.

24.0 PRACTICAL COMPLETION AND DEFECTS LIABILITY

24.1 The Sub-Contractor shall proceed with the works regularly and diligently and complete the same within the period stated in the appendix to this sub-contract or within such extended period as may be granted under clause 25.0 of this sub-contract.

24.2 Where the sub-contract works are to be completed in sections or where the sub-contract works are to be completed in advance of the main contract works, the provisions of relevant clause of the main contract shall apply, as appropriate, to the sub-contractor in the same manner as they apply to the main contract.

24.3 The procedures for certifying practical completion and for dealing with defects in the sub-contract works as well as the main contract works are as prescribed in relevant clause of the main contract. Upon the issue of the certificate of practical completion of the whole of the works or of the sub-contract works, as applicable, the Sub-Contractor shall be entitled to release of one half of the retention money attributable to the sub-contract works within 7 days after the Contractor has received payment.

24.4 The balance of the retention money shall be released to the Sub-Contractor after the defects appearing in the works have been rectified in accordance with relevant clause of the main contract and after the Contractor has received the said payment as provided for in relevant clause of the main contract.

25.0 EXTENSION OF TIME

25.1 Upon it becoming reasonably apparent that the progress of the sub-contract works is or will be delayed, the Sub-Contractor shall forthwith give written notice of the cause of the delay to the Contractor and to the Architect with supporting details showing the extent of delay caused or likely to be caused. Thereafter, the Architect shall evaluate the information supplied by the Sub-Contractor and if in his opinion the completion of the works is likely to be or has been delayed beyond the date for practical completion stated in the appendix to these conditions or beyond any extended time previously fixed under this clause, by any of the reasons entitling the Contractor to extension of time under relevant clause of the main contract, then the Architect shall, so soon as he is able estimate the length of the delay beyond the date or time aforesaid, recommend to the Contractor a fair and reasonable extension of time to be granted for the completion of the sub-contract works.

25.2 Thereupon, the Contractor shall grant in writing to the Sub-Contractor the recommended time. Provided that the Contractor shall not grant any extension of time to the Sub-Contractor without the written recommendation of the Architect. And provided that the Sub-Contractor shall constantly use his best endeavors to prevent delay and shall do all that may be reasonably required to proceed with the works.

25.3 The procedures for dealing with requests for extension of time and the observance of time limits prescribed in the main contract shall apply to the sub-contract in the same manner as they apply to the main contract.

26.0 LOSS AND EXPENSE CAUSED BY DISTURBANCE OF REGULAR PROGRESS

26.1 If upon written application being made by the Sub-Contractor to the Contractor and to the Architect, the Architect is of the opinion that the Sub-Contractor has been involved in direct loss and or expense, for which he would not be reimbursed by a payment made under any other provision in this sub-contract, by reasons of the regular progress of the sub-contract works or any part thereof having been materially affected by any of the reasons which would entitle the Contractor to reimbursement under relevant clause of the main contract, the Quantity Surveyor shall assess the amount of such loss and or expense.

26.2 Any amount so assessed shall be added to the sub-contract price and if an interim certificate is issued after the date of assessment, any such amount shall be added to the amount which would otherwise be stated as due in such certificate as regards the Sub-

26.3 The procedures for dealing with loss and or expense claims prescribed in the main contract shall apply to the sub-contract in the same manner as they apply to the main contract, as appropriate.

27.0 DAMAGES FOR DELAY IN COMPLETION

27.1 If the Sub-Contractor fails to complete the sub-contract works by the date for practical completion stated in the appendix to these conditions or within any extended time fixed under clause 25.0 herein, and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Sub-Contractor shall pay or allow to the Contractor a sum calculated at the rate stated in the said appendix as liquidated damages for the period during which the works shall so remain or have remained incomplete.

27.2 The Contractor may deduct such sum from any money due or to become due to the Sub-Contractor under the sub-contract or recover the same from the Sub-Contractor as a debt. Provided that the Contractor shall not be entitled to recover any liquidated damages from the Sub-
herein.

28.0 FLUCTUATIONS

28.1 Unless otherwise stated in the sub-contract bills or specifications, the sub-contract price shall be deemed to have been calculated to include all duties and taxes imposed by statutory and other competent authorities in the country where the works are being carried out, and

28.2 The Sub-Contractor shall observe and comply with the conditions contained in the policy or policies of insurance of the Contractor or of the Employer, as the case may be, as regards loss or damage which may be caused by the stated contingencies. For this purpose, the Contractor or the Employer as the case may be, shall avail the said policies to the Sub-Contractor for his perusal.

28.3 If any loss or damage affecting the sub-contract works or any part there-of or any unfixed goods or materials is occasioned by any one or more of the said contingencies, then

28.4 The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the Sub-Contractor under the sub-contract, and

28.5 The Sub-Contractor shall, with due diligence, restore the work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with the carrying out and completion of the sub-contract works.

28.6 Should duties and taxes vary during the period of the contract, compensation thereof shall be calculated in accordance with relevant clauses of the main contract.

28.7 Compensation for change in prices of goods and materials incorporated in the works and in the rates of wages provided for at relevant clauses of the main contract shall not apply to the sub-contract unless specifically provided for in the bill of quantities or specifications.

29.0 TERMINATION OF MAIN CONTRACT

29.1 relevant clauses of the main contract, this sub-contract shall thereupon also terminate.

29.2 Upon termination, the sub-contractor shall ceases all work and vacate the site. He shall not remove any equipment or any materials brought onto the site for the carrying out of the works without the written approval of the contractor and the Architect

29.3 Where the termination of the main contract occurs without the default of the sub-contractor, the sub-contractor shall be paid by the contractor for work done in the like manner as the Contractor is paid as per clauses in the main contract.

29.4 Where the termination of main contract arises from the default by the sub-contractor, the adjustment of the sub-contract accounts shall be performed in the like manner as is provided in the main contract regarding the main contract accounts.

30.0 TERMINATION OF SUB-CONTRACT.

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

30.2 Where the sub-contract is terminated due to the default of the sub-contractor as in sub-clause 30.1 herein, the adjustment of sub-contract accounts shall be performed in the like manner as is provided for in the main contract regarding the main contract accounts.

30.3 Without prejudice to any other rights and remedies which the Sub-Contractor may possess, if the Contractor shall make default in one or more of the respects which, if committed by the Employer, would entitle the contractor to terminate the main contract under clause 39.0 therein, the Sub-Contractor shall give the Contractor a notice, with a copy to the Architect and to the Employer, by registered post or recorded delivery specifying the default. Should the contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default, and should the Architect certify that the contractor is in default, the Sub-Contractor may terminate the sub-contract forthwith after expiry of the notice, provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.

30.4 If the Sub-Contract is terminated due to the default of the Contractor as in sub- clause 30.3 herein, the Contractor shall pay the sub-contractor for work done in the like manner as the Contractor would be paid at relevant clause of the main contract where the termination is done by the Contractor.

