FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR

KENYA AIRPORTS AUTHORITY.

TENDER No. KAA/OT/HQ/0184/2023-2024

FEBRUARY 2024

MANAGING DIRECTOR/CEO **KENYA AIRPORTS AUTHORITY** **P.O BOX 19001 – 00501** **NAIROBI**	**GENERAL MANAGER (P & ES)** **KENYA AIRPORTS AUTHORITY** **P.O OX 19001 – 00501** **NAIROBI**

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INVITATION TO TENDER

CONTRACT NO: KAA/OT/JKIA/0184/2024-2026 DATE: 20.02.2024

CONTRACT NAME: FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY.

1. Kenya Airports Authority invites sealed tenders for the **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY.**
2. Tendering will be conducted under open (National) competitive method using a standardized tender document.
3. A complete set of Tender documents are downloadable from the KAA supplier login screen using the link https://kaa.go.ke/corporate/procurement/. Tender documents obtained electronically will be free of charge.
4. Tender documents may be viewed and downloaded for free from the website *www.kaa.go.ke*. Tenderers who download the tender document must forward their particulars immediately to *tenders@kaa.go.ke* to facilitate any further clarification or addendum.
5. *No other communication channel shall be used except through this email address tenders@kaa.go.ke.*
6. The Tenderer shall chronologically serialize all pages of the tender documents submitted including any attachments.
7. The tender shall be submitted online on or before **7th March, 2024 at 11.00 am**. Interested bidders who are not in KAA system and therefore do not have login credentials should contact KAA procurement through email: tenders@kaa.go.ke for login credentials early enough and not later than three (3) days before tender closing date. All relevant submission documents must be attached on the login submission screen (*On submission screen, click technical Rfx Response tab which will lead you to the second screen (Cfolder) where the system creates a folder specific to you for uploading your technical tender response documents. Here you click "Tech Bid" subfolder and create attachments. "**Caution Do not attach your documents on the collaboration folder**"*). For Financial Proposal, use the submission financial screen for inputting the Price and related financial attachments on Notes and attachments. A step by step manual/guide is available for downloading using the link https://www.kaa.go.ke/corporate/procurement/manuals/. Bidders should note that documents submitted for purposes of registration for login credentials do not form part of the tender document.
8. All Prices quoted should be inclusive of all costs and taxes; and must be in Kenya shillings and shall remain valid for **126 days** from the closing date of Tender.
9. Tenders will be opened online immediately on **7th March, 2024** at 11.00 am at the Conference Room, 2nd Floor, Kenya Airports Authority Headquarters complex building. A virtual link shall be provided to those tenderers who shall submit their tenders online and would wish to participate in the tender opening. Tenderers shall therefore be required to submit their email address to

tenders@kaa.go.ke to enable them access this link during tender opening.

10. Bidders shall not have access to the eProcurement system after the official closing time.

11. The addresses referred to above are:

a. Address for obtaining further information and for purchasing tender documents

Name of Procuring Entity	– KENYA AIRPORTS AUTHORITY
Physical address -	Kenya Airports Authority Headquarters complex building, Jomo Kenyatta International Airport, Airport North Road, 2nd Floor, Procurement & Logistics Department.
Postal Address	– P.O Box 19001 – 00501 Nairobi
Officer to be contacted.	– General Manager, Procurement and Logistics, Email: tenders@kaa.go.ke

Bidders should note that all our tenders shall be opened virtually through a link to be provided.
Date of advertisement of the Tender Notice: Date: **20th February 2024.**

PART I – TENDERING PROCEDURES

SECTION I – INSTRUCTIONS TO TENDERERS

A GENERAL PROVISIONS

1.0 Scope of Tender

1.1 Kenya Airports Authority as defined in the Appendix to **Conditions of Contract** invites tenders for Works Contract as described in the tender documents. The name, identification, and number of lots (Contracts) of this Tender Document are **specified in the TDS.**

2.0 Fraud and Corruption

2.1 Kenya Airports Authority requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 "Declaration not to engage in corruption". The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-Contractors are not debarred from participating in public procurement proceedings.

2.2 Kenya Airports Authority requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the "Certificate of Independent Tender Determination" annexed to the Form of Tender.

2.3 Tenderers shall permit and shall cause their agents (where declared or not), Sub - contractor, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by Kenya Airports Authority.

2.4 Unfair Competitive Advantage -Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, Kenya Airports Authority shall indicate in the **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.

3.0 Eligible Tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. Members of a joint venture may not also make an individual tender, be a Sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. The maximum number of JV members shall be specified in the **TDS.**

3.2 Public Officers of Kenya Airports Authority, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any

procurement proceedings.

3.3 A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:

3.3.1 Directly or indirectly controls, is controlled by or is under common control with another tenderer; or

3.3.2 Receives or has received any direct or indirect subsidy from another tenderer; or

3.3.3 Has the same legal representative as another tenderer; or

3.3.4 Has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the P Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods or works that are the subject of the tender; or

3.3.5 any of its affiliates has been hired (or is proposed to be hired) by Kenya Airports Authority as a consultant for Contract implementation; or

3.3.6 Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document; or

3.3.7 Has a close business or personal relationship with senior management or professional staff of Kenya Airports Authority who has the ability to influence the bidding process and:

3.3.7.1 are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or

3.3.7.2 may be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to Kenya Airports Authority throughout the tendering process and execution of the Contract.

3.4 A tenderer shall not be involved incorrupt, coercive, obstructive or fraudulent practice. A tenderer that is proven to have been involved in any of these practices shall be automatically disqualified.

3.5 A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a Sub-contractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. Members of a joint venture may not also make an individual tender, be a Sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. A firm that is not a tenderer or a JV member may participate as a Sub-contractor in more than one tender.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates inconformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed Sub - contractor or sub-consultants for any part of the Contract including related Services.

3.7 A Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the

website of PPRA www.ppra.go.ke.

3.8 A Tenderer that is a state-owned enterprise or a public institution in Kenya may be eligible to tender and be awarded a Contract(s) only if it is determined by Kenya Airports Authority to meet the following conditions, i.e. if it is:

i) A legal public entity of Government and/or public administration,
ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and
iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.

3.9 Firms and individuals shall be ineligible if their countries of origin are:

3.9.1 As a matter of law or official regulations, Kenya prohibits commercial relations with that country, or

3.9.2 by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

A tenderer shall provide such documentary evidence of eligibility satisfactory to Kenya Airports Authority, as Kenya Airports Authority shall reasonably request.

3.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, local subcontracts and labor) from citizen suppliers and Contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable Kenya Airports Authority determine if this condition is met shall be provided for this purpose in "SECTION III-EVALUATION AND QUALIFICATION CRITERIA, Item 9"

3.11 Pursuant to the eligibility requirements of ITT3.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

3.12 The National Construction Authority Act of Kenya requires that all local and foreign Contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.

3.13 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a

condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke.

A Kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing a valid tax compliance or valid tax certificate issued by the Kenya Revenue Authority.

4.0 Eligible Goods, Equipment, and Services

4.1 Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not ineligible under ITT3.9. At Kenya Airports Authority's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.

4.2 Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

5.0 Tenderer's Responsibilities

5.1 The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and Kenya Airports Authority will in no case be responsible or liable for those costs.

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

5.3 The Tenderer and any of its personnel or agents will be granted permission by Kenya Airports Authority to enter up on its premises and lands for the purpose of such visit. The Tenderer shall indemnify Kenya Airports Authority against all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the examination and inspection.

5.4 The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

B CONTENTS OF TENDER DOCUMENTS

6.0 Sections of Tender Document

6.1 The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT10.

PART 1: Tendering Procedures

Section I: Instructions to Tenderers

Section II: Tender Data Sheet (TDS)

Section III: Evaluation and Qualification Criteria Section IV: Tendering Forms

PART 2: Works' Requirements

Section V: Bills of Quantities

Section VI: Specifications

Section VII: Drawings

PART3: Conditions of Contract and Contract Forms

Section VIII: General Conditions (GCC)

Section IX: Particular Conditions of Contract

Section X: Contract Forms

6.2. The Invitation to Tender Notice issued by Kenya Airports Authority is not part of the Contract documents.

6.3. Unless obtained directly from Kenya Airports Authority, Kenya Airports Authority is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. In case of any contradiction, documents obtained directly from Kenya Airports Authority shall prevail.

6.4. The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its Tender all information and documentation as is required by the Tender document.

7.0 Clarification of Tender Document, Site Visit, Pre-Tender Meeting

7.1 A Tenderer requiring any clarification of the Tender Document shall contact the in writing at Kenya Airports Authority's address specified in the TDS or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 7.2. Kenya Airports Authority will

respond in writing to any request for clarification, provided that such request is received not later than the period specified in the TDS prior to the deadline for submission of tenders. Kenya Airports Authority shall forward copies of its response to all tenderers who have acquired the Tender documents in accordance with ITT 7.4, including a description of the inquiry but without identifying its source. If so specified in the TDS, Kenya Airports Authority shall also promptly publish its response at the web page identified in the TDS. Should the clarification result in changes to the essential elements of the Tender Documents, Kenya Airports Authority shall amend the Tender Documents following the procedure under ITT 8 and ITT 22.2.

7.2 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the site(s) of the required contracts and obtain all information that may be necessary for preparing a tender. The costs of visiting the Site shall be at the Tenderer's own expense. Kenya Airports Authority shall specify in the TDS if a pre- arranged Site visit and or a pre-tender meeting will be held, when and where. The Tenderer's designated representative is invited to attend a pre-arranged site visit and a pre-tender meeting, as the case may be. The purpose of the site visit and the pre-tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

7.3 The Tenderer is requested to submit any questions in writing, to reach Kenya Airports Authority not later than the period specified in the TDS before the meeting.

7.4 Minutes of a pre-arranged site visit and those of the pre-tender meeting, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents. Minutes shall not identify the source of the questions asked.

7.5 Kenya Airports Authority shall also promptly publish anonymized (no names) Minutes of the pre-arranged site visit and those of the pre-tender meeting at the web page identified in the TDS. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting shall be made by Kenya Airports Authority exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.

8.0 Amendment of Tender Documents

8.1 At any time prior to the deadline for submission of Tenders, Kenya Airports Authority may amend the Tender Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from Kenya Airports Authority. Kenya Airports Authority shall also promptly publish the addendum on the website in accordance with ITT 7.5.

8.3 To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, Kenya Airports Authority should extend the deadline for the submission of Tenders, pursuant to ITT 22.2.

C PREPARATION OF TENDERS

9.0 Cost of Tendering

The Tenderer shall meet all costs associated with the preparation and submission of its Tender, and Kenya Airports Authority shall not be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

10.0 Language of Tender

The Tender, as well as all correspondence and documents relating to the tender exchanged by the tenderer and Kenya Airports Authority, shall be written in the English Language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate and notarized translation of the relevant passages into the English Language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

11.0 Documents Comprising the Tender

11.1 The Tender shall comprise the following:

a) Form of Tender prepared in accordance with ITT 12;
b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
d) Alternative Tender, if permissible, in accordance with ITT 13;
e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
f) Qualifications: documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
g) Conformity: a technical proposal in accordance with ITT 16;
h) Any other document required in the TDS.

11.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed JV Agreement. Change of membership and conditions of the JV prior to contract signature will render the tender liable for disqualification.

12.0 Form of Tender and Schedules

12.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

12.2 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

13.0 Alternative Tenders

13.1 Unless otherwise specified in the TDS, alternative Tenders shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the TDS, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.

13.3 Except as provided under ITT13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price Kenya Airports Authority's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by Kenya Airports Authority, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by Kenya Airports Authority.

13.4 When specified in the TDS, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the TDS, as will the method for their evaluating, and described in Section VII, Works' Requirements.

14.0 Tender Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.

14.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by Kenya Airports Authority. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.

14.3 The price to be quoted in the Form of Tender, in accordance with ITT 12, shall be the total price of the Tender, including any discounts offered.

14.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12

14.5 It will be specified in the TDS if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and Kenya Airports Authority may require the Tenderer to justify its proposed indices and weightings.

14.6 Where tenders are being invited for individual lots (contracts) or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the same time.

14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

15.0 Currencies of Tender and Payment

15.1 The currency (ies) of the Tender and the currency (ies) of payments shall be the same.

15.2 Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings

(i) A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya (referred to as "the foreign currency requirements") shall (if so allowed in the TDS) indicate in the Appendix to Tender the percentage(s) of the Tender Price (excluding Provisional Sums), needed by the Tenderer for the payment of such foreign currency requirements, limited to no more than two foreign currencies.

(ii) The rates of exchange to be used by the Tenderer in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Tenderer in the Appendix to Tender and shall be based on the exchange rate provided by the Central Bank of Kenya on the date 30 days prior to the actual date of tender opening. Such exchange rate shall apply for all foreign payments under the Contract.

15.3 Tenderers may be required by Kenya Airports Authority to justify, to satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Tender are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Tenderers.

16.0 Documents Comprising the Technical Proposal

The Tenderer shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Tender Forms, sufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

17.0 Documents Establishing the Eligibility and Qualifications of the Tenderer

17.1 Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.

17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.

17.3 If a margin of preference applies as specified in accordance with ITT33. 1, national tenderers, individually or in joint ventures, applying for eligibility for national preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

17.4 Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by Kenya Airports Authority, a particular contract or group of Contractors qualifies for a margin of preference. Further the information will enable Kenya Airports Authority identify any actual or potential conflict of interest in relation to the

procurement and/or contract management processes, or a possibility of collusion between tenderers, and there by help to prevent any corrupt influence in relation to the procurement process or contract management.

17.5 The purpose of the information described in ITT 17.2 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by Kenya Airports Authority as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.

17.6 The Tenderer shall provide further documentary proof, information or authorizations that Kenya Airports Authority may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.4. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

17.7 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to Kenya Airports Authority. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to Kenya Airports Authority.

17.8 If a tenderer fails to submit the information required by these requirements, its tenderer will be rejected. Similarly, if Kenya Airports Authority is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.

17.9 If information submitted by a tenderer pursuant to these requirements, or obtained by Kenya Airports Authority (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

(i) If the procurement process is still on going, the tenderer will be disqualified from the procurement process,

(ii) If the contract has been awarded to that tenderer, the contract award will be set aside,

(iii) The tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

17.10 If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 17.8 will ensue unless the tenderer can show to the reasonable satisfaction of Kenya Airports Authority that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tender.

18.0 Period of Validity of Tenders

18.1 Tenders shall remain valid for the Tender Validity period specified in the TDS. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by

Kenya Airports Authority in accordance with ITT 22). A Tender valid for a shorter period shall be rejected by Kenya Airports Authority as non-responsive.

18.2 In exceptional circumstances, prior to the expiration of the Tender validity period, Kenya Airports Authority may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 19, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting their quest shall not be required or permitted to modify its Tender.

19.0 Tender Security

19.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the TDS, in original form and, in the case of a Tender Security, in the amount and currency specified in the TDS. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.

19.2 If a Tender Security is specified pursuant to ITT19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

i) Cash;
ii) A bank guarantee;
iii) A guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority; or
iv) A guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.

19.3 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.

19.4 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by Kenya Airports Authority as non-responsive.

19.5 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the TDS. Kenya Airports Authority shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.

19.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the TDS.

19.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:

a) If a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension there to provide by the Tenderer; or
b) If the successful Tenderer fails to sign the Contract in accordance with ITT 47; or furnish a Performance Security and if required in the TDS, and any other documents required in the TDS.

19.8 Where tender securing declaration is executed, Kenya Airports Authority shall recommend to the PPRA that PPRA debars the Tenderer from participating in public procurement as provided in the law.

19.9 The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT 4.1 and ITT 11.2.

19.10 A tenderer shall not issue a tender security to guarantee itself.

20.0 Format and Signing of Tender

20.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 13, shall be clearly marked "ALTERNATIVE." In addition, the Tenderer shall submit copies of the Tender, in the number specified in the TDS and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

20.2 Tenderers shall mark as "CONFIDENTIAL" all information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

20.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the TDS and shall be attached to the Tender. The name and position held by ach person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

20.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

20.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D SUBMISSION AND OPENING OF TENDERS

21.0 Sealing and Marking of Tenders

21.1 The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to Kenya Airports Authority and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

a) In an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT11; and

b) In an envelope or package or container marked "COPIES" all required copies of the Tender; and

c) If alternative Tenders are permitted in accordance with ITT 13, and if relevant:

i. In an envelope or package or container marked "ORIGINAL - ALTERNATIVE TENDER", the alternative Tender; and
ii. In the envelope or package or container marked "COPIES-ALTERNATIVETENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:
a) bear the name and address of Kenya Airports Authority.
b) Bear the name and address of the Tenderer; and
c) Bear the name and Reference number of the Tender.

21.2 If an envelope or package or container is not sealed and marked as required, Kenya Airports Authority will assume no responsibility for the misplacement or premature opening of the Tender. Tenders that were misplaced or opened prematurely will not be accepted.