30.5 Where the sub-contract is terminated due to the default of the Contractor, all expenses arising from the termination shall be done wholly by the Contractor and the termination shall not create any liability on the Employer.

30.6 Where the sub-contract is terminated due to the default of the Sub-Contractor, the sub-contractor shall be liable to the contractor for all expenses arising there from.

31.0 SETTLEMENT OF DISPUTES

31.1 In case any dispute or difference shall arise between the Contractor and Sub-Contractor, either during the progress or after the completion or abandonment of the sub-contract works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within 30 days of the notice.

31.2 The dispute shall be referred to the arbitration and final decision of a person to be agreed by the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointment by the Chairman or Vice Chairman of the Architectural Association of Kenya or the Chairman or Vice Chairman of The Chartered Institute of Arbitrators, Kenya Branch, at the request of the applying party.

31.3 The arbitration may be on the construction of this sub-contract or on any matter or thing of whatsoever nature arising there-under or in connection therewith including the rights and liabilities of the parties during the currency of the sub-contract and subsequent to the termination of the sub-contract.

31.4 Where the sub-contractor is aggrieved by the manner in which the Architect has exercised or failed to exercise his powers stipulated in the main contract, or in the sub-contact or by any action or inaction of the Employer, and in particular, if he is aggrieved by:

31.4.1 The failure or refusal of the Architect to recommend to the contractor an extension of sub-contract time, or

31.4.2 The extent of the recommended time, or

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

31.4.4 The issue of an instruction which the sub-contractor contends is not authorized by the main contract or the sub-contract.

31.4.5 Any other matter left to the discretion of the Architect in the main contractor in the sub-contract, then

31.5 Subject to the Sub-Contractor giving the Contractor such indemnity and security as the Contractor may reasonably require, the Contractor shall allow the Sub-Contractor to use -Contractor in arbitration proceeding against the employer to decide the matters in dispute or in difference.

31.6 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference where notice of a dispute or difference has not been given by the applying party within 90 days of the occurrence or discovery of the matter or issue giving rise to the dispute or difference.

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

31.8 In any event, no arbitration shall commence earlier than 90 days after the service of the notice of a dispute or difference, except as provided for at sub-clause 31.9 herein.

31.9 Notwithstanding anything stated herein, the following matters may be referred to arbitration before the practical completion of the works or abandonment of the works or termination of the sub-contract without having to comply with sub clause 31.8 herein.

31.9.1 Whether or not the issue of an instruction by the Architect is authorized by the main contract or these conditions, and

31.9.2 Whether or not a payment certificate has been improperly withheld or is not in accordance with the main contract or these conditions or though issued, it has not been honoured.

31.10 All other matters in dispute shall only be referred to arbitration after the practical completion or alleged practical completion of the works or abandonment of the works or termination or alleged termination of the sub-contract, unless the Architect the contractor and the sub-contractor agree otherwise in writing.

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

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

31.13 Provided that any decision of the Architect which is final and binding on the Contractor under the main contract shall be final and binding between the Contractor and the Sub-Contractor.

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

BY THIS AGREEMENT, we ..... (SURETY)

of .....

are bound to .....(CONTRACTOR)

in the sum of Kenya shillings .....

.....(Kshs. .....

to be paid by us to the said .....(CONTRACTOR)

WHEREAS by an agreement in writing dated .....

.....(SUB-CONTRACTOR)

entered into a sub-contract with ..... (CONTRACTOR)

to carry out and complete the works therein stated in the manner and by the time therein specified all in accordance with he provisions of the said sub-contract, namely: (description of works)

.....

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

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

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

....

Surety Witness

Authrorised of Power of Attoney No .....

APPENDIX **Clause**

Name of sub-contractor's insurers 6.0

Name of sub-contractor's surety 7.0

Amount of surety 7.0

Period of possession of site 8.1

Sub-Contract Period..... 8.2

Date of commencement of works 8.2

Date for practical completion 8.2

Interval for application of payment certificates..... 23.1

Minimum amount of payment certificate 23.4

Percentage of certified value retained..... 23.6

Limit of retention fund, if any 23.6

Name of the sub-
purposes of interest calculation..... 23.7, 23.8

Defects liability period 23.11

Period of final measurement and valuation 23.12

Damages of delay in completion ..... 27.1 at the rate of Kshs .....

.....

Signed by the said:

.....

.....

CONTRACTOR **SUB-CONTRACTOR**

APPENDIX TO KABCEC

(1) Amend clause 17

(2) Amend clause 7

The surety **must** be from an Established/Reputable Bank, and is 5%

(3) Amend clause 28

Shall apply as per main contract

PART B

GENERAL SPECIFICATION AND PARTICULAR PRELIMINARIES

1. **Climatic Conditions**

The site is located in Mavoko Sub-County, Machakos County within the republic of Kenya.

The following climatic conditions apply at the site of the Sub-Contract Works and the equipment, materials and installations shall be suitable for these conditions.

Maximum mean temperature:	26^0C
Minimum mean temperature:-	13^0C
Relative humidity range:-	58 - 74%
Longitude (approximately)	37.01^0 E
Latitude (approximately)	1.45^0 S
Altitude (approximately)	1523m above sea level

2. **Regulations and Standards**

The sub-contractor shall hold a valid *Class A-2 licence for specialized works (Lifts),* as issued by The Energy and Petroleum Regulatory Authority (EPRA).

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

a) The Kenya Government Regulations, under the Energy Act and Factories Act.

b) The Energy and Petroleum Regulatory Authority (EPRA) requirements.

c) The Wiring Regulations (BS 7671) published by the Institution of Engineering & Technology (IET) and British Standards Institution (BSI).

d) Kenya Bureau of Standards (KEBS)

e) British Standards and Codes of Practice as published by the British Standards Institution.

f) The Requirements of the Chief Inspector of Factories for the Kenya Government.

g) Any other regulations regarding lift installations in Kenya.

3. **Transport and Storage**

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

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

Adequate measure shall be taken by the Sub-Contractor to ensure that plant and equipment do not suffer any deterioration storage. Prior to installation all plant equipment shall be thoroughly cleaned.

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

4. **Electrical Requirements**

Plant and equipment supplied under this Sub-contract shall be complete with all necessary control boards, and other control apparatus.

The supply power, up to and including local isolation will be provided by others. All other wiring from the isolating switch shall be done by the Sub-Contractor. All equipment shall be capable of operating from 415V three Phase or 240V 50Hz single Phase AC power supply

5. **Structural Provision for the Sub-Contract Works**

Based on available general information on a typical lift structure and lift well, provisions have been made for the Sub-Contract Works. The structural provision made will be deemed as adequate unless the Sub-Contractor gives all the necessary details at the time of tendering.