22.0 Deadline for Submission of Tenders

22.1 Tenders must be received by Kenya Airports Authority at the address specified in the TDS and no later than the date and time also specified in the TDS. When so specified in the TDS, Tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified in the TDS.

22.2 Kenya Airports Authority may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Documents in accordance with ITT 8, in which case all rights and obligations of Kenya Airports Authority and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

23.0 Late Tenders

Kenya Airports Authority shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 22. Any Tender received by Kenya Airports Authority after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

24.0 Withdrawal, Substitution, and Modification of Tenders

24.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

(a) Prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and

(b) Received by Kenya Airports Authority prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.

24.2 Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.

24.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

25.0 Tender Opening

25.1 Except in the cases specified in ITT 23 and ITT 24.2, Kenya Airports Authority shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified in the TDS, in the presence of Tenderers' designated representatives and anyone who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 22.1, shall be as specified in the TDS.

25.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out attender opening.

25.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.

25.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.

25.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as Kenya Airports Authority may consider appropriate.

25.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the tender opening committee attending the opening.

25.7 At the Tender Opening, Kenya Airports Authority shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).

25.8 Kenya Airports Authority shall prepare minutes of the Tender Opening that shall include, as a minimum:

(a) The name of the Tenderer and whether there is a withdrawal, substitution, or modification;
(b) The Tender Price, per lot (contract) if applicable, including any discounts;
(c) any alternative Tenders;
(d) the presence or absence of a Tender Security, if one was required.
(e) number of pages of each tender document submitted.

26.1 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of tender opening register shall be issued to a tenderer upon request.

E EVALUATION AND COMPARISON OF TENDERS

26.0 Confidentiality

26.2 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.

26.3 Any effort by a Tenderer to influence Kenya Airports Authority in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.

26.4 Notwithstanding ITT 26.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact Kenya Airports Authority on any matter related to the tendering process, it shall do so in writing.

27.0 Clarification of Tenders

27.1 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the tenderers, Kenya Airports Authority may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by Kenya Airports Authority shall not be considered. Kenya Airports Authority's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by Kenya Airports Authority in the evaluation of the tenders, in accordance with ITT 31.

27.2 If a tenderer does not provide clarifications of its tender by the date and time set in Kenya Airports Authority's request for clarification, its Tender may be rejected.

28.0 Deviations, Reservations, and Omissions

28.1 During the evaluation of tenders, the following definitions apply:

(a) "Deviation" is a departure from the requirements specified in the tender document;

(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and

(c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender document.

29.0 Determination of Responsiveness

29.1 Kenya Airports Authority's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 11.

29.2 A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:

a) Affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
b) Limit in any substantial way, inconsistent with the tender document, Kenya Airports Authority's rights or the tenderer's obligations under the proposed contract; or
c) If rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

29.3 Kenya Airports Authority shall examine the technical aspects of the tender submitted in accordance with ITT 16, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

29.4 If a tender is not substantially responsive to the requirements of the tender document, it shall be rejected by Kenya Airports Authority and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30.0 Non-material Non-conformities

30.1 Provided that a tender is substantially responsive, Kenya Airports Authority may waive any non-conformities in the tender.

30.2 Provided that a Tender is substantially responsive, Kenya Airports Authority may request that the tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial non- conformities in the tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.

30.3 Provided that a tender is substantially responsive, Kenya Airports Authority shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified in the TDS.

31.0 Arithmetical Errors

31.1 The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in anyway by any person or entity.

31.2 Provided that the Tender is substantially responsive, Kenya Airports Authority shall handle errors on the following basis:

a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. And
c) If there is a discrepancy between words and figures, the amount in words shall prevail

31.3 Tenderers shall be notified of any error detected in their bid during the notification of award.

32.0 Conversion to Single Currency

32.1 For evaluation and comparison purposes, the currency (ies) of the Tender shall be converted into a single currency as specified in the TDS.

33.0 Margin of Preference and Reservations

33.1 A margin of preference may be allowed only when the contract is open to international competitive tendering where foreign Contractors are expected to participate in the tendering process and where the contract exceeds the value/threshold specified in the Regulations.

33.2 A margin of preference shall not be allowed unless it is specified so in the TDS.

33.3 Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 33.4.

33.4 Where it is intended to reserve a contract to a specific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and who are appropriately registered as such by the authority to be specified in the TDS, a Kenya Airports Authority shall ensure that the invitation to tender specifically indicates that only businesses or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

34.0 Nominated Sub - Contractor

34.1 Unless otherwise stated in the TDS, Kenya Airports Authority does not intend to execute any specific elements of the Works by Sub - contractor selected/nominated by Kenya Airports Authority. In case Kenya Airports Authority nominates a Sub-contractor, the subcontract agreement shall be signed by the Sub-contractor and Kenya Airports Authority. The main contract shall specify the working arrangements between the main Contractor and the nominated Sub-contractor.

34.2 Tenderers may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified in the TDS. Sub - contractor proposed by the Tenderer shall be fully qualified for their parts of the Works.

34.3 Domestic Sub-contractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated so by Kenya Airports Authority in the TDS as can be met by Sub - contractor referred to hereafter as 'Specialized Sub - contractor', in which case, the qualifications of the Specialized Sub - contractor proposed by the Tenderer may be added to the qualifications of the Tenderer.

35.0 Evaluation of Tenders

35.1 Kenya Airports Authority shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies Kenya Airports Authority shall determine the Lowest Evaluated Tender in accordance with ITT 40.

35.2 To evaluate a Tender, Kenya Airports Authority shall consider the following:

a) Price adjustment in accordance with ITT 31.1(iii); excluding provisional sums and

contingencies, if any, but including Day work items, where priced competitively;

b) Price adjustment due to discounts offered in accordance with ITT 14.4;

c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 32;

d) price adjustment due to quantifiable non material non-conformities in accordance with ITT 30.3; and

e) any additional evaluation factors specified in the TDS and Section III, Evaluation and Qualification Criteria.

35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered intender evaluation.

35.4 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers based one lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36.0 Comparison of Tenders

Kenya Airports Authority shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.2 to determine the Tender that has the lowest evaluated cost.

37.0 Abnormally Low Tenders

37.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.

37.2 In the event of identification of a potentially Abnormally Low Tender, Kenya Airports Authority shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

37.3 After evaluation of the price analyses, in the event that Kenya Airports Authority determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, Kenya Airports Authority shall reject the Tender.

38.0 Abnormally High Tenders

38.1 An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that Kenya Airports Authority is concerned that it (Kenya Airports Authority) may not be getting value

for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

38.2 In case of an abnormally high price, Kenya Airports Authority shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. Kenya Airports Authority may also seek written clarification from the tenderer on the reason for the high tender price. Kenya Airports Authority shall proceed as follows:

i. If the tender price is abnormally high based on wrong estimated cost of the contract, Kenya Airports Authority may accept or not accept the tender depending on Kenya Airports Authority's budget considerations.

ii. If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, Kenya Airports Authority shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

38.3 If Kenya Airports Authority determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (often due to collusion, corruption or other manipulations), Kenya Airports Authority shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

39.0 Unbalanced and/or Front-Loaded Tenders

39.1 If in Kenya Airports Authority's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, Kenya Airports Authority may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.

39.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, Kenya Airports Authority may as appropriate:

a) Accept the Tender; or

b) Require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 10% of the Contract Price; or

c) Agree on a payment mode that eliminates the inherent risk of Kenya Airports Authority paying too much for undelivered works; or

d) Reject the Tender.

40.0 Qualifications of the Tenderer

40.1 Kenya Airports Authority shall determine to its satisfaction whether the eligible Tenderer that is selected as having submitted the lowest evaluated cost and substantially responsive Tender, meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

40.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 17. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, Sub - contractor (other than Specialized Sub - contractor if permitted in the Tender document), or any other firm(s) different from the Tenderer.

40.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event Kenya Airports Authority shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

41.0 Lowest Evaluated Tender

41.1 Having compared the evaluated prices of Tenders, Kenya Airports Authority shall determine the Lowest Evaluated Tender. The Lowest Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:

a) Most responsive to the Tender document; and

b) The lowest evaluated price.

41.2 Kenya Airports Authority's Right to Accept Any Tender, and to Reject Any or All Tenders.

Kenya Airports Authority reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without there by incurring any liability to Tenderers. In case of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F AWARD OF CONTRACT

42.0 Award Criteria

Kenya Airports Authority shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

43.0 Notice of Intention to enter into a Contract

Upon award of the contract and Prior to the expiry of the Tender Validity Period Kenya Airports Authority shall issue a Notification of Intention to Enter into a Contract/Notification of award to all tenderers which shall contain, at a minimum, the following information:

a) the name and address of the Tenderer submitting the successful tender;

b) the Contract price of the successful tender;

c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;

d) the expiry date of the Standstill Period; and

e) instructions on how to request a debriefing and/or submit a complaint during the stand still period;

44.0 Stand still Period

44.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

44.2 Where a Standstill Period applies, it shall commence when Kenya Airports Authority has transmitted to each Tenderer the Notification of Intention to Enter into a Contract with the successful Tenderer.

45.0 Debriefing by Kenya Airports Authority

45.1 On receipt of Kenya Airports Authority's Notification of Intention to Enter into a Contract referred to in ITT 43, an unsuccessful tenderer may make a concern regarding their tender. Kenya Airports Authority shall provide the debriefing within five days of receipt of the request.

45.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

46.0 Letter of Award

Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 42.1, upon addressing a complaint that has been filed within the Standstill Period, Kenya Airports Authority shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21 days of the date of the letter.

47.0 Signing of Contract

47.1 Upon the expiry of the fourteen days of the Notification of Intention to enter into contract and upon the parties meeting their respective statutory requirements, Kenya Airports Authority shall send the successful Tenderer the Contract Agreement.

47.2 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to Kenya Airports Authority.

47.3 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period.

48.0 Performance Security

48.1 Within twenty-one (21) days of the receipt of the Letter of Award from Kenya Airports Authority, the successful Tenderer shall furnish the Performance Security and, any other documents required in the TDS, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to Kenya Airports Authority. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless Kenya Airports Authority has agreed in writing that a correspondent bank is not required.

48.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security and other documents required in the TDS or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event Kenya Airports Authority may award the Contract to the Tenderer offering the next Best Evaluated Tender.

48.3 Performance security shall not be required for contracts estimated to cost less than the amount specified in the Regulations.

49.0 Publication of Procurement Contract

Within fourteen days after signing the contract, Kenya Airports Authority shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

a) name and address of Kenya Airports Authority;
b) name and reference number of the contract being awarded, a summary of its scope and the selection method used;
c) the name of the successful Tenderer, the final total contract price, the contract duration.
d) dates of signature, commencement and completion of contract;
e) names of all Tenderers that submitted Tenders, and their Tender prices as read out at Tender opening.
f) Procurement Related Complaint
g) The procedures for making Procurement-related Complaints shall be specified in the TDS.

50.0 Procurement Related Complaint

50.1 The procedures for making Procurement-related Complaints shall be specified in the TDS.

50.2 A request for administrative review shall be made in the form provided under contract forms.

SECTION II - TENDER DATA SHEET (TDS)

The following specific data shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT). Whenever there is a conflict, the provisions herein shall prevail over those in ITT.

ITT Reference	**A. GENERAL**
ITT 1.1	The reference number is: **KAA/OT/HQ/0184/2023-2024** The Procuring Entity is **Kenya Airports Authority** The name of the contract is: **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY.**
ITT 3.1	Maximum number of joint ventures shall be; **Two (2).** ***Those bidding as a Joint Venture or a partnership MUST have a Joint Venture or Teaming Agreement.***
ITT 3.11	Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, local subcontracts and labor) from citizen suppliers and Contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met.
ITT 7.1	For **Clarification of Tender purposes** only, the Procuring Entity's address is: Attention: ***General Manager, Procurement & Logistics*** Postal Address: ***P.O. Box 19001-00501 Nairobi, Kenya*** Physical Address: ***Nairobi, KAA HQS, 2nd Floor*** Telephone: ***+254 (020) 6611000*** Electronic mail address***:*** ***tenders@kaa.go.ke*** Request for clarification should be received by the Procuring Entity no later than: **three (3) days** before tender closing/opening date.
ITT 7.2	A pre-arranged pretender site visit *"shall"* take place at the following data, time and place: A representative of the Employer will be available to meet the tenderers on the specified time for the site visit and sign the completed Certificate of Tenderer's Visit to the Site. Tenderers must provide their own transport. The bidder's representative must meet the following for the site visit. 1. Original introductory letter on the company letterhead detailing the names and ID number of the bidder's representative.

	2. Certificate of Tenderer's visit to site, 3. Original ID, 4. Copy of ID, 5. Copy of certificate of Professional registration or legal registration document of the bidder. 6. Appropriate Personal protective equipment (PPE) Site visit attendance is highly recommended and preferably by one of the listed personnel who meets the minimum qualifications in either of the personnel categories.
	c. Preparation of Tenders
ITT 13.1	Alternative tenders **shall not be Considered**.
ITT 13.2	Alternative times for completion are **explicitly not invited**.
ITT 13.3	Alternative technical solutions for specified parts of the **services will be not be allowed.**
ITT 14.5	The Prices quoted by the tenderer **shall not be subject to adjustment** during the performance of the contract.
ITT 15.1	The currency (ies) of the Tender and the currency (ies) of payments shall be the same in **KES.**
ITT 18.1	The Tender validity period Shall be **126 Days from tender opening.**
ITT 19.1	The Tender Security is not a requirement.
ITT 20.1	Completed Tender documents and its attachments must be submitted online before the closing date. All relevant submission documents must be attached on the login submission screen (*On submission screen, click technical Rfx Response tab which will lead you to the second screen (Cfolder) where the system creates a folder specific to you for uploading your technical tender response documents. Here you click "Tech Bid" subfolder and create attachments. "**Caution Do not attach your documents on the collaboration folder**"*). For Financial Proposal, use the submission financial screen for inputting the Price and related financial attachments on Notes and attachments. A step by step manual/guide is available for downloading using the link https://www.kaa.go.ke/corporate/procurement/manuals/
ITT 22.1	Completed tender document and its attachment shall be submitted online before the closing date **7th March, 2024** at **11.00am**
	D. Submission and Opening of Tenders

ITT 25.0	Tenders will be opened online immediately on **7th March 2024 at 11.00 am** at the Conference Room, 2nd Floor, Kenya Airports Authority Headquarters complex building. A virtual link shall be provided to those tenderers who shall submit their tenders online and would wish to participate in the tender opening. Tenderers shall therefore be required to submit their email address to tenders@kaa.go.ke to enable them access this link during tender opening.
ITT 25.6	The Form of Tender and priced Activity Schedule shall be initiated by sign **is not Applicable because the tenders are submitted online.**
	E. Evaluation and Comparison
ITT33.2	Margin of Preference allowed or not allowed **as per the PPADA 2015.**
ITT 35.1	The award of tenders are to be based on the lowest evaluated bidder
	Other information or materials required to be completed and submitted by Tenderers: **EVALUATION CRITERIA – as per the list in Section III.**
	F. Award of Contract
ITT 50.1	The procedure for making a procurement related complaint are detailed in the "Notice of Intention to Award the Contract" herein and are also available from the PPRA website www.ppra.go.ke or email compliance@ppra.go.ke . If a Tenderer wishes to make a Procurement –related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to: General Manager, Procurement & Logistics Kenya Airports Authority Email address: tenders@kaa.go.ke In summary, a Procurement-related Complaint may challenge any of the following: (i)The terms of the Tender Documents; and (ii)The Procuring Entity's decision to award the contract

SECTION III- EVALUATION AND QUALIFICATION CRITERIA

General Provisions

1.1 This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. Kenya Airports Authority shall use the Standard Tender Evaluation Document for Goods and Works for evaluating Tenders.

1.2 Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

b) Value of single contract - Exchange rate prevailing on the date of the contract signature.

c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by Kenya Airports Authority.

Evaluation and contract award Criteria

Kenya Airports Authority shall use the criteria and methodologies listed in this Section to evaluate tenders and arrive at the Lowest Evaluated Tender. The tender that; (i) meets the qualification criteria, (ii) has been determined to be substantially responsive to the Tender Documents, and (iii) is determined to have the Lowest Evaluated Tender price shall be selected for award of contract.

Preliminary examination for Determination of Responsiveness

Kenya Airports Authority will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Kenya Airports Authority's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded. The Standard Tender Evaluation Report for Goods and Works for evaluating Tenders provides clear guidelines on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

Part 1: Preliminary Evaluation Criteria, Mandatory requirements.