The subcontractor shall visit the site to satisfy themselves with shaft provisions and details.

Any minor structural provision or alteration to major structural provision required by the Sub-Contractor shall be shown on Working Drawings to be submitted to the Engineer before commencement of the Work by the Contractor.

No requests for alteration to preliminary structural provisions will be approved except where they are considered unavoidable by the Engineer. Under no circumstance shall they be approved if the building work is so far advanced as to cause additional costs or delays in the work of the Main Contract.

6. **Fireman's Switch for the Lifts**

A fireman's control switch shall be provided in the down terminal floor, main entrance lobby. The fireman's switch shall be of the type approved by the Engineer.

Operation of the fireman's switch shall stop all the lift cars on the next landing but without opening the car and landing doors and immediately return them to ground floor irrespective of any other calls and park them with doors open. All the cars will then become inoperative with the exception of the "Fireman's lift" which shall operate in answer to the car buttons only until the fireman's switch is reset.

7. **Emergency Alarm System**

An emergency alarm system in the form of an intercom shall be installed between the car, the motor-room and the Reception Desk on the Ground.

The alarm system shall be clearly labeled "Emergency". On pushing an alarm button, the system should ring simultaneously in the car, motor-room and the reception desk to allow two-way communications. The power supply for the system shall be derived from a self-recharging battery unit.

8. **Lift Pit Access**

The lift sub-Contractor shall provide a suitable galvanized mild steel cat ladder from the bottom landing served to the floor level of each separate lift pit, in accordance with B.S. 2655.

9. **LIFT SHAFT**

Each lift shaft shall be partially enclosed and constructed in reinforced concrete with shaft lights. The Sub-Contractor must provide sufficient shaft drawings, showing all holes, pockets, fixing devices etc. to be cast in the shaft wall and showing all cutting and patching for installations of landing doors and frames.

The lift Sub-Contractor must provide all fixing devices to be cast into structural parts. It shall be the responsibility of the lift Sub-Contractor to ensure that such device are cast into the structural or otherwise fixed in the right positions and in the proper manner.

The shafts shall be painted by the Main Contractor with 2 coats of white emulsion paint.

10. **Lift Motor Room**

The lifts shall be of machine-room less' type.

The Sub-contractor shall indicate at the time of tendering whether or not the equipment being supplied shall fit in the space provided above the lift shaft.

11. **Emergency Door Keys**

It shall be possible to open every lift landing door by the use of a release key whether or not the lift car is in the landing zone. The key hole shall be unobstructive and located at high level.

12. **Call Station and Operating Panel Buttons**

The call station, distribution between the lifts on each landing, and operating panel buttons shall be Electronic touch button.

13. **Interference Suppression**

Lift motors and ancillary controls shall be suppressed so as not to interfere with local radio and television reception and closed circuit television or electro-medical equipment within the building. The suppression shall be carried out in accordance with B.S. 800, and all suppression devices incorporated shall comply with B.S. 613 and B.S. 2655.

14. **Protective Pads**

The lift sub-contractor shall supply one set of protective quilted cover pads

15. **Car Emergency Lighting**

Each passenger car shall be provided with an Emergency light fitting operating from a self-recharging battery unit with a 3 hour battery operation time.

16. Automatic Rescue Device (ARD)

Lifts shall be equipped with emergency automatic rescue device (ARD) which is only used in the event of a power outage, to move the lift to the next landing and allow passengers to exit the lift. The actual number of lifts with ARD is specified in the schedules.

17. **Tests and Inspection**

All materials for plant and equipment forming part of the Sub-Contract Works shall be tested, in accordance with the relevant standard specifications.

After completion of the Sub-Contract Works the lifts shall be subjected to relevant tests to ensure their compliance with the specifications set in hereinafter. Similar tests shall be repeated at the end of guarantee period.

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

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

The Sub-Contractor shall give two week's notice to the Engineer of this intention to carry out tests and the Engineer or his representatives shall be entitled to witness such tests and inspections.

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

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

18. **Installation and Commissioning**

Installation of all special plant and equipment forming part of the lift system shall be carried out by the Sub-Contractor under adequate supervision from skilled staff provided by the plant and equipment's manufacturer. The Sub-Contractor shall include in his tender price for a fully installed, tested and commissioned lift apparatus to achieve this.

19. **Recommended Spares**

The Sub-Contractor shall submit with his tender a separate priced list of recommended spare parts for the equipment and plant being supplied. The listed spare parts shall exclude standard spares and accessories which shall be deemed to have been included in the equipment cost. The Sub-Contractor shall guarantee the availability of spares for equipment offered for a period of 10 years from the date of service.

20. Recommended Tools

A complete set of maintenance tools shall be provided in a lockable tool box. The recommended tools shall be deemed to have been included in the Tender Price at the time of tendering.

21. **Tropicalization of Components**

All components forming part of the lift system shall be tropicalised for proper operation under the site conditions and adequately protected against mould and fungus growth.

22. **Information Required**

The Sub-Contractor shall give all the relevant information, such as lift car size and total power requirement, at the time of tendering.

23. **Imported Equipment**

It shall be the responsibility of the Sub-Contractor to be fully conversant with the prevailing Kenya Government regulations governing the importation of equipment into the country. The Sub-Contractor will be required to pay full import duty on all imported equipment and plant and also Sales Tax on both imported and locally manufactured items. The Sub-Contractor shall include these taxes in the equipment cost.

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PARTICULAR SPECIFICATIONS FOR LIFTS INSTALLATIONS

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SECTION C

PARTICULAR SPECIFICATIONS FOR LIFTS INSTALLATIONS

3.1 Location of site

The site of the proposed works is on Mavoko Municipality Block 94/3, Machakos County, Republic of Kenya.

3.2 Scope of Sub-Contract Works

The sub-contract shall comprise manufacture, supply, delivery, assembly, and erection, testing, commissioning and setting to work of 10 Nos. conventional passenger lifts to be installed in the apartment blocks. All the lifts shall be universally accessible (suitable for unassisted use by people living with disabilities (PLWDs)

The sub-contractor shall include for all equipment and components not particularly called for in this specification or in the contract drawings which are necessary for the completion and satisfactory functioning of the contract work. No price variation as a result of this will be allowed.

3.3 General Provision:

The lifts shall be of the traction type and shall serve floors as indicated in paragraph 3.4.7 below. The doors shall be two panel centre-opening sliding type. The lifts shall be of *machine-room less type.*

3.4 The Plant

3.4.1 Capacity:

The lifts shall each have individual capacity (kg net continuous load) and floor area not less than that specified in the CEN/ISO code as follows.

630kg. for 8 passengers

3.4.3 Car Speed:

The car contract speed shall be as follows

- At least 1.0m per second.

3.4.4 Car Lift:

The internal dimensions of the car shall be as follows:-

1100 x 1400 x 2100mm (width x depth x height)

3.4.5 **Dimensions:**

The internal dimensions of the shaft shall be as follows:-

Shaft :

1850x 2000 mm (width x depth)

Pit Dimensions :

The internal depth of the pit shall be as follows:-

- 1600 mm

Overhead Dimensions :

The headroom (top most level served and soffit of machine room) shall be as follows:-:-

- **Headroom** :- 3600 mm maximum

3.4.6 **Type:**

The lifts shall be electric conventional passenger type. The lifting machine shall be electronically controlled AC variable voltage, variable frequency (VVVF) Drive closed loop gearless machine designed to give fully regulated direct landing approach, with motor, brake and driving sheave assembled on a steel bedplate.

The motor shall be particularly designed for general purpose duties with high starting torque and
low starting current.

Sound reducing material shall be installed under the machine and suitable beams shall be provided for mounting the machine at the top of the lift shaft.

3.4.7 **Travel Height and Levels Served**

Floors Served	**Travel per floor**
Ground Floor	0.00m
1st Floor	2.85m
2nd Floor	2.85m
3rd Floor	2.85m
4th Floor	2.85m
5th Floor	2.85m
6th Floor	2.85m
7th Floor	2.85m
8th Floor (Roof)	2.85m
Total Travel height	**22.8m**

3.4.8 **Number of Stops:**

The number of stops shall be as follows.

- **Stops** ---- 9 No.

3.4.9 **Number of openings:**

The number of openings shall be as follows :- 9 No.

3.4.10 **Type of Landing and Car Doors:**

The doors shall be fully automatic two panels, centre opening high speed sliding doors.

3.4.11 **Control**

Microprocessor - individual control, jerkless type with automatic levelling facilities.

The 2 sets of two passenger lifts will have microprocessor based group control.

3.4.12 **Mode of Operation**

i) The operation of the above lift shall be a car group supervisory full collective with Microprocessor programming.

ii) During morning, mid-day and evening peak times, the computer system shall monitor and analyse all car and hall calls and instantly assign the car to suit an unlimited number of varying passenger traffic patterns created during peak and non-peak periods.

iii) The group supervisory system shall give priority to service designated floors where heavier traffic can be anticipated. The free car will park at these floors in anticipation of passenger requirements. At times the ground floor shall be regarded as the first priority floor but any floor experiencing a sudden high demand shall immediately be temporarily assigned as a priority floor.

iv) The system shall respond to traffic conditions and modify its assignments procedures to operate in the following modes.

a) **Light/Intermittent/Up-Peak/Down Peak**

In the "Light" mode the car is parked in predetermined zones of the building. The car will park at the main floor car park with its doors open.

b) **Intermittent Peak:**

In the "Intermittent" mode car split zones at the half-way point, the car serving the floors to which it is closest Once a car is committed to travel in one direction it will become "Low bidder" for calls ahead, but "High bidder" for calls behind.

Hall calls will be assigned to the lowest bidder.

The car will complete service in one direction before reversing and is permitted to reverse at the highest or lowest call. Cars will return to unoccupied parking zones when idle.

c) **Down Peak**

The "Down-Peak" condition will be detected by monitoring the number of down hall calls, down boarding rates and down lobby arrival loadings.
Under down peak traffic, hall calls are grouped in the sequence of registration and assigned to be served in this sequence, and approximate "first-in/first-out" pattern.

d) **Up-Peak**

The "Up-peak" mode is initiated when the car leaves the main floor in the up-direction with loadings above predetermined level increasing. Cars are permitted to depart from the main floor without predetermined timing.

e) **Non-Peak**

A "Non-Peak" Situation is recognised when both Up-Peak and Down -Peak conditions are detected. The car sent to the lobby to serve incoming traffic will be reduced compared to pure "Up -Peak" and no limitations will apply to service for down hall calls.

i) A reservation control arrangement shall be provided for each car by means of a key switch in the car operating panel. By operating this key, a car can be removed from ground control and be operated by an attendant. When on reservation control, the car shall respond to a car button only.

ii) A time delay shall hold the car for an adjustable interval of a few seconds at the landings at which stops are made to enable passengers to enter or leave the car. Pressure of a car button for another landing before this time elapse shall cause the car to start, provided the car door and landing doors are closed.

iii) The lift shall be provided with automatic by-pass device to prevent unnecessary stops when the car is full.

iv) The lift systems shall be equipped with emergency rescue device (ARD) comprising of battery packs to allow them to stop at the next floor and open its doors, in the event of a sustained power outage.

v) The lift system Controller device shall stop the car and move it to the ground floor landing and open the car doors in case any of the safety devices do not operate or power fails. The controller must also stop the car whenever excessive descending or ascending speed is attained by cutting off power to the motor and activation of the brake. It shall also be able to bring the car to a stop at the upper ground floor landings independent of the regular operating device in the car. Final limit switches shall be provided in the

hoistway, operated by the car and arranged to stop the car, by cutting off power to the motor, and prevent normal stopping device.

The power packs to the Controller shall be provided with mains charging units which shall maintain them at peak power continually.

vi) To facilitate inspection, a manually operated switch on the controller connected to "UP" and "Down" directions buttons exposed on the top of the car shall be provided. The switch shall permit the car to be operated at slow speed from the top respond to any calls.

vii) The lift shall be provided with a self-levelling feature that will automatically bring the car to the floor landings. The device shall be entirely automatic and independent of the operating device, and shall correct for over-travel or under-travel and rope stretch. The car shall also be maintained approximately level (within 6mm) with the landing, irrespective of load.

viii) Provision shall be made for moving the car manually to the nearest landing in case of total failure of lift controller device.

ix) The tenderer shall submit a brief summary of how their microprocessor shall behave, and shall be called upon to demonstrate at the same time of commissioning of the lift that the system behaves as described above.

3.4.13 **A Car Operating Panel**

An operating panel shall be fitted into each lift car. The panel shall be mounted flush with the car wall finish and shall be housed in a metal case fitted with silver anodised or a stainless steel case or in any other finish to match with the walls interior finish to architects approval.

The operating panel shall comprise:-

i) A series of electronic touch buttons corresponding to the landings served. Each button shall illuminate to show the floor for which a car dispatch call is registered. The buttons shall have Braille or tactile profiles.

ii) Switches for fan and lights.

iii) Door OPEN button

iv) Door CLOSE button

v) Audio/visual Overload indicator

vi) Alarm button, connected to a battery powered intercom systems

vii) Intercom system

viii) Key switches to control:-

a) Firemaster Control

b) Independent service

3.4.14 **Car Position and Direction Indicator**

A self illuminated car position and direction indicator housed in a steel case, shall be mounted in the car door header and fitted with stainless steel cover plate. It shall be fitted at such an angle that it is easily visible and legible to any passenger in a full cabin. The display digits shall have a minimum height of 40 mm. In addition, **voice synthesizer** facility shall be provided that announces the floor on arrival.