Preliminary Evaluation Requirements

Bidders shall submit the following mandatory requirements

No	Requirement	Compliance
1.	Duly filled, signed and stamped Form of Tender including the following areas; • Not having been declared ineligible by the PPRA as described in ITT 3.7 • No conflicts of interest in accordance with ITT3.3	Not Mandatory
2.	Copy of certificate of Registration/Incorporation or partnership deed or its equivalent in the Country of origin to show that the applicant is a registered company and legally authorized to do business in Kenya **(in case of joint venture both must submit).**	Must meet
3.	Duly filled Confidential Business Questionnaire **(in case of joint venture both must submit).**	Must Meet
4.	Valid Tax Compliance Certificate	Must Meet
5.	Duly filled site visit certificate- The site visit will be held on **28th February 2024**. Bidders will be expected to assemble at **Airport Manager's office at 8:00 am,** before proceeding to the site. Bidders will be required to carry their own Identification card and don reflective jackets in compliance with KAA Airside security guidelines. Bidders are notified that Airside Access permits are issued with strict compliance to KAA security guidelines.	Optional/ Not Mandatory
6.	Provide copy of CR12 or equivalent from country of origin (**in case of joint venture both must submit**), providing a list of directors and shareholding status. Where one or more of the shareholders is a company (Beneficial Ownership), the CR12 or equivalent from country of origin of such a company shall be provided. However, where the CR12 of the beneficial shareholders is not available, as at the time of the tender submission, the successful bidder shall be required to submit it before execution of the contract. This requirement is not applicable to sole proprietorships and partnerships registered under Business Names.	Must Meet
7.	Copy of valid Business Permit for year 2024 **(in case of joint venture both must submit).**	Must meet
8.	Tender Document to be sequentially serialized from the first to the last page including all the attachments in numerical digits' format. All blank pages must clearly marked "BLANK".	Must meet
9.	Duly filled and stamped **QUALIFICATION FORMS (FOREIGN TENDERERS 40%RULE)** as per Clause 3.10	Must meet
10.	Duly filled and stamped Self-Declaration that the Person/Tenderer is not Debarred in the Matter of the	Must Meet.

	Public Procurement and Asset Disposal Act 2015.	
11.	Duly filled and stamped Self Declaration that the Person/Tenderer will not engage in any corrupt or fraudulent practice.	Must Meet.
12.	Duly filled Declaration and commitment to the Code of Ethics.	Must Meet.
13.	Duly filled, Signed and Stamped Certificate of Independent Tender Determination	Must Meet.
14.	The written confirmation of authorization to sign on behalf of the Tenderer in form of a written Signed and Stamped Power of Attorney commissioned by **a Commissioner of Oaths or Notary Public.** However, this is not required for sole proprietors.	Must Meet.
15.	Valid Certificate of Registration with National Construction Authority in NCA7 and above with a valid practicing license (Road works) **(in case of joint venture both must submit).**	Must Meet.

N/B:

Failure to comply and submit any of the above requirements shall lead to automatic disqualification from further evaluation. Previous Nonperformance by the authority or any other authority shall lead to automatic disqualification.

KAA shall undertake due diligence on;

Non-performance shall be deemed to have occurred by evidence of:

-Termination Letter

- Liquidated Damages

- Project Lag of more than 25% for any ongoing works.

Technical Evaluation.

No	Requirement	Must Meet
1	**Qualifications and Technical experience of site personnel to manage and execute the works on the site.** 1. Certified copies of academic certificates 2. Certified copies of professional certificates 3. Certifies copies of current practicing license 4. Certified Curriculum vitae signed by the nominee 5. A written undertaking signed by the nominee confirming his/her availability to carry out the assignment upon winning the bid. The written undertaking shall be addressed to MD/CEO Kenya Airports Authority and must be specific to this tender **Site Agent** 1. BSc Civil Engineering 2. Registered Professional Civil Engineer with Engineers Board of Kenya (EBK) and a Corporate member of the Institution of Engineers of Kenya (IEK) and must have a current valid Practicing License - **Mandatory** 3. Experience – Five (5) years post Professional Registration Experience 4. Specific experience on asphalt concrete pavements (roads / airports) – Five (5) years. **Site Foreman** 1. National Diploma in Civil Engineering. 2. Must be registered with valid licence with Kenya Engineering Technology Registration Board (KETRB) • Specific experience on asphalt concrete pavements (roads / airports) – Five (5) years.	Must Meet
2.	**Must demonstrate access to the following key minimum equipment**	Must Meet

	One (1) Steel vibrating roller — at least 18 Tonne One (1) Pneumatic Tyre Roller Engine Power 93-140w One (1) Asphalt Milling Machine - 447Kw, Min milling width 1.5m. One (1) Motor Grader (93 - 205kW) One (1) Backhoe bucket capacity of 1.2m3 with 100HP Engine One (1) Asphalt Paver. Hopper capacity 3.8m3, 52Kw Engine One (1) Water bowser/tankers (18,000 – 20,000 lts. capacity) Two (2) 6 X 4 tippers payload 16 – 20 tones One)1) Hydraulic crawler mounted excavator (7 – 10 tonnes) – 0.25 – 0.4 m^3 SAE bucket. One (1) Pickup 1tonne carrying capacity One (1) Mobile Concrete Mixer -0.4m3,6.5HP Engine One (1) 13HP Concrete Cutter One (1) Bitumen Emulsion Hand sprayer with rate of 400m2/hr One (1) Pedestrian Roller with 1Tonne Op weight,6.2Kw One (1) Tandem Roller with 1.2Tonne operating weight.14.9 Kw **Notes** • If the equipment is owned, must provide **CLEAR** copies of log book or proof of ownership; • If equipment is hired or leased Provide a commitment letter from the lessor of the equipment addressed to the Managing Director/CEO Kenya Airports Authority indicating that the lessor shall avail the equipment upon award of the tender and submit a copy of a written agreement to lease between lessee and lessor indicating list of equipment and their corresponding copies of log books or proof of ownership by lessor; • The equipment listed shall be available on site when required.	Must Meet
3.	Tenderers' capacity to have access to line of credit/liquid assets of not less than Ksh. 15,000,000.00 in form of: - a) Letter of intent to grant a line of credit addressed to the Managing Director Kenya Airports Authority (specific to this tender) from an approved financial institution indicating that the institution will provide the bidder with a line of credit should the bidder be successful or b) Overdraft facility from a commercial bank specifically for this tender indicating the amount to be availed or c) Current certified bank statement for the last twelve calendar months - with an average cash flow of Kenya Shillings Fifteen Million.	Must meet
5.	Relevant previous experience in the last three years (2021-2023) Minimum three (3) no. works. The works must consist of asphalt or cement concrete pavement projects each valued at Ksh 15 million or more.	Proof to be in form of LPO or Contract Agreements

	Must provide a list with the following details; Name of work client, value and completion date (attach evidence e.g. Interim Payment (this must be 70% complete of the works/ Letter of Award/Completion Certificate/ LPO/Contracts Inspection and Acceptance Reports). Incase of Sub Contract Agreements, a letter from the Employer addressed to KAA MD/CEO must be attached confirming the engagement of the Sub Contractor in the project. Proof of payments inform of certified Bank Statements must be attached.	and Completion Certificates from Reputable Institutions.
6.	Method Statement demonstrating understanding of Asphalt Works ,Concrete Works, Road Marking and Earthworks	Must Meet
7.	Physical registered office address (attach proof of ownership or lease -to be confirmed	Must meet

N/B:

Failure to comply / submit any of the above requirements shall lead to automatic disqualification from further evaluation.

Tender Evaluation (ITT 35)

Financial Evaluation

Participating bidders are required to provide their best unit rates for each specified area

A To determine the lowest evaluated Contractors, we shall use the following steps:

1. The average rates for the Ten (10) lowest technically evaluated and ranked Contractors shall be aggregated and mean for each line item shall then be calculated but incase less than ten (10) firms qualify for the financial evaluation, the mean rate shall be on the basis of those firms that shall have qualified notwithstanding the fact that they are less than ten (10);
2. The average calculated shall be the standard rate for each line item;
3. The rates arrived from the mean shall be communicated as the basis of the award to Contractors.
4. Contractors will be free to accept the mean rate as the basis of call orders. Those who accept will form the list of framework Contractor; will sign framework agreements and will be invited to undertake works under the framework contracting.
5. Those who accept will be recommended to be enlisted as a framework Contractor; will sign framework agreements and will be invited to undertake works under the framework contracting on need basis.
6. NCA 1 –NCA 3 will be allocated to work at the Airside while NCA 4-7 at the Landside.

B. Financial Evaluation will entail verifying the financials and checking for arithmetical errors, omissions and price comparison among the qualified tenderers in accordance with the evaluation criteria.

NOTE:

Bidders are hereby notified that due diligence may be carried out on the information provided by the bidder. Any false information provided will lead to automatic disqualification.

I. Tender Evaluation (ITT 35)

Price evaluation: in addition to the criteria listed in ITT 35.2 (a)–(d) the following

criteria shall apply:

2. Financial Evaluation:

This will entail verifying the financials and checking for arithmetical errors, omissions and price comparison among the qualified tenderers in accordance with the evaluation criteria.

However, there shall be no correction of errors. The tender sum as submitted and read out during tender opening shall be absolute and final.

3. Recommendation(s)

Contractors will be free to accept the mean rate as the basis of call orders.

i) **Alternative Completion Times, i**f permitted under ITT 15.2, will be evaluated as follows:
……N/A……

ii) **Alternative Technical Solutions** for specified parts of the Works, if permitted under ITT 15.3, will be evaluated as follows……N/A…….....……

iii) **Other Criteria; i**f permitted under ITT 35.2 (e):
……N/A……....……

6 Multiple Contracts

Multiple contracts will be permitted in accordance with ITT 35.4. Tenderers are evaluated on basis of Lots and the lowest evaluated tenderer identified for each Lot. The Procuring Entity will select one Option of the two Options listed below for award of Contracts.

7 OPTION 2.

The Procuring Entity will consider all possible combinations of won Lots [contract(s)] and determine the combinations with the lowest evaluated price. Tenders will then be awarded to the Tenderer or Tenderers in the combinations provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots.

8 Alternative Tenders (ITT 15.1)-N/A

An alternative if permitted under ITT 13.1, will be evaluated as follows:

The Procuring Entity shall consider Tenders offered for alternatives as specified in Part 2- Procuring Entity's requirements. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

Margin of Preference – N/A

Apply Margin of Preference, if so allowed to all evaluated and accepted tender as follows.

1. If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than fifty-one percent (51%).
2. Contractors applying for such preference shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular Contractor or group of Contractor's qualifies for a margin of preference.
3. After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:
   i) Group A: tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
   ii) Group B: tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

4. All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 3.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each ender from Group B. All tenders shall then be compared using new prices with added prices to Group Band the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

9 Post qualification and Contract ward (ITT 39), more specifically- Addressed in Evaluation Criteria

a) In case the tender <u>was subject to post-qualification</u>, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.

b) In case the tender <u>was not subject to post-qualification</u>, the tender that has been determined to be the lowest evaluated tenderer shall be

considered for contract award, subject to meeting each of the following conditions.

i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings …….

ii) Minimum average annual construction turnover of Kenya Shillings……*[insert amount]*, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last_____*[insert of year]* years.

iii) At least_____(*insert number)* of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime Contractor, or joint venture member or sub-Contractor each of minimum value Kenya shillings _____equivalent.

iv) Contractor's Representative and Key Personnel, which are specified as _____;

v) Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as *[specify requirements for each lot as applicable]* _____

Other conditions depending on their seriousness.

10 History of non-performing contracts:

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last_____(*specify years*). The required information shall be furnished in the appropriate form.

11 Pending Litigation

Financial position and prospective long-term profitability of the Single Tenderer, and in the case the Tenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

12 Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last _____(*Specify years*). *Not applicable*

All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the year's specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender. Not applicable

Only the bids which will be responsive to the technical requirement shall undergo financial evaluation which shall include evaluation of:

i. Duly completed and signed Form of Tender and the appendix to the form of tender in the format contained in this bid document

ii. Priced Bill of Quantities in the format contained in this bid document.

The financial evaluation will be based on the lowest evaluated price.

Note: Bidders are hereby notified that due diligence shall be carried out on information provided by the bidder. Any false information provided will lead to automatic disqualification irrespective at any stage of the procurement process or contract execution.

Price evaluation: In addition to the criteria listed in ITT 35.2 (a) – (d) the following criteria shall apply:

i. Alternative Completion Times, if permitted under ITT 13.2, will be evaluated as follows:…..……**N/A**……

ii. Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows :…N/A……

iii. Other Criteria; if permitted under ITT35.2 (d) :……**N/A**…….....

Multiple Contracts

Multiple contracts will be permitted in accordance with ITT 35.4. Tenderers are evaluated on basis of Lots and the lowest evaluated tenderer identified for each Lot. Kenya Airports Authority will select one Option of the two Options listed below for award of Contracts.

OPTION 1

1. If a tenderer wins only One Lot, the tenderer will be awarded a Contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.
2. If a tenderer wins more than One Lot, the tender will be awarded Contracts for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the Lots. The tenderer will be awarded the combination of Lots for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION 2

Kenya Airports Authority will consider all possible combinations of won Lots [contract(s)] and determine the combinations with the lowest evaluated price. Tenders will then be awarded to the Tenderer or Tenderers in the combinations provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots.

Alternative Tenders (ITT 13.1)

An alternative if permitted under ITT 13.1, will be evaluated as follows:

Kenya Airports Authority shall consider Tenders offered for alternatives as specified in Part2-Works Requirements. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered.

Margin of Preference

a) If the TDS so specifies, Kenya Airports Authority will grant a margin of preference of fifteen percent (15%) to be loaded to one valuated price of the foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than fifty-one percent (51%).

b) Contractors applying for such preference shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by Kenya Airports Authority, a particular contract or group of Contractors qualifies for a margin of preference.

c) After Tenders have been received and reviewed by Kenya Airports Authority, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders to shall be classified into the following groups:

    i. Group A: tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
    ii. Group B: tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

d) All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 3.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each tender from Group B. All tenders shall then be compared using new prices with added prices to Group B and the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

Post qualification and Contract award (ITT 39).

more specifically, - to use the technical evaluation criteria provided above in no. 2 and 3 above.

a) In case the tender was subject to post-qualification, the contract shall be awarded to the

lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.

b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.

   i. The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings one hundred and fifty million liquid assets.

   ii. Minimum average annual construction turnover of Kenya Shillings [insert amount], equivalent calculated as total certified payments received for contracts in progress and/or completed within the last) [insert of year] years.

   iii. At least two (2) of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime Contractor, or joint venture member or sub-Contractor each with an average value Kenya shilling two hundred million.

   iv. Contractor's Representative and Key Personnel, which are specified as _____ _____

   v. Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as [specify requirements for each lot as applicable]

   vi. Other conditions depending on their seriousness.

History of non-performing contracts:

Tenderer and each member of JV incase the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last three (3) years. The required information shall be furnished in the appropriate form.

Pending Litigation

Financial position and prospective long-term profitability of the Single Tenderer, and in the case the Tenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last

Three (3) years. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

QUALIFICATION FORM SUMMARY

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Kenya Airports Authority's Use (Qualification met or Not Met)***
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by Kenya Revenue Authority in accordance with ITT 3.14.	Attachment	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.8	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of Contractor default since 1st January […….].	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by Kenya Airports Authority	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and	Form CON – 2	

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Kenya Airports Authority's Use (Qualification met or Not Met)***
		prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.		
10	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1st January *[insert year]*.	Form CON – 2	
11	Financial Capabilities	(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings *[insert amount]* equivalent for the subject contract(s) net of the Tenderer's other commitments. (ii) The Tenderers shall also demonstrate, to the satisfaction of Kenya Airports Authority, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and	Form FIN – 3.1, with attachments	

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Kenya Airports Authority's Use (Qualification met or Not Met)***
		for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to Kenya Airports Authority, for the last *[insert number of years]* years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.		
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings *[insert amount]*, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last *[insert of year]* years, divided by *[insert number of years]* years	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime Contractor, JV member, sub-Contractor, or management Contractor for at least the last *[insert number of years]* years, starting 1st January *[insert year]*.	Form EXP – 4.1	

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Kenya Airports Authority's Use (Qualification met or Not Met)***
14	Specific Construction & Contract Management Experience	A minimum number of *[state the number]* similar contracts specified below that have been satisfactorily and substantially completed as a prime Contractor, joint venture member, management Contractor or sub-Contractor between 1st January [*insert year*] and tender submission deadline i.e., …. (Number) contracts, each of minimum value Kenya shillings……... equivalent. [*In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]* The similarity of the contracts shall be based on the following: [*Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be*	Form EXP 4.2(a)	

1	2	3	4	5
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Kenya Airports Authority's Use (Qualification met or Not Met)***
		met by specialized Sub - contractor, if permitted in accordance with ITT 34.3]		

SECTION IV: TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE.
2. TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE
3. Form EQU: EQUIPMENT.
4. FORM PER -1.
5. FORM PER-2.
6. TENDERERS QUALIFICATION WITHOUT PRE-QUALIFICATION.
    - 6.1 FORM ELI-1.1.
    - 6.2 FORM ELI-1.2.
    - 6.3 FORM CON –2.
    - 6.4 FORM FIN –3.1.
    - 6.5 FORM FIN –3.2.
    - 6.6 FORM FIN –3.3.
    - 6.7 FORM FIN –3.4.
    - 6.8 FORM EXP -4.1.
    - 6.9 FORM EXP - 4.2(a).
    - 6.9 FORM EXP - 4.2 (a) (cont.).
    - 6.10 FORM EXP -4.2 (b).