A similar direction indicator shall be mounted above each of the landing doors.

3.4.15 **Landing Call Buttons**

At each landing, one stainless steel flush-mounted panel, with two electronic touch buttons for "Up" and "Down" traffic shall be provided. The buttons must light up when a call is registered. The buttons shall have Braille or tactile profiles.

Direction arrow lights to be incorporated in all landing button plates, arranged so that when a button is pressed the corresponding arrow will illuminate indicating the direction of the call which is registered.

3.4.16 **Car and Landing Door Operator**

i) An electric door operator shall be provided to open simultaneously the car and landing doors when the car is approximately 200mm from a landing. The operator shall be self contained computer compatible electronic controlled drive system capable of communicating with the lift microprocessor equipment and passenger sensors and independently executes the opening and closing commands door. It shall have programmed closing and opening doors speeds that shall be traffic dependent. Highest door speeds shall be used during intensive peak traffic. Thus the opening, closing and dwell times shall be fully adjustable for speed and time.

ii) door dwell time shall be automatically reduced to approximately one second when a car floor button is pressed; also when a passenger leaves the car at his destination; even when no incoming passenger presses a new car floor button.

iii) Emergency key provision shall be made to open doors to all landings from outside the hoistway. It shall also be possible to open the doors manually from within the car, provided the car is within the landing zone.

iv) An electronic contact for the lift car door shall be provided which shall prevent the lift movement away from the landing unless the car and landing doors are in the closed position. The landing door shall be equipped with a positive electro-mechanical interlock and auxiliary door closing device so that the lift can be operated only after the interlock circuit is established.

v) Should the load on the car exceed the maximum load, the car and landing doors shall not close, and an audible alarm shall be sounded.

vi) The doors shall open automatically while the car is levelling at the respective landing. The doors shall automatically close after programmable traffic dependent time interval has elapsed; but momentary pressure on the "Door Open" button installed in the car shall reverse the motion and re-open the doors and reset the time interval.

vii) The car landing door leading edge shall be provided with protective electronic sensing device extending the full height and projecting beyond the front edge of the door. This device shall be so arranged that, should it sense a person or any obstruction in its path while the doors are closing, it shall automatically cause both the car and the landing door to return to open position.

The zone of protection shall be at least 100 mm in advance of the car and landing door edges.

viii) Each car shall be equipped with sensor detecting passenger movements on the landing in front of the car, also when the car door is only partly open.

To prevent accidents when passengers intentionally put their hands between the doors to cause re-openings at least one detector shall cover the whole door area and remain active until the door is fully closed. The passenger detector and the electronic safety edge shall complement each other in such a way that should one fall, the other alone will assure a safe and comfortable door operation.

ix) In intensive traffic situations when the lift stops for car call only and the probability exists that only one or a few of the passengers will leave the car, the doors shall be capable of partial opening to provide for faster operation and optimum use of transportation capacity. Partial opening to be at least 800 mm.

x) There shall be an invisible frequency source (e.g. infra red rays) arrangement projecting a beam of electromagnetic waves across the lift car entrance. After a stop is made, the door shall remain open, as stated above, for a predetermined interval, unless closing is initiated sooner by the interruption and re-establishment of the beam. The doors shall be prevented from closing as long as either beam is interrupted or the car door protective device is actuated, except as provided below.

xi) If, while the doors are closing either electromagnetic wave beam is interrupted by a passenger entering or leaving the car, or the car door protective device is actuated, the doors shall stop and re-open, after which the doors shall again start to close.

xii) The lift shall be fitted with an audible sounder that shall be triggered as and when the car and landing doors commence to swing open at a landing stop.

xiii) The lift shall be fitted with voice annunciation facility of floor level, door closing, door opening in English/Kiswahili, in accordance with EN81-70

3.4.17 **Car Frame**

The car frame supporting the car platform and car superstructure shall be made of heavy duty solid structural steel designed for general purpose elevator, and shall be fitted with guides and safety devices mounted underneath the car platform. The steel shall be zinc coated at the factory. The car frame shall be braced and gusseted to relieve the car superstructure of strain. Application of the safety gear or uneven loading of the car shall not deform the car frame.

3.4.18 **Car Finishes and Fittings**

i) **General**

The lifts shall be conventional type. The car shall be constructed from pressed sheet steel. The methods of construction and strength of the lift cars and the door panels shall comply with B.S. 2655; part 1: 1970 and current amendments. The top of the car shall be covered in the sheet steel capable of withstanding a load of 37kg per square metre of surface.

ii) **Finish**

The car walls shall have brushed stainless steel finish. The back of the car shall have a brushed stainless steel finish to Engineer's approval.

iii) **Skirting**

A 150mm high 18 gauge satin finish stainless steel skirting shall be provided around the inside perimeter of the car.

iv) **Hand Rail**

A substantial brushed stainless steel hand rail shall be provided at a height of 975mm on the side walls to the approval of the Engineer.

v) **Floor Covering**

The floor covering shall be resin quartz floor or another material approved by the Architect/Engineer.
The colour and type of finished shall be approved by the Architect before ordering.

vi) **Car Doors**

The doors shall be two-speed electrically controlled A.C. motor driven centre opening. The doors shall be of the hollow metal type made of 16 gauge hairline finished sheet stainless steel pressed to shape and rolled so that it does not give sharp edges to AISI 304**. The lift doors** shall be constructed in brushed stainless steel sheet of similar gauge steel to architect/Engineers approval

A suitable lining shall be used to avoid metallic ring. All joints shall be reinforced, welded and finished flush and where necessary shall be reinforced to take hangers, closers, hooks, etc.

The door shall be fully automatic, power operated and cushioned so as to prevent slamming at the limits of movements.

vii) **Ventilation**

Ventilation shall be adequate, indirect and free from draughts. An exhaust fan shall be provided which shall have sleeve bearings and be quiet in operation.

Ventilation openings in the car itself particularly in the upper portion shall not render the exhaust fan ineffective in providing forced ventilation of the car.

viii) **Car Interior Lighting**

Light Emitting Diode (LED) fittings shall be installed in the false ceiling at the top of the car. These shall give the normal required lighting inside the car. In addition 1 No. self-charging non-maintained emergency lighting fitting shall be installed. The light shall automatically light in the event of the power failure.

3.4.19 **Landing Doors and Architraves**

The doors shall be programmable high speed centre opening as described above and shall have a 2-hour fire resistance (EN 81-58); copies of fire test certificate shall be submitted for the Engineer's approval prior to the installation of the doors.

The doors shall be fabricated from 16-gauge sheet steel electrolytically zinc-coated at the factory and shall be of the same finish and appearance as architraves.