OTHER FORMS

7. FORM OF TENDER.
8. FORM OF TENDER SECURITY - DEMAND BANKGUARANTEE.
9. FORM OF TENDER SECURITY (TENDERBOND).
10. FORM OF TENDER-SECURING DECLARATION.
11. APPENDIX TO TENDER.

TECHNICAL PROPOSAL FORMS

Site Organization. Method Statement. Mobilization Schedule. Construction Schedule

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE

Pursuant to ITT 3.10, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	**Local Labor**			
1				
2				
3				
4				
5				
B	**Sub contracts from Local sources**			
1				
2				
3				
4				
5				
C	**Local materials**			
1				
2				
3				
4				
5				
D	**Use of Local Plant and Equipment**			
1				
2				
3				
4				
5				
E	**Add any other items**			
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT			
	PERCENTAGE OF CONTRACT PRICE			

2. FORM EQU: EQUIPMENT

The Tenderer shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Tenderer.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

Tenderers should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	**Title of position: Contractor's Representative**	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
2.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
3.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	

	Expected time schedule for this position:	
4.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
5.	**Title of position:**	
	Name of candidate	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	

4. FORM PER-2

Resume and Declaration - Contractor's Representative and Key Personnel.

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Name of Tenderer

Position [*#1*]: [*title of position from Form PER-1*]		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: *[language and levels of speaking, reading and writing skills]*	
Details		
	Address of employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Employer:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	**Role**	**Duration of involvement**	**Relevant experience**
[main project details]	*[role and responsibilities on the project]*	*[time in role]*	*[describe the experience relevant to this position]*

Declaration

I, the undersigned_____ ["Contractor's Representative" or "Key Personnel" as applicable], certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Tender:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*
Time commitment:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*

I understand that any misrepresentation or omission in this Form may:

a) Be taken into consideration during Tender evaluation;
b) Result in my disqualification from participating in the Tender;
c) Result in my dismissal from the contract.

Name of Contractor's Representative or Key Personnel: [insert name]

Signature:

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature:_____

Date: (day month year): _____

TENDERER'S QUALIFICATION WITHOUT PRE-QUALIFICATION

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria the Tenderer shall provide the information requested in the corresponding Information Sheets included hereunder.

5. FORM ELI -1.1

Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 ☐ In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderer is not under the supervision of Kenya Airports Authority 2. Included are the organizational chart and a list of Board of Directors.

6. FORM ELI -1.2

Tenderer's JV Information Form

(to be completed for each member of Tenderer's JV)

Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of Kenya Airports Authority, in accordance with ITT 3.8. 2. Included are the organizational chart and a list of Board of Directors.

7. FORM CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____

Date: _____

JV Member's Name ITT No. and title: _____

<table>
<tr><td colspan="4">Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria</td></tr>
<tr><td colspan="4">☐ Contract non-performance did not occur since 1st January [insert year] specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.

☐ Contract(s) not performed since 1st January [insert year] specified in Section III, Evaluation and Qualification Criteria, requirement 2.1</td></tr>
<tr><td>Year</td><td>Non-performed portion of contract</td><td>Contract Identification</td><td>Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)</td></tr>
<tr><td>[insert year]</td><td>[insert amount and percentage]</td><td>Contract Identification: [indicate complete contract name/ number, and any other identification]
Name of Procuring Entity: [insert full name]
Address of Kenya Airports Authority: [insert street/city/country]
Reason(s) for nonperformance: [indicate main reason(s)]</td><td>[insert amount]</td></tr>
<tr><td colspan="4">Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria</td></tr>
<tr><td colspan="4">☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.
☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.</td></tr>
</table>

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	

Litigation History in accordance with Section III, Evaluation and Qualification Criteria

☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.

☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.

Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Procuring Entity" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

8. FORM FIN – 3.1:

Financial Situation and Performance

Tenderer's Name: _____

Date: _____

JV Member's Name_____

ITT No. and title: _____

Type of Financial information in_____ (currency)	**Historic information for previous _____*years,*** **_____ (amount in currency, currency, exchange rate*, USD equivalent)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (Kenya Shilling equivalent)
1		
2		
3		

Financial documents

The Tenderer and its parties shall provide copies of financial statements for _____years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

a. Reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).
b. Be independently audited or certified in accordance with local legislation.
c. Be complete, including all notes to the financial statements.
d. Correspond to accounting periods already completed and audited.

Attached are copies of financial statements for the _____years required above; and complying with the requirements.

9. FORM FIN – 3.2:

Average Annual Construction Turnover

Tenderer's Name: _____

Date: _____

JV Member's Name_____

ITT No. and title: _____

	Annual turnover data (construction only)		
Year	**Amount Currency**	**Exchange rate**	**Kenya Shilling equivalent**
[indicate year]	*[insert amount and indicate currency]*		
Average Annual Construction Turnover *			

10. FORM FIN – 3.3:
Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III, Evaluation and Qualification Criteria.

Financial Resources		
No.	**Source of financing**	**Amount (Kenya Shilling equivalent)**
1		
2		
3		

11. FORM FIN – 3.4:
Current Contract Commitments / Works in Progress

Tenderers and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

No.	Name of Contract	Kenya Airports Authority's Contact Address, Tel,	Value of Outstanding Work [Current Kenya Shilling /month Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]
1					
2					
3					
4					
5					

12. FORM EXP - 4.1

General Construction Experience

Tenderer's Name: _____

Date: _____

JV Member's Name_____

ITT No. and title: _____

Page _____of _____pages

Starting Year	Ending Year	Contract Identification	Role of Tenderer
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	

13. FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name_____

ITT No. and title: _____

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-Contractor ☐
Total Contract Amount			**Kenya Shilling**	
If member in a JV or sub-Contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				

14. FORM EXP - 4.2 (a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	**Information**
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

15. FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

Sub-Contractor's Name (as per ITT 34): _____

ITT No. and title: _____

All Sub-Contractors for key activities must complete the information in this form as per ITT 34 and Section III, Evaluation and Qualification Criteria, Sub-Factor 4.2.

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-Contractor ☐
Total Contract Amount			**Kenya Shilling**	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)		Actual Quantity Performed (i) x (ii)
Year 1				
Year 2				
Year 3				
Year 4				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	

OTHER FORMS

16. FORM OF TENDER

(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS

i) *All italicized text is to help the Tenderer in preparing this form.*

ii) *The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.*

iii) *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (s) below*

Date of this Tender submission……

Tender Name and Identification: **KAA/OT/HQ/0184/2023-2024 FOR FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY.**

Alternative No.: N/A

To: **Kenya Airports Authority**

Dear Sirs,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct and complete the Works and remedy any defects therein for the sum of Kenya Shillings [*[Amount in figures]*_____Kenya Shillings *[amount in words]*_____.

The above amount includes foreign currency amount (s) of [*state figure or a percentage and currency*] [figures]_____[words]_____.

The percentage or amount quoted above does not include provisional sums, and only allows not more than two foreign currencies.

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

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

4. Unless and until a formal Agreement is prepared and executed this tender together

with your written acceptance thereof, shall constitute a binding Contract between us. We further understand that you are not bound to accept the lowest or any tender you may receive.

5. We, the undersigned, further declare that:

i) *No reservations:* We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;

ii) *Eligibility:* We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;

iii) *Tender-Securing Declaration:* We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in Kenya Airports Authority's Country in accordance with ITT 19.8;

iv) *Conformity:* We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works];*

v) *Tender Price:* The total price of our Tender, excluding any discounts offered in item I above is: *[Insert one of the options below as appropriate]*

vi) Option 1, in case of one lot: Total price is: [*insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*]; Or

Option 2, in case of multiple lots:

a) Total price of each lot [*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and

b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

vii) *Discounts:* The discounts offered and the methodology for their application are:

viii) The discounts offered are: [*Specify in detail each discount offered.*]

ix) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

x) *Tender Validity Period:* Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

xi) *Performance Security:* If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;

xii) *One Tender Per Tender:* We are not submitting any other Tender(s) as an

individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a Sub-contractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;

xiii) *Suspension and Debarment:* We, along with any of our Sub - contractor, suppliers, Project Manager, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

xiv) *State-owned enterprise or institution:* [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITT 3.8*];

Commissions, gratuities, fees: We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*.

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

xv) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

xvi) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;

xvii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

xviii) Collusive practices: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Tender Determination" attached below.

xix) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from _____(*specify website*) during the procurement process and the execution of any resulting contract.

xx) **Beneficial Ownership Information:** We commit to provide to Kenya Airports Authority the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.

xxi) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:

a) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
b) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
c) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal

Further, we confirm that we have read and understood the full content and scope of fraud and corruption as informed in **"Appendix 1- Fraud and Corruption**" attached to the Form of Tender.

Name of the Tenderer: …….

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ……

Title of the person signing the Tender: ……..

Signature of the person named above: ……..

Date signed …….day of ……. *month*, ……

year.

Notes

** In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer*

*** Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.*

TENDERER'S ELIGIBILITY - CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

Tender is instructed to complete the particulars required in this Form, one form for each entity if Tender is a JV. Tenderer is further reminded that it is an offence to give false information on this Form.

Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	**Kenya Airports Authority**
2	Reference Number of the Tender	**KAA/OT/HQ/0184/2023-2024**
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (*postal and physical addresses, email, and telephone number*) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (*postal and physical addresses, email, and telephone number*) of state which stock exchange	

General and Specific Details

b) **Sole Proprietor,** provide the following details.

Name in full_____Age_____

Nationality_____Country of Origin_____
Citizenship _____

Partnership, provide the following details.

	Names of Partners	**Nationality**	**Citizenship**	**% Shares owned**
1				
2				
3				

b) **Registered Company,** provide the following details.

i) Private or public
Company……..

ii) State the nominal and issued capital of the Company Nominal

Kenya Shillings (Equivalent).....

Issued Kenya Shillings

(Equivalent).....

Give details of Directors as follows

	Names of Director	**Nationality**	**Citizenship**	**% Shares owned**
1				
2				
3				

(e) DISCLOSURE OF INTEREST- Interest of the Firm in Kenya Airports Authority.

i) Are there any person/persons in Kenya Airports Authority who has/have an interest or relationship in this firm?
Yes/No……

If yes, provide details as follows.

	Names of Person	Designation in Kenya Airports Authority	Interest or Relationship with Tenderer
1			
2			
3			

ii) Conflict of interest disclosure

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of Kenya Airports Authority who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of Kenya Airports Authority who would be involved in the implementation or supervision of the such Contract.		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to Kenya Airports Authority throughout the tendering process and execution of the Contract.		

Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name……..……

Title/Designation ……....…….

……. ……

(Signature) *(Date)*

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to **Kenya Airports Authority** for **KAA/OT/HQ/0184/2023-2024 FOR FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY** in response to the request for tenders made by:_**KENYA AIRPORTS AUTHORITY** do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of_____[Name of Tenderer] that:

1. I have read and I understand the contents of this Certificate;

2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;

4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
   a) has been requested to submit a Tender in response to this request for tenders;
   b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;

5. The Tenderer discloses that [check one of the following, as applicable:
   a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
   b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;

6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   a) prices;
   b) methods, factors or formulas used to calculate prices;
   c) the intention or decision to submit, or not to submit, a tender; or
   d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;

7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;

8. the terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name_____

Title_____

Date _____

[Name, title and signature of authorized agent of Tenderer and Date].

SELF - DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENTAND ASSET DISPOSALACT 2015.

I, ……., of Post Office Box …..……. being a

resident of……... in the Republic of ……. do

hereby make a statement as follows: -

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of……....……. *(insert name of the Company)* who is a Bidder in respect of Tender No. **TENDER No. KAA/OT/HQ/0184/2023-2024 FOR FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY** and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its Directors and Sub - contractor have not been debarred from participating in procurement proceeding under Part IV of the Act.

3. THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

Title_____Signature_____Date_

Bidder Official Stamp

FORM SD2

SELF DECLARATION THAT THE PERSON/TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE

I, ……. of P. O. Box ….....……. being a resident of…….. in the Republic of ……. do hereby make a statement as follows: -

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ……..... *(insert name of the Company)* who is a Bidder in respect of Tender No. **KAA/OT/HQ/0184/2023-2024 FOR FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY** and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its servants and/or agents /Sub - contractor will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of Kenya Airports Authority.

3. THAT the aforesaid Bidder, its servants and/or agents /Sub - contractor have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of Kenya Airports Authority)

4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender

5. THAT what is deponed to herein above is true to the best of my knowledge information and belief.

Title _____
Signature _____
Date _____

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I ……..……. (person) on behalf of *(Name of the Business/ Company/Firm*) ……. declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory…….....

Sign…….....

Position…….....

Office address…….

Telephone…….....……. Email…….

Name of the firm/Company…….....

Date……

Company Seal/ Rubber Stamp where applicable

Witness

Name …….....

Sign..... Date……

APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

Purpose

The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act *(no. 33 of 2015)* and its Regulation, and any other Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

Requirements

The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-Contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.

Kenya's public procurement and asset disposal act *(no. 33 of 2015)* under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior: -

1) A person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
   a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
   b) if a contract has already been entered into with the person, the contract shall be voidable;
4) The voiding of a contract by Kenya Airports Authority under subsection (7) does not limit any legal remedy Kenya Airports Authority may have;
5) An employee or agent of Kenya Airports Authority or a member of the Board or committee of Kenya Airports Authority who has a conflict of interest with respect to a procurement: -
   a) shall not take part in the procurement proceedings;
   b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and
   c) shall not be a Sub-contractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the Sub-contractor appointed shall meet all the requirements of

this Act.

1) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to Kenya Airports Authority;

2) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

In compliance with Kenya's laws, regulations and policies mentioned above, Kenya Airports Authority:

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:

a) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

b) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

c) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

d) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

e) "obstructive practice" is:

i. Deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

ii. Acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.

f) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the Contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive Kenya Airports Authority of the benefits of free and open competition.

g) Rejects a proposal for award of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-Contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

h) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or recommend to appropriate authority (ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;

i) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-Contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

j) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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[1] *For the avoidance of doubt, a party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and tendering, either directly or as a nominated sub-Contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.*

[2] *Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by Kenya Airports Authority to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information*

17. FORM OF TENDER SECURITY- [Option 1–Demand Bank Guarantee]

Beneficiary: _____

Request for Tenders No: _____

Date:_____

TENDER GUARANTEE No.: _____

Guarantor: _____

1. We have been informed that_____(here in after called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here in after called" the Tender") for the execution of_ under Request for Tenders No._____

2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.

3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of____(_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

   (a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or

   b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provide by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

_____

[signature(s)]

18. FORM OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.:

1. Whereas …… [*Name of the tenderer]* (hereinafter called "the tenderer") has submitted its tender dated …… [*Date of submission of tender]* for the …… *[Name and/or description of the tender]* (hereinafter called "the Tender") for the execution of__under Request for Tenders No._____("the ITT").

2. KNOW ALL PEOPLE by these presents that WE …… of …… **[Name of Insurance Company]** having our registered office at …… (hereinafter called "the Guarantor"), are bound unto …….. Kenya Airports Authority (hereinafter called "the "Procuring Entity") in the sum of …… (Currency and guarantee amount) for which payment well and truly to be made to the said Kenya Airports Authority, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

   Sealed with the Common Seal of the said Guarantor this ___day of _____ 20 __.

3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Applicant:

a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Principal; or

b) having been notified of the acceptance of its Tender by Kenya Airports Authority during the Tender Validity Period or any extension thereto provided by the Principal; (I) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers ("ITT") of Kenya Airports Authority's Tendering document,

then the guarantee undertakes to immediately pay to Kenya Airports Authority up to the above amount upon receipt of Kenya Airports Authority's first written demand, without Kenya Airports Authority having to substantiate its demand, provided that in its demand Kenya Airports Authority shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii)twenty-eight days after the end of the Tender Validity Period.

4. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

_____ _____

[Date] *[Signature of the Guarantor]*

19. TENDER-SECURING DECLARATION FORM

[The Bidder shall complete this Form in accordance with the instructions indicated]

Date: .....*[insert date (as day, month and year) of Tender Submission]*
Tender No.: .....*[insert number of tendering process]*
To: ..... *[insert complete name of Purchaser]* I/We, the

undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.

2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation(s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.

3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
   a) our receipt of a copy of your notification of the name of the successful Tenderer; or
   b) thirty days after the expiration of our Tender.

4. I/We understand that if I am/we are/in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:……

Capacity / title (director or partner or sole proprietor, etc.) ……..…….....…….

Name: …….. Duly

authorized to sign the bid for and on behalf of: *[insert complete name of Tenderer]*

Dated on ……. day of ……. *[Insert date of signing]*

Seal or stamp

20. APPENDIX TO TENDER

Schedule of Currency requirements

Summary of currencies of the Tender for *[insert name of Section of the Works]*

Name of currency	***Amounts payable***
Local currency: _____	
Foreign currency #1: _____	
Foreign currency #2: _____	
Foreign currency #3: _____	
Provisional sums expressed in local currency _____	[To be entered by Kenya Airports Authority]

TECHNICAL PROPOSAL

The tender shall complete these sections as a Technical Proposal to indicate how he/she intends to proceed with the works. Kenya Airports Authority will review these Proposals and determine the extent to which they meet the required standards to complete the works.

Site Organization

[Insert Site Organization information]

Method Statement

[Insert Method Statement]

Mobilization Schedule

[Insert Mobilization Schedule]

Construction Schedule

[Insert Construction Schedule]

Construction Safety Plan

[Insert Construction Safety Plan]

PART II: WORK REQUIREMENTS

SECTION V – DRAWINGS

SECTION VI – SPECIFICATIONS

SECTION 1 - GENERAL

The specifications for the works shall be as per the Ministry of Roads and Public Works Standard Specification for Roads and Bridge Construction (1986) as amended herein by the special specification.
Specific attention shall be made to the following FAA Advisory Circulars

1) No.150/5370 – 10G – Standard for Specifying Construction of Airports.
2) No.150/5380 – 6C – Guidelines and Procedures for Maintenance of Airport pavements.

Attention shall be made to ICAO Annex 14, on Aerodrome Design and Operation.

The Items in the Bills of Quantities shall be read in conjunction with these specifications.
The following design codes shall be used for this Framework Agreements:

a) BS 8110: 1997 Reinforced Concrete Design.
b) BS 8666 – Cutting and Bending of steel.

Special Specifications.

101. Location of Site

The Pavement Maintenance shall be undertaken in the following airports:

1. Jomo Kenyatta International (JKIA),
2. Wilson Airport
3. Moi International (MIA),
4. Eldoret International (EIA),
5. Kisumu International (KIA) airports,
6. Malindi International Airport (MLD)
7. Wajir International Airport (WJR)
8. Lokichogio Airstrip
9. Isiolo Airport
10. Manda Airport
11. Kitale Airstrip
12. Garrisa Airstrip
13. Kakamega Airstrip
14. Migori Airstrip
15. Kabunde Airstrip
16. Lanet Airstrip
17. Nyaribo Airstrip
18. Nanyuki Airstrip
19. Ikaanga Airstrip
20. Ukunda Airstrip

The Contractor will be called upon at any time within the period of contract validity to deal with any emergencies at any airport that they may quote and be awarded the framework agreement to be executed for the period ending 30th June 2026.

102. Scope of Works:

The works specified under this contract shall include all general and ancillary works and work of any nature that is deemed necessary for the due and satisfactory construction, completion and maintenance of the works to the full extent and meaning of the Drawings and Specifications, whilst complying with all Conditions of Contract.

The scope of the contract shall cover works within the limits of routine maintenance, periodic maintenance and emergency work and as stated in the attached Bills of Quantities and specifications.

The Contractor shall be available at all times to attend to any emergency works that arise in KAA - Airports as shall be instructed by the Engineer.

The scope of works to be executed under the Contract therefore comprises of but not limited to the following: -

- Repair of damaged concrete and asphalt pavements
- Pothole patching, edge repairs and crack repairs using asphalt
- Concrete or surface dressing or both for asphalt pavements
- Painting of concrete and asphalt pavements on landside and airside
- Clearing and repair of drainage systems
- Replacement of damaged manhole covers.
- Localized regulation and sealing (asphalt pavements)
- Reinstatement of road signs and furniture
- Shoulder repairs.
- Grading of access roads.

102.1 Compliance with Specification

All material, plant, labour and workmanship in and connected with the execution of the works shall be the best of their respective kinds without regard to any trade terms and the Contractor shall comply with these and all other respects with the relevant Clauses in the Specification and shall carry out the Contract in a proper and workmanship like manner and in strict accordance with Specifications, Working Drawings and Instructions of the Engineer.

102.2. Mobilization

Mobilization shall be not less than 7 days of Order to Commence. Estimation for the **maximum value of a works delivery order shall be Ksh. 15,000,000.00** per contract and **minimum of Ksh 500,000.00.** Contract Period of each works delivery order shall not exceed 20 weeks.

(i) The Contractor shall be responsible for ascertaining the nature and effect of all such regulations and instructions and shall be deemed at all times to have full knowledge thereof.
(ii) No person who is deficient in eyesight or hearing shall be employed on the works and all safety regulations for the time being in force at the above are to be brought to the notice of all persons employed on the works and to be strictly complied with.

103 Contract Drawings

Where applicable, a set of Contract drawings has been bound in a book of drawings accompanying these Contract Documents as a separate volume. Additional copies of these drawings that may be required by the Contractor can be obtained from the Engineer, in which case the Contractor will be required to reimburse the cost of producing such additional copies.

The Engineer may from time to time, in order to enable the satisfactory completion of the works, revise, amend or supersede any of these drawings. It shall be the Contractor's responsibility to construct all works in conformity with the latest revision, amendment or superseding drawings, provided that the Engineer has given to the Contractor in writing such reasonable prior notices of intention to revise, amend or supersede as the nature of the intended change requires, and the relevant drawings have been issued to the Contractor.

Where applicable and for Frame Work Contracts there shall be no drawings.

104. Program of Execution of the Works

The Contractor shall provide the works program, required under clause 14 of the Conditions of Contract, within 28 days of receipt of the Engineer's Order to commence work. The program shall be coordinated with climatic and other conditions to provide for the completion of the works in the order and by the time specified.
The Contractor shall carry out the contract in accordance with the program agreed with the Engineer, but he shall in no manner be relieved by the Engineer's approval of the program, of his obligation to complete the works in the prescribed order and by the prescribed completion date and he shall from time to time review his progress and make such amendments to his rate of execution of the works as may be necessary to fulfil his obligations.

105. Order of Works

In addition to Clause 105 of the Standard Specification the Contractor shall carry out the Works such that a continuous and consecutive output of fully completed work is achieved.

106. Submissions to the Engineer

Submittal Procedures

Summary

A. This section sets forth general provisions regarding submittals required from the Contractor which include:
   1) Monthly Progress Reports
   2) Survey Data
   3) Shop Drawings
   4) As-built Drawings and Final Construction Report
   5) Product Data
   6) Samples
   7) Construction Photographs as Specified
   8) Miscellaneous

B. Monthly Progress Reports

1) The Contractor shall maintain a daily log describing the important events pertaining to the works, the working hours, the number of laborers employed, effective time of operation equipment, overtime hours, progress of work and instructions, notifications and recommendations made by the Engineer. The daily log shall at all times be available to the Engineer upon request.
2) The Contractor shall submit to the Engineer four (4) copies of the monthly progress reports within seven (7) days after the end of every month indicating the progress made, construction activities, inventories of materials used and stored on jobsite, number of working days, the summary of the daily log of the month and all important events in relation to the works.

C. Survey Data

1) Within four (4) weeks of completion of any field survey works if any, two (2) copies of each drawing shall be submitted to the Engineer for review before the submission of the final drawings containing two (2) sets.

2) Two (2) copies of the field data neatly bound in a folder and an electronic copy shall be submitted to the Engineer if any. The field data shall be signed by the field Engineer.

3) Within one month before the issuance of the Taking Over Certificate the Contractor shall submit to the Engineer two copies of obstacle survey within the vicinity of the airport if any.

D. Shop Drawings

1) The Contractor shall submit shop drawings where so required by particular sections of the specifications or as requested by the Engineer. Shop drawings shall be based upon the drawings and specifications requirements, in the approved scale, clearly showing all details for fabrication and assembly.

2) The drawings shall be in two (2) copies, and submitted as soon as possible to the Engineer for review and in any case in sufficient time to permit modifications to be made if such are deemed necessary by the Engineer. For each submission of drawings, a minimum time of two (2) weeks shall be allowed for review of the

Engineer. The Engineers review of drawing shall not relieve the Contractor from any responsibility under the Contract.

3) Each drawing shall be examined and commented on by the Engineer and will be returned to the Contractor, who shall then print the necessary copies of each drawing requiring no correction for distribution.

4) Drawings requiring correction shall be corrected and resubmitted.

5) Where drawings are inspected, the said inspection does not relieve the Contractor from his responsibility or from the necessity of furnishing material or performing work required by the drawings and specifications, which shall in the event of a dispute, take precedence over shop drawings.

E. As-Built Drawings

1) Within one month after the issuance of the Taking Over Certificate, the Contractor shall prepare and submit 2 sets of as-built drawings and final construction report as draft. And within 15 days after the Engineer has commented the draft, the Contractor shall submit five sets of Final Construction Report and Final As-Built Drawings, if required.

2) Final As-Built Drawings of the works consist of five (5) sets in hardcopy and five
3) (5) sets electronic copy (AutoCAD latest edition).

F. Product Data

1) The Contractor may submit manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data in lieu of shop drawings.

2) When contents of submitted literature from manufacturers include data not pertinent to submittal, clearly indicate which portion of contents is being submitted for review.

107. Certificate of Completion

Wherever the "Certificate of completion" and "Period of Maintenance" are stated in the specification, these shall be read respectively as the "Taking Over Certificate" and "Defects Liability Period".

The Taking-Over Certificate for these works shall be issued upon application by the Contractor under Clause 48.2 of the Conditions of Contract on substantial completion of the construction works. The Defect Liability Certificate will be issued after the end of the Defects Liability Period.
Release of Retention Money will be on issuance of the said certificates.

108. Method of construction

Add the following to this clause:

The submissions of work program, Order of Work and the General Description of works shall be consistent in presentation and content when handed over for the Engineer's approval and in accordance with programs and schedules as stated in Clause 14.1 of Conditions of Contract.

Notwithstanding any contrary provision contained in the last paragraph of Clause 108 of the Standard Specification, the Engineer's normal working hours shall be defined as 8:00 a.m. to 5:00 p.m. on weekdays, including lunch break from 1.00 p.m. to 2.00 p.m. and 8:00 a.m. to 1:00 p.m. on Saturdays, with Sunday being set aside as a day of rest.

109. Notification Terms

It shall be the Contractor's responsibility to notify the Engineer when any item of works scheduled are completed and ready for approval, and the Contractor shall give sufficient notice to allow control test to be performed.

111. National Specifications

Add the following sub- Clause.

The Works shall conform to both Standard Specifications for Road and Bridge Constructions and any standards stipulated in the specifications. In addition, the works shall conform to following publications;

(a) Aerodrome Design Manuals (ADM) part I to VII

(b) ICAO Annexes

111b. Notice to Airmen (NOTAM)

The Contractor shall be required to ensure availability of publication and adherence to NOTAM and supplementary information where applicable before commencement of any activities where so required. The Contractor shall be required to ensure strict compliance to both internal and local government regulations such as by ICAO, Airport Council International- ACI, IATA, AAC, KCAA, Communications Authority of Kenya -CAK etc.
The Contractor shall keep records and track validity of the required permits from all government agencies and shall notify the Engineer of their expiry dates before their expiry.
The Contractor shall ensure all staff accessing restricted areas meet all regulations and have valid permits to access such locations. The Contractor shall be responsible and price in his rates for all costs arising from meeting the requirements. The program of works shall take into consideration duration required to publish a NOTAM and the program shall be revised from time to time as may be required to comply with AIP's (Aeronautical information Publications) and NOTAMs.

117. Health Safety and Accidents

The Contractor will responsible for the provision of all safety measures meeting all the aviation regulations and national standards. The Contractor shall be required to provide PPE's including helmets, safety boots, reflective vest, safety goggles, prospective gloves ,as required, for his own staff and that of the Employer's personnel as shall be directed from time to time, air side safety requirement, preparations of Method Statements, Phasing plans where required and Security plans, Safety cones, black/yellow highly reflective warning tapes, solar powered directional signage, information signs, warning signs demarcating hazards and construction site.

The Contractor shall be required to employ at his own cost a qualified Environment and Safety officers.

The Contractor shall equip all motorized equipment with flashing beacon lights at all times.

In addition to providing, equipping and maintaining adequate first aid stations throughout the works in accordance with the Laws of Kenya. The Contractor shall allow for this in the rates and be responsible for all site welfare arrangements at his own cost.

119. Use of Explosives

a) The requirements of the Laws of Kenya governing explosives and other requirements and regulations of Government of Kenya and other authorities shall be complied with.
b) No explosives of any kind shall be used without prior written consent of the Engineer.
c) The Contractor shall be solely responsible for the provision, handling, and storage and transporting of all explosives, ancillary materials and all other items of related kind whatsoever required for blasting.
d) Before the beginning of the Defects Liability Period the Contractor shall remove all unused explosives from the site on completion of the Works or which are ordered by the Engineer, and submit to the Engineer written confirmation of compliance with the instruction.

e) The Contractor shall submit to the Engineer monthly returns detailing the quantity of explosives brought to the site together with the quantities used during the month and the location and quantity of rock blasted.

120. Protection of Existing Works and Services

The Contractor shall acquaint himself with the position of all existing services such as sewers, water drains, cables for electricity and telephone, lighting and telephone poles, water mains, etc., before commencing any excavation or other work likely to affect the existing services.

The cost of all plant, equipment and materials, labour, technical and professional staff, transport and the like necessary for determining the locations of existing services,

including the making good of any damage caused to such services all to the satisfaction of the Engineer, shall be deemed to be included in the tender rates. No other payment shall be made for the costs of such operations, nor for the making good of damage caused thereby to the existing services.

The Contractor shall be held responsible for injury to existing structures, works or services and shall indemnify and keep indemnified the Employer against any claims in this respect (including consequential damages).

A The Contractor shall coordinate construction scheduling, submittals, and work of the various sections of the Project to ensure efficient and orderly sequence of installation of each items of work.
B The Contractor shall verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
C The Contractor shall coordinate space requirements, supports, and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
D In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
E Coordinate completion and clean-up of work of separate sections in preparation for Substantial Completion and for portions of work designated for Employer's partial occupancy.
F After Employer's occupancy of premises, the Contractor shall coordinate with the Employer access to site for correction of defective work and work not in accordance with Contract documents, to minimize disruption of Employer's activities.

120.2 Noninterference with Aircraft Movements and Safety Precautions

(i) The Contractor shall ensure that neither his own operations, nor those of his Sub-contractor(s), and no trespass by his employee shall interfere with the operations of aircraft using the airfield, and shall at all times maintain close liaison with the Designated Safety Officer.
(ii) The Contractor shall ensure that the airfield service and emergency roads are maintained in open and serviceable conditions at all times.
(iii) The Contractor shall ensure that the works are carried out in such a manner that they do not present hazardous conditions to aircraft.
(iv) The Contractor shall allow in his rates for all inconvenience or delay caused by air movements and for all costs which may be carried by him in complying with the requirement for this specification. No claim shall be allowed or delays resulting from abnormal or increased aircraft movements during the contract period.

Flying operations and aircraft ground maneuvering operation will continue throughout the entire period of the contract. The Contractor shall comply strictly with all regulations and instructions of Airport Authorities in respect of all or any of the Contractor's operations

that may take place upon or in any way affect operations at the airfield as if the said regulations and instructions were of statutory effect in Kenya

121. Diversion of services

Add the following to the existing text:

a) The Contractor shall acquaint himself with the position of all existing services including sewers, water pipes, underground drains, cable for electricity and telephone lines, telephone and lighting poles before commencing any excavation or other work likely to affect these existing services.
b) The Contractor shall pay any charges arising from the moving of such services for which Provisional Sums have been included in the Bill of Quantities. Subject to the agreement of the Engineer and upon production of receipts, the Contractor shall be reimbursed in Interim Certificates the net cost of such moving or alteration plus the percentage inserted in the Bill of Quantities for all costs and profits in making the payments.
c) The Contractor shall be entirely responsible for and shall repair at his own cost, any services that may be damaged by his plant, equipment or personnel for not following the laid down procedure of locating and shifting services or damage that may occur subsequent to alteration of such services. The Contractor shall indemnify the Employer against claims arising from damages to existing services or works.

123. Liaison with Government Officials and Police

In addition to the requirements of maintaining liaison with Government Officials and Police, the Contractor shall be responsible for acquainting himself with all current and valid ordinances or regulations which may affect the work.

The Contractor's attention is also drawn to his obligations with regard to inspection and examination of the site as stipulated under Clause 11 of the Conditions of Contract

124. Provision of Land

Land for All Camps Sites and for The Contractor's Own Purposes, Including Temporary Works.

The Contractor shall be responsible for locating and establishing his own camp site out of the airport land. Provision of a site for the Contractor to establish a camp within the airport land shall be upon request and approval by the Airport Manager subject to all levies and charges and meeting regulations as may be communicated to the Contractor.

Notwithstanding Clause 124 of the Standard Specification all requirements of land for temporary works and construction purposes shall be to the approval of the Engineer but the Contractor will make all necessary arrangements with the property owners concerned and pay all charges arising therefrom.

On or before completion of the Contract, the Contractor shall remove all temporary works and shall restore all such land to the condition in which it was immediately prior to the occupation thereof as far as is reasonable and practicable.