A suitable lining shall be used to avoid metallic ring all joints shall be reinforced, welded and finished flush and, where necessary, be reinforced to take hangers, closers hooks etc. The doors shall be fitted with rubber bumpers at the back to avoid banging on the door frame when the door is fully open.
Frames shall combine cabinet's jambs and strips, steel tract hanger housing and smooth running of doors. Non-slip treads shall be provided where necessary.

At the site the architrave and landing door shall be painted by at least three coats of high quality gloss paint of an approved colour.
The sills shall be of a hard aluminium alloy self-cleansing groove to receive the door guides rubbing between guides and sill groove and shall provide smooth and quiet operation.

The clearance between the car and landing sill shall be 20 mm maximum.

ii) **ARCHITRAVES**

Architraves shall be supplied for all lifts, and shall be imported together with the lifts. Locally manufactured architraves are unacceptable.

Architraves shall be of 16-gauge sheet steel electrolytically zinc-coated, pressed to shape, welded together and made integral to suit the full wall thickness and shall be subjected to

approval by the Engineer. The tenderer shall give an alternative price for 16-gauge brushed stainless steel architraves and landing doors.

iii) **LANDING DOOR INTERLOCKS**

Each landing door shall be equipped with main and emergency electro-mechanical interlocks operated by a retiring cam or other approved device on the car which shall prevent the car moving away from the landing unless all doors are in closed position. The interlocks shall also prevent the opening of any landing door until the car has reached

3.4.20 **Lift Shaft Installations**

3.4.21 **Guide Rails**

Guide rails for the car and counter weights shall be T-Section steel guide rails planed on three edges. Rails shall be placed accurately and fixed firmly to the shaft walls with sufficient spacing between brackets.

The fixing of rails and connection between two or more sections of rail shall be in such a manner that the straight and vertical position is not influenced by changes in temperature or ordinary settlement of the structure.

3.4.22 **Car and Counter Weight Guides Shoes**

Spring loaded roller type of guide shoes mounted on ball bearings shall be supplied and installed on both the car and counterweight. Each wheel shall be provided with a renewable solid neoprene tyre and shall be accurately aligned to achieve smooth rolling action.

3.4.23 **Counterweight**

A suitable adjustable counter weight shall be fitted and installed for each lift. The filler weights shall be of cast iron of known weight securely housed in a rigid fabricated frame fitted with four guide shoes.

3.4.24 **Terminal Buffers**

Hydraulic, energy absorbing spring return buffers or robust design shall be installed in the pits under each car and its counter weight. The buffers shall bring the car to a stop should the car or counterweight overrun, without permanent damage or deformation when the lift is operating at 10% above the contract speed and 10% in excess of the contract load. The buffers shall be of self-resetting type. The Sub-Contractor shall provide to the Engineer manufacturer's certificates for scrutiny and retention.

3.4.25 **Terminal and Final Limits**

The car shall be slowed down and stopped automatically at the terminal landings. Should the car travel beyond the terminal landings, final lift shaft limit switches shall automatically cut off the power to the motor and controller and apply the lift machine's brakes. These switches shall not depend on the action of a spring for their operation.

3.4.26 **Other Provisions in Shaft**

i) Lighting or provision for lighting shall be allowed for in the shaft to assist maintenance personnel.

ii) An emergency stop switch shall be provided in the shaft for maintenance purposes. The position of the switch shall be such that it can be easily switched off before getting into the shaft.

iii) A screen shall be provided to seal off the counterweight so that nobody can gain access to its path. A red engraved sign written "DANGER-BEWARE OF DESCENDING COUNTERWEIGHT" shall be fitted on the screen.

iv) The screen should cover the full length of the counterweight at midway point of the shaft so that the chances of the counterweight knocking someone working on the car are reduced to a minimum.

v) All the rotating pulleys (diverted, main sheave, etc) shall be covered such that nobody is in danger of being trapped between the ropes and the pulley when the lift is in motion and the rotating parts should be painted yellow.

3.5 **Accessories on top of the car**

a) The car top shall be kept free of all except the most necessary equipment and length of conduit runs shall be kept to a minimum.

The top shall be designed to carry the weight of at least two men.

b) An engineer's maintenance control station on top of the car shall be provided, consisting of adequate lighting (which can be on and off), and a proper socket outlet to power other maintenance equipment e.g. drilling machines, extension lead, blower etc.

c) Test up and down push buttons shall be as provided on a panel located on top of the car door for operation during maintenance work.

3.6. **Lifting Machinery**

3.6.1 **The Motor Drive System**

The lifting machinery shall be located and anchored above the lift shaft. The motor shall be of the screened silent type with 2 speed winding capable of 180 start per hour. The motor shall comply with B.S. 2617: 1957 and bear the actual manufacturers name plates. They shall be tested at the manufacturer's works for insulation resistance. The direction of rotation of the motor for UP and DOWN motion of the car shall be indicated by an engraved label fixed by four screws to the frame of the motor.

Direct floor approach without a creeping speed is required. A maximum tolerance of 5 mm shall be guaranteed.

The running speed between floors shall be the maximum attainable relative to the distance

travelled; a fixed secondary speed for shorter journeys is not acceptable.

Smooth and accurate stopping will be achieved by the injection of D.C. current into the secondary winding. To achieve minimum power consumption the motor system will be capable of smooth operation without the fitting of a flywheel or other mass weight. The drive system shall be capable of fast single floor speeds and shall not utilise only the slow speed winding on single floor jumps. The tenderer will fully describe the system offered.

The proposed drive system shall not utilise field weakening. Dynamic braking shall not be utilized. If it is used all main D.C. current circuit components shall be solid state.

The drive system shall be capable of operating the car and inspection made without the lift control computer being active. When active, it shall monitor the operation, collect statistics and display the car position.

The motor shall be provided with a manually operated turning device for lowering the car to the nearest landing in case the automatic controller fails in the event of power failure. The system must prevent engaging of the turning device, until the power supply for the motor is switched off.

The machinery and controllers shall be placed on vibration dampers room above the lift shaft. Any steel structures or supporting beams for machinery are included in the Contract. If the Sub-Contractor finds it necessary to place the machinery on special concrete foundation these will be furnished to the Engineer, but the Sub-Contractor must produce sufficient drawings for such work. The aggregate must be dimensioned for the full load in continuous operation and for a temporary overload of 10%.

3.6.2 **Brake**

The brake shall be spring applied and shall be fitted with two springs. Self aligning easily adjustable shoes with renewable linings shall be provided. The brake shall operate on a brake pulley forming part of the driving shaft and shall be electrically released using a D.C. solenoid. The brake system will only act as holding brake in normal operation. Deceleration will normally be carried out by the variable voltage control system.

3.6.3 **Hoisting Ropes**

The lifts shall be provided with suitable car and counter-weight hoisting ropes manufactured, tested and handled in accordance with British Standards.