No separate payment will be made to the Contractor on account of these items and the Contractor must make due allowance for them in his rates.

Notwithstanding Clause 120 of the Standard Specifications, the Contractor shall be required to appoint competent surveyors who will liaise with the Engineer on matters related to the demarcation of the existing road reserve, site measurements, removal and reinstatement of existing services.

125. Water Supply

The Contractor at his own cost shall obtain necessary permissions from both relevant Government authorities and private parties to draw water from natural sources and private sources respectively.

126. Material and Manufactured Articles

a) The Contractor shall submit samples free of charge, of the plant and materials to be incorporated into the works, Product Warranties and whenever called for by the Engineer, and all plant and materials subsequently delivered to the site for use in the works, are to be identical to the samples approved by the Engineer.
b) All samples shall be delivered a minimum of two (2) weeks in advance of commencement of the works in order to give the Engineer sufficient time in which to make decisions regarding choice.
c) The quantity of the samples provided shall be sufficient for the Engineer to determine whether or not the sample(s) comply with the standard required. Each sample shall be labeled indicating the generic name of the sample, the manufacturer's name and the model number, brand name and supplier's name, and any other relevant data.
d) The Contractor shall accompany each delivery of samples with a transmittal voucher, listing the sample data enumerated above for each sample transmitted, and referencing each sample to the appropriate drawings, sheet and detail, and to the respective item in the Specifications and the Bill of Quantities.
e) In addition to the foregoing requirements, the Contractor shall provide sample panels of various work items, well in advance of such item commencing on site all as directed by and for approval of the Engineer.
f) The Contractor shall submit method of work execution, manufacturer's catalogues, specification of plant and materials, details of testing and commissioning procedures, manufacturer's recommended spare lists, operating and maintenance manuals, and other technical data so required by particular sections of specifications or as directed by the Engineer.

127. Information from Exploratory Boring and Test Pits

a) The Materials Report prepared by the Employer does not form part of the bid documents. However, the report will be made available for the Contractor's verification only and any conclusions in regard to suitability of material, location of borrow pits and material quantities made by the Contractor based on this information, will be his own responsibility.

b) The Contractor shall allow in his program for construction of trial sections and carrying out tests upon them as directed by the Engineer. Trials would normally

be required at the start of each pavement layer and if change of method or equipment deems it necessary as directed by the Engineer. The time for completion of the Contract shall not be extended because of the time needed to construct trial sections and evaluate the test on them.

At least fourteen (14) days before the work of laying any pavement layer is commenced the Contractor shall construct a trial at least 100 m in length and to the full construction width and shall be laid to the specified depth for the material. For each trial the Contractor shall use the materials mix proportions, mixing, laying, compaction plants and construction procedure that he proposes to use for the main work. The main work of laying the pavement layer shall not be commenced until this trial has been tested and approved by the engineer.

128. Storage of Materials and Manufactured Articles

All materials shall be stored on Site in a manner approved by the Engineer and the Contractor shall carefully protect from the weather all work and materials which may be affected thereby.

129. Test Certificates

When instructed by the Engineer the Contractor shall submit product warranties, certificates of test from the suppliers of materials and goods required in connection with the works as the Engineer may require.

Such certificates shall certify that the materials or goods concerned have been tested in accordance with the requirements of the specifications and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

130. Progress photographs

a) When instructed The Contractor shall provide record progress photographs taken at a fixed points and angle as, when and where directed by the Engineer at intervals of not more than (30) days.
b) The photograph shall be sufficient in number and location to record the exact progress of works.
c) Photographs shall be taken by digital camera at a resolution of minimum 20.0 megapixels.
d) On all photographs the date of taking the photograph shall be automatically imprinted by the camera.
e) The Contractor shall provide one (1) print of each photograph taken at a size of minimum 150 x 100 mm. All prints shall be placed in an album with a subtitle clearly representing the content of the photograph.
f) All photographs shall be provided in digital format (JPEG) on CD-ROM. Albums and CD-ROMs to accommodate the photographs shall be supplied by Contractor.

131. Signboards

The Contractor shall provide and erect publicity signs on the site as directed. The Engineer

shall, as shown in the Drawings, direct the minimum dimensions and thickness of the steel framework and sheet. The framework and sheet shall be prepared and painted black, while the ring at the top of the supporting frames shall be painted white.

The wordings and KAA's logo shall be printed on backlit sticker paper resistant to the effects of weather using reflectorized paint or material approved by the Engineer. The colors, fonts and heights of the letters shall be as indicated on the attached drawings and as directed by the Engineer.

Signboard shall be removed and handed over to the Airport/Airstrip in charge at the end of Defects Liability Period.

132.0 Housing Accommodation for the Resident Engineer and his Staff, Office and Laboratory for the Resident Engineer, Laboratory And Survey Equipment And Furniture

132.1 Housing Accommodation for the Engineer's Senior Staff

The Contractor shall construct, equip and maintain the number housing units for Type I and Type II as indicated in the BoQ for the Engineer's senior staff. The Engineer's senior staff houses shall be separate from that of the Contractor's staff housing and shall be sited and constructed to the satisfaction of the Engineer as detailed in the Drawings.

Type I and II Houses shall be in accordance with the book of drawings, and shall be constructed with material to be approved by the Engineer. The Engineer shall approve the design and construction of the same. These houses shall revert to the Contractor at the end of the project. They shall be paid for in accordance with Clause 141 of the Standard Specification, under Bill 1 of the Bill of Quantities.

All material used shall be new, strong, durable and weatherproof. Ceilings and floor must be properly insulated against heat with approved insulated material. The floor shall have a level smooth finish. All windows shall be glass, able to be opened, and with mosquito nets. The building materials shall be mosquito and termite proofed and painted inside and outside with two coats of paint/varnish, all to the approval of the Engineer.

The ceilings of houses and verandas shall be lined with ceiling board. All doors are to be fitted with mortise locks, which must be heavy duty on external doors. All windows shall be fitted with burglar bars.

The roof cladding shall be with G.I. corrugated sheets or equivalent material. The lounge, bedroom, bathroom, toilet and kitchen floor will have cement mortar finish floors. The workbenches in kitchen shall have approved cover. All the sanitary ware shall be vitreous China or equivalent of approved quality.

All houses are to be provided with a fire extinguisher and fire axe. Fire axes are to be secured to the outside of the buildings.

All storerooms shall be fitted with at least 3 substantial shelves and kitchens shall be fitted with shelves, drawers and cupboards as instructed.

The Contractor shall provide new furniture, equipment and fittings as listed herein below. The Contractor should obtain approval of the Engineer for the type and quality of the furniture, fittings and equipment before ordering.

All houses shall be provided with a piped supply of clean, unpolluted drinkable water suitable for bathing and for the washing of clothes. Bottled drinking water shall be provided as required on a daily basis. Electricity, gas and kerosene for the consumption of the Engineer and his staff shall be provided and the Contractor shall provide all necessary waterborne sanitation and disposal systems to the satisfaction of the Engineer.

The Contractor shall pay for water, electricity, gas and kerosene consumed, and for the statutory charges associated therewith. The Contractor shall be responsible for rubbish disposal by providing outside bins and daily collection and disposal to a central area located to the satisfaction of the Engineer.

Each type I and II house shall be erected separately. A barbed wire topped chain link wire fence 2 metres high with a chain and padlock lockable gate shall be provided around the general perimeter of the types I and II houses.

Each type I and II house shall be provided with day and night watchmen and security lights, the cost of which shall be deemed to have been included in the rates for the houses.

The senior staff will generally comprise the following:

Designation	**Number**
Resident Engineer	I
Assistant Resident Engineer/Highway Engineer	I
Materials Engineer	I
Structural/Drainage Engineer	I
Engineering Surveyor	I

Alternatively, the Contractor, subject to the approval of the Engineer, may rent equivalent housing for the Engineer's Senior Staff.

132.2 Housing Accommodation for Engineer's Junior Staff

The Contractor shall construct, equip, furnish and maintain the number units indicated in the BoQ for Type III, Type IV and Type V houses or equivalent for the Engineer's Junior staff, to be located adjacent to the Engineer's offices and laboratory, the location of which will be subject to Engineer's approval.

Junior staff houses shall be temporary and made in durable and weatherproof materials and to a similar standard as the senior staff houses.

House Types III, IV and V including furniture and fittings shall all revert to the Contractor on completion of contract. They shall be paid for in accordance with Clause 141 of the Standard Specification under the relevant item in Bill 1 of the Bill of Quantities; the staff will generally comprise the following:

Designation	**Number**
Assistant Engineer	1
Surveyor	1
Senior Inspector	2
Senior Lab Technician	1
CAD Technician	1
Administration Assistant	1
Secretary	1
Assistant Surveyor	2
Assistant CAD Technician	1
Inspectors	4
Lab Technicians	4
Leveler	2
Others(Chainmen/Laboratory Attendants)	12

132.3 List of Equipment for Engineer's Staff Houses

Each house shall be provided with new furniture, equipment and fittings to the approval of the Engineer. All the houses and furniture mentioned below shall revert to the contractor after the completion of the contract.

Contractor to include in their rates for the houses purchase of all the furniture listed below. Each house shall be provided with new furniture, equipment and fittings to the approval of the Engineer as listed below:

FURNITURE DESCRIPTION	**QUANTITY OF ITEMS PER TYPE OF HOUSE**				
	I	**II**	**III**	**IV**	**V**
1. FURNITURE ***(reverts to contractor)***					
Kitchen table (Formica top)	1	1	1	1	1
Kitchen chair	1	1	1	1	1
Dining table	1	1	1	1	1

FURNITURE DESCRIPTION	QUANTITY OF ITEMS PER TYPE OF HOUSE				
	I	II	III	IV	V
Dining chairs	6	6	4	4	2
Dining chairs with arms	2	2	1	1	1
Writing desk (3 drawer)	1	1	1	0	0
Book shelf	1	1	1	0	0
Settee - 7 Seater	1	1	0	0	0
Settee - 5 Seater	0	0	1	0	0
Easy chairs	4	4	2	2	1
Coffee tables	1	2	1	0	0
Side board	1	1	1	0	0
Beds double 6x6 with inner spring mattresses	2	1	-	-	-
Beds single 4x6 with inner spring mattresses	1	1	2	1	1
Pillows	8	8	4	2	2
Side tables	4	4	1	1	1
Dressing tables with mirrors	1	2	2	0	0
Dressing table stools	1	2	2	0	0
Chest of drawers	3	2	2	1	1
Bedside chairs	4	2	1	1	1
Bathroom cabinet with mirror	1	1	1	1	1
Bathroom stool	1	1	1	1	1
Floor rags	4	4	4	4	2
2. EQUIPMENT					
Air conditioner	5	4	4	2	1
Refrigerator (at least 19 cu.ft.) including a freezer compartment of about 3 cu. ft. capacity	1	1	0	0	0
Refrigerator (at least 7 cu.ft.) including a freezer compartment	0	0	1	1	0
Electric & gas cooker with 4 burners, a grill and an oven	1	1	1	0	0
Gas or Electric cooker with 2 elements	0	0	0	1	1
Fume hood	1	1	1	0	0
Water filter (hot and cold dispenser)	1	1	1	1	1

FURNITURE DESCRIPTION	QUANTITY OF ITEMS PER TYPE OF HOUSE				
	I	II	III	IV	V
Dust bin metal with lid(outdoor type)	1	1	1	1	1
Door mats	2	2	2	2	2
Vacuum cleaner	1	1	1	0	0
Ceiling fans	2	1	1	1	1
Set of 8 piece crockery, cutlery, glass wear	1	1	1	1	1
Set of kitchen utensils	1	1	1	1	1
Set of pots .pans etc.	1	1	1	1	1
Fire extinguisher	2	2	1	1	1
Standard lamps	5	2	1	1	1
Table lamps	1	1	1	0	0
Toilet tissue holders	1	1	1	1	1
Waste baskets	4	4	2	2	1
Mixer electric (portable)	1	1	1	1	1
Bedside lights	3	2	2	1	0
Wall lights	5	12	7	3	2
Pelmets and runners	LS	LS	LS	LS	LS
Curtains	LS	LS	LS	LS	LS
Bed sheets	16	16	8	8	4
Pillow cases	8	8	4	4	2
Blankets	8	8	4	4	4
Towel rails	2	2	1	1	1

132.4 Main Office

The Contractor shall provide, erect and maintain for the duration of the Contract, a furnished and equipped main office for the Engineer's Representative of weather-proof construction, provided with mosquito-proof and burglar-proof windows and lockable doors and suitably insulated against heat and cold, all to the satisfaction of the Engineer in respect of the Construction, design and siting. The office shall comply with the details shown in the drawings and shall have a clear height of not less than 2.6m. The floor shall be of floated

concrete, and adequately damp and termite-proof. Each room of the main office shall be air-conditioned with a medium size air conditioner.

A telephone shall also be provided for the Resident Engineer's office for his exclusive use. The Contractor shall be responsible for paying all the charges and fees related to the use of the telephone and be reimbursed the same on production of proof of payment.

The office for the Engineer's Representative shall be completely separate from that of the Contractor and, if so required by the Engineer, shall be fenced with a 2m high chain linked fence and gate with padlock and chain.

Latrines and washrooms graded to staff seniority, together with drinkable water supply and water borne sewage disposal, shall be provided for the office. The Contractor shall also provide 24 hours a day electricity supply to the offices and shall allow for any water and electricity consumed and for any statutory charges associated.

Unless the offices are accessible via an existing paved road the Contractor shall, if so required by the Engineer's Representative, provide an access road at least 3m wide to the office, together with a 100 square meters covered car parking area. Both access road and car park shall be surfaced with at least 150mm of consolidated gravel properly graded, cambered, sealed, drained and fitted with culverts.

132.5 Main Laboratory

The Contractor shall provide, erect and maintain for the duration of the Contract, a main laboratory complying with details shown on the standard drawing, to the satisfaction of the Engineer. The laboratory shall be sited adjacent to the Resident Engineer's main office.

The laboratory shall have piped potable water supply and a continuous electricity supply adequate for lighting, heating and operating the laboratory equipment.

The laboratory shall have a height from floor to ceiling of not less than 2.75 metres and all rooms shall be fitted with a medium size air conditioner, and electric lighting and power points as instructed by the Engineer's Representative and each door shall be fitted with a good quality mortise lock and provided with two keys.

Soaking tanks for CBR specimens shall be provided at floor level in the laboratory. Concrete cube curing tanks of adequate size shall also be provided. Both the CBR tanks and concrete cube curing shall have drainage pipes built in. The following rooms and facilities shall be provided in the Laboratory:-

i) Main and Mobile Office

This room shall have a total floor area of not less than 14 square metres and a total window area of not less than 2 square meters. The door and windows shall be fitted with fly screens

covered with mosquito gauze. The floor shall be of concrete with a float finish. The walls shall be lined and ceiling provided.

A display board of soft board or similar approved material, with a minimum surface area of 3 square metres shall be provided and securely fixed to the wall.

ii) Main Laboratory

This room shall have a total area of not less than 55 square meters and a total window area of not less than 7 square metres. The external entrance shall be a double door and single doors shall be provided for access to the adjacent offices. The external door and all windows shall be fitted with fly screens covered with mosquito gauze.
The floor shall be of concrete and float finished. The room shall be fitted out as indicated by the Engineer's Representative with three rigidly constructed work benches each minimum 2 metres long by 1 metre wide by 1 metre high and with top comprising either metal lined hard wood or steel float finished concrete at least 75mm thick and suitably reinforced, with a sink minimum size 600mm long by 450mm wide by 300mm deep fitted with a tap and waste pipe. Wall shelves, 450mm in width and having a surface area of at least 6 square metres, shall be provided and securely fitted.

Two display boards of soft board or similar approved material, each with minimum area of 3 square metres, shall be securely affixed to the walls as directed by the Engineer's Representative.

iii) Small Laboratory Room

This room shall have a total floor area of not less than 20 square metres and a total window area of not less than 2 square metres. The windows shall be fitted with fly screens covered with mosquito gauze. A single door shall provide access to the main laboratory room. The floor shall be fitted out as indicated by the Engineer's Representative with two rigidly constructed work benches each of minimum dimensions 2 metres long by 1 metre wide by 1 metre high with a top comprising either metal lined hardwood or a steel float concrete finish of at least 75mm thickness and suitably reinforced, with a sink of minimum size 600mm long by 450mm wide by 300mm deep fitted with a tap and waste pipe and concreted to the water supply for the main laboratory room. An approved air extractor fan shall be fitted through an outside wall.

iv) Store Rooms

These rooms having a total floor area of not less than 20 square metres shall be provided adjacent to the main laboratory building in a position to be indicated by the Engineer's Representative.

v) Concrete Slab for Sample Drying

A reinforced concrete slab 150mm thick and of total area not less than 20 square metres shall be provided adjacent to the main laboratory building in a position to be indicated by

the Engineer's Representative. The slab shall have a smooth finish to the satisfaction of the Engineer.

132.7 Engineers Office and Laboratory Furniture and Equipment

The Contractor shall provide, install and maintain in a good state of repair office furniture and equipment, and laboratory furniture and equipment, and survey equipment as outlined in this Clause 132 and in appendices to the Bill of Quantities with a dealer's certificate of warranty. It shall also be the Contractor's obligation to replenish consumables.

Resident Engineer's Main Office Furniture

As listed in Appendix to Item 1.04 of the bills of quantities.

Engineer's Main Office Equipment

As listed in Appendix to Item 1.04 of the bills of quantities.
Facilities for tea and coffee making, with sufficient crockery for all Engineers' staff including a 15 piece tea set.

All furniture and equipment bought under the Contract for the Engineer's office shall revert to the Employer at the end of the Contract.

132.8 Engineer's Office, Laboratory, and Survey Equipment

Survey Equipment

The Contractor, when instructed, shall provide and install at the Engineer's office the Equipment specified below with a dealer's certificate and warranty:

The survey equipment and design software to be provided shall include:

1	Engineer's automatic level Wild NAK - 2 or similar including tripod	1
2	Set of tripods (wild or similar)	1
3	Survey umbrella	1
4	3m ranging rod (metallic)	2
5	Levelling staff 5m with levelling bubble (wild iNLE 3 or similar)	2
6	30m steel white face tape	2
7	100m steel band tape	2
8	3m tape measure	2
9	Steel tape repair outfit	1
10	2kg hammer	2
11	Pangas 16" straight	5

12	Total station complete with a field data collector TOPCON Model ITS -722 or similar including all accessories and supporting software	1

Laboratory and Survey equipment shall be of approved manufacture, and shall be available for the Engineer's exclusive use throughout the contract within the following time periods

- *Survey equipment – not more than three (3) weeks after Engineer's order to supply*
- *Laboratory equipment – not more than sixty days after Engineer's order to supply*

All equipment shall be ready to use and complete to perform the tests.

Any delays to the Contractor or the Contractor's activities caused by the Engineer being unable to perform survey work, field or laboratory tests due to the Contractor's failure to supply and/or maintain the said equipment shall be deemed to have been caused entirely by the Contractors own actions, and any consequences of such delays shall be interpreted as such.

The equipment shall revert to the Employer on completion of the contract while the furniture shall revert to the Contractor.

Resident Engineer's Survey Equipment

As listed in Appendix to the bills of quantities.

Resident Engineer's Laboratory Equipment

As listed in Appendix to Item 1.06 of the bills of quantities.

132.9 Communication for the Engineer

a) Mobile phones

The Contractor shall provide, connect and maintain mobile phones for the exclusive use by the Engineer for the duration of the contract. The Contractor shall include for the cost of providing the mobile units complete with charger unit, "hands free" headset for each unit, connection to the network and all service charges applicable all as directed by the Engineer.

The Contractor shall provide air-time with each mobile phone which shall be paid for under prime cost sum allowed for in the bills of quantities. The mobile telephones shall be WAP enabled with e-mail capabilities and integrated camera of a minimum of 7.0 mega pixels. Payment for these mobiles and associated costs is included in the Bill of Quantities, and ownership of mobile phones will revert to the Contractor after completion of the Works.

b) Internet and email services

The contractor shall allow for the provision and maintenance of internet connectivity and associated costs as per BoQ item 1.18.

133 Time for Erection of the Engineer's Staff Houses, Offices and Laboratory

The time for completion of all housing for the Engineer's office, laboratory, senior and junior staff housing shall be as specified in the Standard Specification.

During the duration from the possession of site until taking over of the Engineer's houses and office, the Contractor shall provide suitable hotel or rented accommodation and appropriately located temporary office space, all adequately furnished and equipped to the approval of the Engineer.

The contractor shall be deemed to have allowed in his rates for the temporary accommodation of the Engineer, Materials Engineer, Highway Engineer, Structural/Drainage Engineer, Senior Surveyor and three support staff during this mobilization period and no separate payment will be made.

135 Maintenance of the Engineers Staff Houses, Offices, Laboratories, Furniture and Equipment

The Contractor shall provide adequate security 24 hours per day until expiry of the Period of Maintenance. The costs of staff required for security and to keep accommodation facilities, offices and laboratories in a well maintained, clean and fully habitable condition, plus the costs of consumables, shall be included in the relevant items for maintenance in the Bill of Quantities.

137. Attendance upon the Engineer and his Staff

The Contractor shall provide for employing the Engineer's support staff as detailed below, the Contractor shall seek prior approval from Engineer before employing the staff.

The costs, for attendance required by this Clause 137, shall be as specified in the attached table: -

Designation	Number	Minimum Qualifications	Minimum gross Monthly salary (Ksh)
Surveyor	1	National Diploma in Surveying/Civil Engineering	98,724.00
Inspector	1	National Diploma in Civil Engineering	98,724.00
Lab Technician	1	National Diploma in Civil Engineering	98,724.00

Lab Assistant	2	KCSE Certificate	30,000.00
Chain Men	2	KCSE Certificate	30,000.00
Office clerk/ Documentarist	1	Certificate in Secretarial or equivalent	70,000.00
Office Assistant	1	KCSE Certificate	30,000.00

In addition to the above listed staff, the Employer may attach under training or internship/Industrial attachment additional number of technical staff comprising Engineers, Inspectors, Surveyors and Materials Technologists.
Contractor will, on provision of receipts, be paid under appropriate bill items in the BoQ.

138. Vehicles and Drivers for the Engineer and his Staff and Method of Payment

In addition to provisions of the Clause 138 of the Standard Specification, the Contractor shall, when instructed to do so provide, fuel and maintain in good working conditions, with driver, the number and type of vehicle specified in the Bill of Quantities for exclusive use of the Engineer and his staff throughout the Contract.

The Contractor shall insure comprehensively the vehicles for any licensed driver and shall provide competent drivers during normal working hours and whenever required by the Engineer.

Should any vehicle supplied not be in road worthy condition, the Contractor shall provide equivalent replacement vehicle until such time as the original vehicle is repaired to the satisfaction of the Engineer and returned for use.

Payment for the vehicles up to 5,000Km shall be by months. Payment for mileage above 5,000Km shall be made at a rate per kilometer. The payment shall be inclusive of all fuels, lubricants, servicing, insurance, maintenance, drivers and repairs. The rate shall include

any overtime the driver might be due or any other allowance to the normal working hours.
The vehicles provided under this clause shall revert to the Contractor.

139. Miscellaneous Accounts

The Contractor may be instructed by the Engineer to make payments of general miscellaneous accounts for such items as stationary, stores and equipment and miscellaneous supervision personnel allowances and claims or the Engineer may direct the Contractor to purchase or pay for the above. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits under appropriate items in the Bills of Quantities.

140. Engineers, Office, Equipment & Furniture

The Contractor shall supply new furniture and office equipment for Engineer's office for Engineer's exclusive use. Ownership to revert to the Client at the end of the Contract. The Contractor shall maintain for the duration of the Contract, the Engineer's offices until the expiry of the Defects Liability Period.

At the end of the Contract, all Engineer's offices, office furniture/equipment and laboratory furniture/ equipment shall revert to the Employer.

A portable water supply shall be provided.

Furniture and equipment for the Engineers Office shall be as listed

	Furniture And Equipment For The Engineer's Laboratory & Office		
1	Executive office desk with side returns with open shelves and drawer , leatherette writing pad, equipped with grommets for wire management (minimum surface area 2.8sm)	№	1
2	High back executive Swivel ergonomic leather chair adjustable height	№	2
3	1.4m long office desk , with lockable drawers	№	3
4	Visitor's seats with Armrest.	№	4
5	Typist table complete with a chair	№	1
6	4-drawer lockable steel fire proof filling cabinets with combination locks.	№	2
7	3 m^2 3 levels wooden lockable cabinets with high swing glass doors and lower level in wooden doors	№	2
8	4 Way detachable Workstation office desk 2.4 m x 2.4 m, with lockable drawers and screens.	No.	4
9	Conference table for 10 sitting positions minimum size 1.8m x 4.8m with power and data sockets	№	1
10	High back executive Swivel orthopedic chair	№	6

	adjustable height		
11	Lockable cupboards.	№	1
12	Soft board for wall notices, drawings & other civil works 1.2m x 0.9 m	№	2
13	Refrigerator, 138 liter capacity	№	1
14	Fire extinguishers, CO_2 type, 9kgs capacity.	№	1
15	First aid kit for general purposes	№	1
16	Provide and maintain with Toner HP CF066A Laser jet Enterprise M725F Multi-Function Printer or similar approved laser printer.	№	1
17	3 No. Rims of A4 Printing Paper and 1 No. Rim of A3 Printing Paper per Month for the duration of the Contract.	№	1
18	1 Box of fine point ball point pens per Month for the duration of the Contract.	№	1
19	Electronic Scientific Calculator 12 figures (Casio fx-995).	№	2
20	2No. ordinary size stapler complete with staple pins for the duration of the Contract, ordinary size paper punch	№	1
21	Laptops	№	2
22	Water dispensers and refill for the duration of the Contract	№	2
23	Provide and maintain one (1) approved branded desktop computer with the following: Intel Core i7 processor, 20" TFT screen display, 1000 TB SATA HDD storage, 16 GB DDR RAM, DVD ±RW multi-layer drive, NIC card, 540M graphics card complete with all accessories and pre-loaded with licensed Windows 7 Ultimate 64-bit OS, latest MS Office and MS Project. The PC should have full multimedia capabilities.	№	2
24	Unlimited 40mbps or more wireless high Speed Internet for the duration of the Contract	№	1

Laptops specifications

Description	Requirements
Processor Type:	Intel Core i7-10750H 10th Gen
Cache:	12MB Cache
Memory (RAM)	32 GB DDR4-1333/1600
Hard Drive	1TB 7200 RPM SSD Hard Disk
Optical Drive	Blu-ray ROM with Super Multi DVD R/RW

	Double Layer
Multimedia Card Slot	8 in 1 media card reader: supports, Secure Digital (SD), Memory Stick, Memory Stick Pro, Memory Stick Duo and Memory Stick Pro Duo.
Graphics	NVIDIA GeForce
Fingerprint	Yes
Video Camera	2.0 Megapixel
Display Size	TFT Size 15.6 Inch (3840 x2160) 4K UHD
Mouse	Wireless Optical Mouse with mouse pad
Ethernet	10/100/1000 Base-T Network
Wi-Fi	Intel 5300 (802.11 a/b/g/n)
Bluetooth	Integrated Bluetooth® 4.0
Ports	4 USB 3.0 VGA-in,RJ-45 and AC-in
Operating System	Genuine Windows® 8 Professional (64-bit)preinstalled(OEM media for OS and Drivers will be supplied by the vendor, (with licensed CD or back up CD)
MS Office suite	Office 2019
Kaspersky Antivirus Network security 2020 and Firewall Software	One year Licensed
Power Supply	220 – 240 V
Other Software	Come preloaded with genuine AutoCAD 2019, Autodesk Civil3D 2019,Microsoft 360 and latest version of Adobe Acrobat
Battery	6 Cell Lithium-ion
Warranty	1 year
Supplied with a Laptop bag	Yes

141. Engineer's Site Laboratory

When instructed by the Engineer, the Contractor shall provide and maintain for the duration of the Contract, a new containerized laboratory for the Engineer of weather proof construction, with windows, and doors suitably insulated against heat and cold, all to the satisfaction of the Engineer in respect of the condition, design and siting.

The Laboratory container (standard dry container 20ft) shall be supplied, hauled, located to the approval of the Engineer and shall be maintained throughout the duration of the contract. The furnishings shall be new (heat insulation, Air Conditioning) and shall be maintained clean. The container windows shall be fitted with mesh security screens and bars and door entrance complete with suitable lock (All approved by Engineer).

The laboratory shall be located at the site within one month of the Contractor mobilizing to site and the location will be subject to the approval of the engineer. The Contractor shall be responsible for provision of all utilities specified herein. The Contractor shall ensure that the laboratory is equipped with proper electrical, ventilation and air conditioning equipment. Contractor shall provide for mains electricity and water supply connection.

The price quoted shall include the cost of casting 4No 300mm by 300mm by 500mm concrete stub columns as the base of the container.

The laboratory shall be provided with Electric lighting and wall sockets all to the satisfaction of the Engineer. A portable water supply shall be provided.

142. Equipment for the Laboratory

The Contractor, when instructed, shall provide and install at the Laboratory the Equipment specified below with a dealer's certificate and warranty.

APPENDIX TO BILL ITEM FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY			
ITEM No	**DESCRIPTION**	**UNIT**	**QUANTITY**
	The following equipment shall be purpose-made for use in soils testing laboratories and shall comply with the relevant British (BS) or American (AASHTO) standard:		
	1. FURNITURE		
1	Desk 2.2 x 0.9 m with 1 chest of drawers	No.	1
2	Office chairs, standard	No	3
3	4-drawer Steel lockable filing cabinet	No.	1
4	Electronic scientific calculator, 12 figures	No.	2
5	Fire extinguisher, 10 litre capacity, CO2 type	No.	2
6	Steel filing cabinet, 4 drawers, lockable	No	1

7	Book shelf, 3 shelves 1.2 m long (to hold box files)	No.	2
8	First aid kit	No.	1
	2. EQUIPMENT		
	i) General Equipment		
9	Compaction mould complete with base plate and extension collar, 101.6 mm dia. x 116.43 mm high	No.	2
10	2.5 kg Compaction rammer, drop regulated to 304.8 mm	No.	2
11	4.535 kg compaction rammer, drop regulated to 457.2 mm	No.	2
12	Straight edge 300 mm long, with handles	No.	3
13	Galvanized sample tray 1 x 0.5 x 75 mm deep	No.	6
14	75 mm brush	No.	10
15	Semi-automatic Electronic balance , 25 kg capacity accurate to 10 g, including weights	No.	1
16	20 mm BS sieve, 300 mm diameter	No.	2
17	Stop Clock	No.	1
18	Thermostatically controlled electric oven 104 - 110 °C, capacity 0.225 m^3	No.	1
19	Moisture tin, 90 mm dia x 20 mm deep, cadmium plated or aluminium alloy	No.	100
20	Semi-automatic or automatic cone penetrometer with gauge and automatically controlled test cup	No.	1
21	Test gauge	No.	1
22	Penetration test cup	No.	2
23	Penetration test cone	No.	2
24	Glass plate	No.	2
	ii) Density (Sand Replacement method BS 1377)		
25	Metal container (450 mm dia.)	No.	4
26	Stainless steel tray, 305 mm dia x 50 mm deep	No.	4
27	Metal tray with 150 mm dia hole in centre, 300 x 300mm square or equivalent area, 400 mm deep	No.	3
28	Metal tray with 200mm dia hole in centre, 500 x 500mm square, 50 mm deep	No.	3
29	Steel pegs for fixing tray in position	No.	20
30	Sand pouring cylinder, 150 mm dia	No.	2
31	Sand pouring cylinder, 215 mm dia	No.	2
32	Cold steel chisel 20 x 300 mm long	No.	6
33	Cold steel chisel 10 x 250 mm long	No.	6

34	1.5 kg (2 off), 3.5 kg (2 off) mason hammers and 1 kg (2 off) rubber mallet	Set	3
35	Scoop for removing excavated material from hole, 250 mm long handle	No.	10
36	100 mm brush, soft	No.	4
37	50 mm brush, soft	No.	6
38	Calibration can 150 mm dia x 150 mm deep	No.	1
39	Ditto item 54/106 but 200 mm dia x 250 mm deep	No.	1
40	CBR mould, 152.4 mm dia. x 178 mm high, complete with perforated base plate and extension collar 50.8 mm high that can be fitted to either end of the mould	No.	30
41	Perforated swell plate 150 mm dia. With an adjustable centre post of rustproof metal provided with a lock nut	No.	30
42	Swell tripod	No.	5
43	Swell dial gauge	No.	3
44	2.27 kg slotted surcharge weight	No.	15
45	2.27 kg annular surcharge weight	No.	30
46	2.8 kg solid base plate for CBR mould	No.	4
47	Central extruder, complete with 29 KN hydraulic jack and accessories.	No.	1
48	Spacer disc with "T" handle	No.	1
49	Soaking tank for CBR mould sufficient to hold at least 50moulds	No.	1
	iii) Specific Gravity for Aggregates (BS 812)		
50	Pycnometer of 1 ℓ capacity	No.	3
51	Electronic automatic 5 kg balance accurate to 0.1 g to be of size and type to permit the basket containing the sample to be suspended in water (to be supplied with weights)	No.	1
	vi) Sieve Analysis		
52	Sieve 300 mm dia: 75, 63, 50, 37.5, 28, 25,19, 20, 14,12.5, 10,9.5, 6.3, 5, 4.75 and 4 mm, plus lid and reciever	Set	1
53	Sieve 200 mm dia: 2.36, 2, 1.18, 1, 0.6, 0.5, 0.425, 0.300, 0.150 and 0.075 mm plus lid and reciever	Set	1
54	Riffle box with 50 mm slots	No.	2
	vii) Concrete: Slump and Cube Manufacture (BS 1881)		
55	Slump cone, tamping rod and base	Set	1
56	Steel rule. 300mm and 600mm long	No.	2
57	Concrete cube mould 150 mm cubes	No.	15
58	Large curing tank (capacity 50 No. Cubes)	No.	1