A test shall be made at the manufacturer's works for tension, tensile and breaking load of the rope as set out in relevant British Standards and the Sub-contractor shall supply certified copies of test certificates to the Engineer. Sheaves shall be made of best grade iron, turned true and grooved for the ropes.

3.6.4 **Sheaves**

The sheaves shall be of ample diameter for the ropes used. The traction shall be accurately

machined from a semi-steel casting, properly grooved for the appropriate number and size of hoist ropes, of ample diameter.

The diverting sheave and the lift and counterweight sheaves shall comply with the same requirements as the traction sheave and shall be either of semi-steel or best grade close-grained cast iron.

The traction sheave, brake pulley and drive motor armature shall be mounted on a single one piece sheave shaft turned from a single heat-treated steel bar. Beams shall be sound insulated from structure parts.

3.6.5 **Electrical Installation**

All motors and switchgear shall be rated for operating at 240/415V 50 Hertz A.C power supply.
The lift equipment and its controls shall be protected against voltage fluctuations, surges and transient currents. The contractor shall provide for and install the necessary equipment for this purpose.

The installation must comply with the IET wiring regulations. All wiring shall be carried out in a neat and orderly manner. Cable run on walls all or ceilings to be in a straight line and right angle bends enclosed in steel ducting.

Connections to equipment more that 400 mm from walls shall be run from the wall in conduit cast in the floor to a connector box fixed upright adjacent to the equipment and through flexible conduit to the equipment.

All electrical switchgear must be clearly labelled. The trailing cable shall be of stranded flame proof lift type and flexible; so installed as to prevent mechanical stress on conductors and terminations. It shall be free from twist, kinks, abrasion and any other mechanical damage.

3.7 **Alarm Emergency System**

An alarm button in the car shall simultaneously activate an audible alarm situated on the car, and supervisory board near reception desk. The alarm shall be supplied with electricity from a dry cell battery supplied by the Sub-Contractor. All wiring and installation of the alarm intercom system shall be done by the Sub-Contractor.

3.7.1 **Communication**

Tele-alarm (mandatory according to EN81-28) to landline provided by the client. In case a passenger presses the alarm button in the car the elevator initiates (after alarm validation) an alarm which establishes a two-way voice communication between a service provider call centre and the trapped passenger(s).

3.7.3 **Lift monitoring system**

A PC-based monitoring software system with two 20'' colour monitors and keyboards shall be provided for monitoring the lifts remotely from a central point, at the gate house. The system shall be run on a secure bespoke network or local area network (LAN).

3.7.3 **Car Safety Device Governors**

A sliding or approved type of car safety device shall be mounted beneath each car platform. The safety device shall be operated by a centrifugal speed governor to which it shall be connected through a continuous stranded steel rope. The governor shall be located on the machine platform. Prior to the application of the safety device all electric power shall be positively cut off from the lift motor. The gradual application of the safety device shall bring the car to a smooth sliding stop.

The following safety devices shall also be incorporated:-

i) Car door closing-force limiter to prevent accidents.

ii) Emergency unlocking of the car door from the landing for evacuation as well as for maintenance using special key.

3.8 **Controller**

The controller shall be enclosed in a freestanding floor mounted and totally enclosed steel framed cabinet with hinged doors at the front and detachable panel at the rear. This shall apply only for the scenario where the machine shall be installed in motor room above shaft otherwise for machine room less type (podium),the control panel shall be in a cabinet semi -recessed on wall in-front of the lift shall at the last landing. All the necessary relays, contactors, meters, fuses, rectifiers, resistors, etc. forming part of the controller shall be accessible from both the front and rear. All components shall be clearly labelled as to their function and shall readily be accessible for easy maintenance and inspection.

3.9 **Manual Operation**

As stated under Safety Devices, a provision shall be made for manual lifting and lowering of the lift by means of spokeless wheel of flywheel permanently fixed at the end of the hoisting motor shaft. The wheel, where it is not fitted permanently to the motor, shall be mounted on a tool board together with the brake-release lever. The landing door emergency key shall be supplied
and fixed by the Sub-Contractor.

3.10 **Factory Inspection**

The employer shall be entitled to have the quantity and quality of the imported lifts materials inspected by the Electrical Engineer and a representative, both appointed by the Client.
The said inspection shall be carried out at the factory of manufacture of the lifts materials during normal working hours and successful tenderer shall give written notice to the Client at the least thirty (30) calendar days in advance of the date that the lifts materials are ready for inspection.

Travel (including ground, air travel and airport passage taxes) and full board accommodation expenses in at least (3) Star hotel incurred by the electrical engineer and officer appointed by the employer shall be borne by the contractor. The contractor shall also meet out-of-pocket expenses for the officers at Government of Kenya rates, for the duration of the inspection.
The costs incurred shall be re-imbursed to the contractor from the provisional sum allowed in the main summary page of the bills of quantities.

If as a result of the inspection any lift materials are found to be defective, the lift contractor shall replace the defective materials and determine a new date for new inspection to be

performed at the expense of the contractor.

The contractor shall only ship the lift materials after the said factory inspection.

3.11 **Testing and Commissioning**

The Sub-Contractor shall supply at his own cost all test equipment necessary for the testing and commissioning of the system. The Sub-Contractor shall provide the personnel to do the necessary tests and commissioning and shall notify the Engineer and all other parties at least 2 weeks before the commencement of tests.

All necessary tests including safety-gear test at full load in the car shall be carried out. Two copies of certified tests results shall be forwarded to the Engineer before handing over the lift installation.

3.12 **Initial Maintenance**

The subcontractor shall provide 12 months post installation maintenance, commencing on completion of each lift installation, with 4 visits per year and emergency callouts as and when required

3.13 **Registration of the new lifts**

The bidder shall allow for the registration of the new lifts with the Ministry of Labour, including payment of any fees that may be required. The contractor shall present the registration certificate to the client upon practical completion of the works.

3.14 **Equipment to be Handed Over the Client**

The following items shall be supplied to the Employer on the commissioning day:-

a) A pair of record drawings.

b) A pair of all keys e.g., release keys, independent service keys, car light keys etc.

The Sub-Contractor shall supply a set of protective quilted cover pads to each of the lifts to the Employer.

SECTION D

BILLS OF QUANTITIES

BILLS OF QUANTITIES

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BILLS OF QUANTITIES

SCHEDULE OF PRICES

GENERAL NOTE

1. The total of price in the summary of prices shall include for the whole of the Contract Works in accordance with the specification as defined before and shall be carried forward to the Form of Tender.

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

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

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

   b) Insurance

   c) Clearing and forwarding

   d) Delivery and storage at site

   e) Packing for storage

   f) Replace any defective or damaged item

   g) Installation

   h) Testing

   i) Painting

   j) Commissioning

   k) Maintenance during the defects liability period

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

5. **Summary**

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contract shall insert his totals and enter his grand total tender sum in the space provided below the summary.
This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

SPECIAL NOTES

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

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 16% VAT**).

3. In accordance with Government policy, Withholding Tax will be levied against the total contract sum and remitted to the Commissioner of Income Tax, through all interim and final certificates. It should be noted that this is not an additional Tax, but is an advance payment of income tax which will be refundable once the Subcontractor has filed annual returns to the Commissioner of Income Tax; who will refund once satisfied that all the tax regulations have been complied with.

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

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

   Should the sub-contractor install any material not specified here in before receiving **written approva**l from the Engineer/Architect, the sub-contractor shall remove the material in question and, **at his own cost**, install the proper material.

6. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.

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

2.00 **Statement of Compliance**

a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.

b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed: ……*for and on behalf of the Bidder*

Date: ……..

PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY.	RATE KSHS	AMOUNT KSHS.
	Recommended Operational Spares The tenderer shall list below recommended spare parts, quantities so recommended and unit cost. The total cost to be carried to schedule of prices.				
	TOTAL CARRIED TO MAIN SUMMARY PAGE No. D-8				

PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY.	RATE KSHS	AMOUNT KSHS.
	Maintenance Tools The tenderer shall list below recommended tools, and quantity to be kept by the Employer for the simple routine maintenance and emergency operation of the LIFTS. The total cost to be carried to schedule of prices				
	TOTAL CARRIED TO MAIN SUMMARY PAGE No. D-8				

PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY.	RATE KSHS	AMOUNT KSHS.
	Supply, installation, testing and Commissioning of Conventional machineroom-less Passenger Lifts				
	PASSENGER LIFTS				
A	Supply, deliver to site and install electrically driven 630kg (8 persons) capacity 1.0 metres per second contract speed conventional ,passenger lift with machine room above last landing ,comprising electronically controlled AC variable voltage variable frequency gearless machine designed such as to give fully regulated landing approach, lift computer control equipment, hoists and counter-weights, the car with programmable speed, centre opening car and landing doors complete with internal furnishings, fan, control panel and lighting fittings, car and landing doors electrically controlled and operated, hoistway doors and entrances, necessary control and power cables, braille/tactile control buttons,voice annunciation facility installations materials and all accessories and complying with the specification.The lift shall be suitable for use by disabled persons (the imported and local components to be apportioned in summary of prices page)	No.	5		
B	Supply, deliver to site and install electrically driven 630kg (8 persons) capacity 1.0 metres per second contract speed conventional ,passenger lift with machine room above last landing ,comprising electronically controlled AC variable voltage variable frequency gearless machine designed such as to give fully regulated landing approach, lift computer control equipment, hoists and counter-weights, the car with programmable speed, centre opening car and landing doors complete with internal furnishings, fan, control panel and lighting fittings, car and landing doors electrically controlled and operated, hoistway doors and entrances, necessary control and power cables, braille/tactile control buttons,voice annunciation facility installations materials, automatic rescue device (ARD) and all accessories and complying with the specification.The lift shall be suitable for use by disabled persons (the imported and local components to be apportioned in summary of prices page)	No.	5		
C	Any other equipment or work necessary for the satisfactory completion of the sub-contract works (if none, write NIL)	Item	1		
	Note:				
	The total indicated in this page shall not be carried to the Main Summary Page.The Total amount to be broken down and the same shall be apportioned into elements on the summary of prices page as indicated	**TOTAL**			

PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY.	RATE KSHS	AMOUNT KSHS.
	SUMMARY OF PRICES PAGE				
A	Landed cost of imported Hoist materials (C & F value) (i.e.) imported component of Items on page D6	Item	1		
B	Price for import duty on imported materials (i.e. imported component of Items on page D6)	Item	1		
C	Price for VAT on imported materials (i.e. Local Component of Items on page D6)	Item	1		
D	Cost of Marine insurance, clearing and handling charges, inland transportation and off-loading at site and all other local costs (i.e. imported component of Items on page D6)	Item	1		
E	Cost of lifts materials purchased locally and delivered to site (i.e. local component of Items on page D6 including VAT and all relevant taxes)	Item	1		
F	Installation, testing and commissioning (i.e. labour costs on imported and local component of Items on page D6)	Item	1		
G	Allow for Certification of the installations by Government-Licensed Lift Inspector (DOSH)	Item	1		
	TOTAL CARRIED TO MAIN SUMMARY PAGE				

MAIN SUMMARY PAGE
PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	AMOUNT Kshs
	MAIN SUMMARY PAGE	
A	Preliminaries	
B	Total Brought Forward from page D- 4	
C	Total Brought Forward from page D - 5	
D	Total Brought Forward From Page No. D- 7	
E	Allow for Factory Inspection of Lifts Materials by Client Representatives (Page C14)	
F	Contingency Sum	3,000,000.00
	TOTAL CARRIED FORWARD TO FORM OF TENDER	

Amount in Figures: Kshs……

Amount in Words: Kenya Shillings……

……

Official Stamp & Address:……

……

PIN No.:……**VAT No.**:……

Tenderer's Signature:……..Date:……

Witness' Name:……..…….Witness' Signature:……

Address:……

Date:……

SCHEDULE OF UNIT RATES
PROPOSED STONEY ATHI - SECTOR 2A
LIFTS INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY.	RATE KSHS	AMOUNT KSHS.
	SCHEDULE OF UNIT RATES				
A	Addition of 1No Lift Opening	No.	1		
B	Omission of 1No Lift Opening	No.	1		
C	Addition of 1No Architrave	No.	1		
D	1 No. Lift as per specifications rated 1.0 m/s contract speed	No.	1		
A	Others (state)	No.	1		

SECTION E

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

CONTENTS

TECHNICAL SCHEDULE

General Notes to the Tenderer

The tenderer shall submit technical schedules for all materials and equipment upon which the bid sum is based.

The tenderer shall also submit separate comprehensive descriptive and performance details for all plant

Failure to comply with this may lead to disqualification.

Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.

TECHNICAL SCHEDULE

General Passenger Lift

The tenderer shall fill in the following information pertaining to the Lifts being offered at the time of tendering.

i) Type of Drive motor and size (HP) .....

ii) Manufacturer..... .....Country:.....

iii) Power Consumption at Full Load, kW .....

iv) Starting Current A .....

v)

vi) Hoist capacity .....

vi) Hoist speed.....

vii) Operation.....

viii) Landing doors safety features
(List) .....

ix) Dimensions of control plant room required
(length x width x height).....

x) Dimensions of lift shaft required (must fit existing shaft)
(width x depth) .....

xi) Dimension of Headroom required at the last top travel.....

xii) Depth of shaft required beyond the Ground Floor Level.....

xiii) Clear Structural openings required at landings .....

xiv) Any other structural or electrical provision required to be provided by others
(Please specify, if any; otherwise write NONE).

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