59	Cube tamping rod and spanner for loosening and tightening the cubes if cast iron or steel	No.	1
60	Beaker 250mℓ	No.	2
61	Tamping rod 8 mm dia. x 300 mm long and metal measure 115 mm dia. x 180 mm deep for above (BS 812)	No.	1
62	Flakiness gauge (BS 812) passing 63.0 mm to retain 6.3 mm	No.	1
	Tray Spray and Spread Rate Tests		
63	Steel tray 306 x 306 x 38 mm (for measuring bitumen spray rate)	No.	15
64	Gunny sacks	No.	400
65	Plastic bag 900 x 450 mm x 1000 gauge	No.	1000
66	Plastic bag 450 x 300 mm x 1000 gauge	No.	1000
67	Filter paper 150 mm dia. Whatman No. 5 (Boxes of 100)	No.	50
	Miscellaneous		
68	Gas cylinders 13 kg	No.	1
69	Padlocks	No.	4
70	Plastic jerry cans 20 ℓ capacity	No.	6
71	Permanent marker pens	No.	48
72	Paper punch	No.	2
73	Stapler with pins	Pkts	20
74	Tray lifting callipers	No.	4
75	Laboratory dust coats-Brown	No.	2
76	Laboratory dust coats-White	No.	2
77	Asbestos gloves	No.	16
78	Laboratory gumboots (assorted sizes)	No.	4
79	Wheel barrow	No.	2
80	Dust pan plus brush	No.	4
81	Hand shovel	No.	6
82	Pick axe with handle	No.	6
83	Metal scoop, large (120 x 190 x 70mm) cast aluminium handle	No.	4
84	Metal scoop, large (70 x 110 x 40mm) cast aluminium handle	No.	6
85	Garden trowel	No.	4
86	Sample tray 306 x 306 x 38 mm	No.	20
87	Spatula 200 mm blade	No.	6
88	Spatula 100 mm blade	No.	6
89	BS sieve brush double ended brass and nylon bristle	No.	4
90	Measuring cylinders plastic with sprout 100mℓ, 250mℓ, 500mℓ capacity	set	1
91	Glass jar capacity 5 ℓ with lid	No.	10

92	200mmx200mmx20mm cadmium plated or aluminium tin	No.	50
93	Electronic Automatic balance, capacity 1000 g accurate to 0.01 g	No.	1
94	Electronic Automatic balance, capacity 2100 g accurate to 0.1 g	No.	1
95	Electronic Automatic balance, capacity 50 kg accurate to 10 g	No.	1
96	Dial -0-gram balance 310 g capacity accuracy to 0.1 g	No.	1
97	Field and laboratory scale with scoop 10000 g capacity accurate to 1.0 g	No.	1
98	Set of stiff broom and soft broom with handles	No.	5
99	Digital vernier callipers, 150 mm, accurate to 0.1 mm	No.	1
100	As above but 200 mm, accurate to 0.002 mm	No.	1
101	Pestle and mortar	No.	2
102	Linear shrinkage mould (BS 1377)	No.	6
103	Average least dimension gauge	No.	2
104	Plastic or metal bucket including lid, 10 ℓ capacity	No.	10
105	Polythene wash bottle	No.	2
106	A4 size clipboard	No.	4
107	Mercury thermometer, range-1de.cent. To 15 deg.cent glass (BS 593)	No.	2
108	Minimum and maximum thermometer(BS 692)	No.	2
109	Rain gauge	No.	1
110	Portable dial thermometer +50°C to +2500 °C accurate to ±3 % with 0.65m long stem	No.	1
111	As above but with 0.1 m long stem	No.	1
112	BS 1377: 1990, Methods of testing soils for Civil engineering purposes	No.	1
113	BS 1881: Methods of testing concrete	No.	1
114	BS 1924, Stabilised materials for civil engineering purposes	No.	1
115	BS EN 1008:2002, Mixing water for concrete	No.	1
116	BS EN 196:2005, Methods of testing cement	No.	1
	Marshall Test (ASTM D1559)		
117	Thermometer (50 °C to 25 °C) 50 mm dia with 180 mm stainless steel stem	No.	2
118	Flat bottomed scoop	No.	3
119	Steel garden trowel	No.	2
120	Large steel spoon	No.	2

121	Heat resistant gloves	pair	10
122	Volumetric flask 250 mℓ, 500 mℓ, 100 mℓ and 2000 mℓ capacity each	No.	1
	Consumables		
123	Paraffin wax	kg	50
124	Gas	kg	1800

The Contractor may be instructed by the Engineer under clause 58 of the General Conditions of Contract to make payments of general receipted accounts for such items as stationery, stores, claims and allowances for supervision personnel and any miscellaneous claims or the Engineer may direct the Contractor to purchase or pay for the above. The

143. Environmental Protection (Where Applicable)

The Contractor shall comply with the Statutory Regulations in force in Kenya regarding environmental protection and waste disposal, and shall liaise with the National Environmental Management Agency (NEMA).

Within four (4) weeks of the order to commence work, the Contractor shall prepare and submit a specific Environmental Management Plan for the project and his operations, relating to the approved Environmental Impact Assessment. The Environmental Management Plan shall outline potential environmental hazards and risks, and provide an action plan to deal with the hazards, minimise the risks, and mitigate adverse environmental impacts, and include a general decommissioning plan covering all relevant aspects of the project. The Environmental Management Plan shall identify monitoring indicators and reporting requirements.

The Contractor shall be required to submit environmental progress reports to the Engineer every month or as instructed.

The Contractor shall ensure so far as is reasonably practicable and to the satisfaction of the Engineer; that the impact of the construction on the environment shall be kept to a minimum and that appropriate measures are taken to mitigate any adverse effects during the construction.

(a) The Contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the Contractor's construction operations and equipment. All unnecessary destruction, scarring, damage or defacing resulting from the Contractor's operations shall be repaired, replanted, reseeded or otherwise corrected as directed by the Engineer, and at the Contractor's expense.

(b) The Contractor shall ensure that measures are in place to control soil erosion and water pollution, by use of berms, dykes, silt fences, brush barriers, dams, sediment basins, filter mats, netting, gravel, mulches, grasses, slope drains, contour banks, and

other erosion control devices and methods. Temporary erosion control provisions shall be coordinated with permanent erosion control features to assure economical, effective and continuous measures throughout the period of the works. The Contractor's attention is drawn to the requirements of Clause 502, in that works need to be progressively finished so that permanent vegetation can establish quickly to mitigate soil erosion and erosion of drains.

(c) The Contractor shall provide all the labour, equipment, materials, and means required and shall carry out proper and efficient measures wherever and as often as necessary to minimise the dust nuisance.

(d) The Contractor shall comply with all applicable Kenyan laws, orders and regulations concerning the prevention, control and abatement of excessive noise. Blasting, use of jackhammers, pile driving, rock crushing, or any other activities producing high-intensity impact noise may be performed at night only upon approval of the Engineer.

(e) Immediately after extraction of materials, all borrows pits shall be backfilled to the satisfaction of the Engineer. In particular borrow pits near the project road shall be backfilled in such a way that no water collects in them.

(f) Spilling of bitumen fuels Oils and other pollutants shall be cleared up.

(g) The Contractor's attention is drawn to the requirements of the Standard Specification in regard to the environment and in particular to the following clauses:

Clause 115: Construction Generally
Clause 116: Protection from Water
Clause 136: Removal of Camps
Clause 605: Safety and Public Health Requirements Clause
Clause 607: Site Clearance and Removal of Topsoil and Overburden

Payment in respect of this Clause 142 is included as a Lump Sum in the Bill of Quantities. Payment of the Lump Sum will be by equal monthly installments over the period of the Contract excluding the Period of Maintenance. The total sum of the installments shall not exceed the Lump Sum, and payment of the monthly instalment will only be made for that month if the Engineer is satisfied that the Contractor has fully complied with the requirements of Clause 142, otherwise the Contractor shall forfeit such instalment.

SECTION 2 - MATERIALS AND TESTING OF MATERIALS

Standard Material Specifications

A. The Standard Material Specifications shall be governed as stated in the relevant Standard Specifications for Road and bridge construction, ICAO Annex 14, and relevant FAA circulars.

B. When delivered to the works, the items must be accompanied by manufacturer's Certificate of Warranty to ensure approval by the Engineer.

Apparatus Required for Testing

A. Notwithstanding that any test, piece of equipment, or apparatus that is not specifically mentioned or described in the various pages hereof, the Contractor shall supply at his own expense all apparatus and equipment of whatever kind necessary to carry out any test mentioned in or required by the provisions of the various clauses in this specification and the cited standards for Materials and Testing incorporated in this specification.

B. The Engineer shall be the final arbiter on which tests are necessary for the execution of the works.

C. All testing shall be done according to ASTM standards, and shall be for the approval of the Engineer.

D. The field laboratory shall at the very least be equipped with equipment necessary to undertake the following tests:

Soils and Aggregate Tests
- Aggregate grading
- Atterberg Limits
- Maximum Dry Density
- CBR
- UCS
- Field Densities (including calibrated Nuclear Density Tests)
- Loose and Rodded Unit weight of aggregates

Asphalt Tests
- Marshall Density
- Bitumen recovery
- Grading and Bitumen Content
- Field Density
- Maximum Theoretical Relative Density (RICE)
- Bitumen properties (Penetration, Softening Point, Viscosity)'
- Indirect Tensile Strength (ITS)
- Cores (100mm and 150mm diameter)

Concrete Tests

- Cube Strength (UCS)
- Slump Tests
- Cores (100mm and 150mm diameter)

205 Soils and Gravels

Whenever in the Contract Document a minimum California Bearing Ratio (CBR) is specified, the CBR of the material shall be determined at the specified state of compaction.

(i) After four days soaking in the case of virgin materials, and

(ii) After seven days curing plus seven days soaking in the case of cement improved materials.

218 Paint for pavements marking

The paint shall be highway quality marking paint in accordance to the relevant Kenyan standards. Paint shall be reflectorized and suitable for applying by brush, low pressure spaying equipment and high pressure spraying equipment. The paint shall be of a type approved by the Engineer.

SECTION 3 - SETTING OUT AND TOLERANCES

Benchmarks

A. The Contractor shall establish a local grid covering the entire construction site, which shall match the existing local grid.

B. The Contractor shall confirm the co-ordinates and levels of the Control Points as indicated on the Drawings and use those control points in setting out his works.

C. At the beginning and during the construction of the works the Contractor shall establish additional benchmarks, as directed by the Engineer. These benchmarks shall be integrated with the above-mentioned grid.

D. For each structure and building additional benchmarks are required.

E. The benchmarks shall consist of steel or copper pipes or pins, suitable to the environment, 20 mm in diameter and cast in concrete bases of 300mm in diameter x 500 mm deep. The benchmarks shall be clearly marked and protected, throughout the duration of the works. If necessary, damaged or disturbed benchmarks shall be promptly restored.

F. The accuracy of the leveling shall be such that the vertical error of closure will not exceed 10 mm for one kilometer of bench level run.

G. The Engineer may authorize third parties to make use of the available benchmarks.

H. Maps indicating all data related to the benchmarks and other fixed points shall be produced and distributed among responsible persons.

I. All the works as well as all main features such as buildings, intersections and other facilities shall be expressed in the coordinates of the local grid. These main features as well as the precise points will be specified by the Engineer.

J. Prior to the provisional handover of the project, the coordinates in the local grid of the runway thresholds and of the aerodrome reference point shall be converted into geographical coordinates. The latitude and longitude shall be mentioned in the applicable system.

K. The geographical coordinates of the specified main features shall be indicated on the “As Built" General Lay-out drawing.

L. The Contractor's attention is drawn to the fact that the above may have to be treated as classified information.

Detailed Setting Out

Reference pegs shall be 50 mm x 50 mm in cross section, 600 mm long driven 400 mm firmly into the ground and painted white above ground level. The offset from the centreline shall be indicated by a small nail, 20-25 mm long, with its head driven flush with the top of the peg. Chainages, chainage offsets and reference elevation shall be clearly marked on the sides of the peg to the satisfaction of the Engineer.

1) Runways and Taxiways

A. The benchmarks shall be placed as a grid parallel to and perpendicular to the centerline.

B. The distance between the benchmarks shall be not more than 250 m.

C. Each benchmark shall bear its centerline station number, the perpendicular distance to the centerline and the elevation.

D. In the extended runway/taxiway centerline concrete reference bases shall be erected to mark the exact location of such centerline.

E. These bases shall have the same dimension as the benchmarks.

2) Earthworks and Aggregate Bases

A. On the area involved, a grid of steel pegs shall be placed at intervals of as specified in the applicable sections.

B. The grid shall be placed parallel and at right angles to the centreline of the projected course.

C. Extra pegs shall be placed at locations of changing grades**.**

3) Surface Courses

A. On the area involved, a grid of steel pegs shall be set parallel and at right angles to the centreline of the course to be placed.

B. The grid shall have intervals not as specified in the applicable sections.

C. The peg lines shall be placed approximately 0.15 metres outside the paving lane for guidance of the electronic equipment on the paver.

D. The pegs shall be precisely set, so that after compaction, the finished elevations of the courses conform to the projected elevations.

Level Tolerances

A. In view of the permitted tolerances as defined in the relevant technical sections it must be clearly understood that these tolerances are not intended as a means for varying the final elevations of layers of materials to be placed in sequence.

B. The final surface elevations, as indicated on the drawings, are to be strictly adhered to and so are the elevations of the underlying layers, determined from design layer thicknesses and final elevations.

World Geodetic System – 1984 (WGS – 84)

A. The WGS-84 coordinate system is a Conventional Terrestrial System (CTS), realized by modifying the Navy Navigation Satellite System (NNSS), or TRANSIT, Doppler Reference Frame (NSWC 9Z-2), in origin and scale, and rotating it to bring its reference meridian into coincidence with the Bureau International de l'Heure (BIH)-defined zero meridian.

B. The existing WGS-84 established reference points established in the airport pavements (runway, taxiway(s) and apron) have to be surveyed in x, y and z coordinates to at least three local or temporary bench marks before any works will be allowed to take place in the vicinity of these reference points.

C. Upon completion of the pavement works the WGS-84 reference points have to be re- established at the original location and the x, y, z coordinates shall be surveyed and made available to the Engineer.

D. At least the Aerodrome Reference Point (ARP), runway thresholds, runway centerline, apron stands, taxiway centerline, all new aircraft parking positions and also the elevation of the ARP and RWY thresholds shall be surveyed using the WGS 84 systems. These will be recorded in degrees, minutes, seconds and 1/100 of seconds.

Survey results and coordinates shall be handed over to the Airport authorities

SECTION 4- SITE CLEARANCE AND TOP SOIL STRIPPING

4.01. Site Clearance

Site Clearance shall be carried out as directed by the Engineer.

4.02. Removal of Topsoil

Topsoil shall include up to 200mm depth of any unsuitable material encountered in existing or newly constructed drains, drainage channels, and accesses.

4.03. Removal of Structures, Fences and Obstructions

When instructed by the Engineer, the Contractor shall demolish or remove any structure and payment for this shall be made on day works basis.

SECTION 5 - EARTHWORKS

5.04 Preparation Prior to Forming Embankment

Where benching is required for existing pavement to accommodate earthworks subgrade or subbase for widening the road, the rate for compaction of existing ground shall be deemed to cover this activity.

Excavation in the pavement of the existing road shall be kept dry. In the event of water penetrating the underlying layer, construction of the subsequent layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint where excavating both vertically and perpendicular to the direction of the travel. The step shall be 500mm perpendicular to the direction of the travel and 150mm vertical unless otherwise instructed by the Engineer.

Special care shall be taken when compacting the new material at the joint ensuring that specified density is achieved.

5.05 Construction of Embankments

Only material approved by the Engineer shall be used for fill in embankments.
Material with high swelling characteristics or high organic matter content and any other undesirable material shall not be used, unless specifically directed by the Engineer. Unsuitable material shall include:

(i) All material containing more than 5% by weight or organic matter (such as topsoil, material from swamps, mud, logs, stumps and other perishable material).
(ii) All material with a swell of more than 3% (such as black cotton soil).
(iii) All clay of plasticity index exceeding 50.
(iv) All material having moisture content greater than 105% of optimum moisture content (Standard Compaction)

Subgrade: Shall mean upper 300mm of earthworks either insitu or in fill and subgrade shall be provided for as part of earthworks operation and payment shall be made as "fill". The material for subgrade shall have a CBR of not less than 10% measured after a 4-day soak in a laboratory mix compacted to a dry density of 100% MDD (AASHTO T99) and a swell of less than 1%.

Subgrade repair: Where directed by the Engineer, any localized failure in the subgrade shall be repaired by filling in selected soft, hard or natural of minimum CBR 30% and compacted in accordance with clauses in the specifications applying to normal subgrade.

Embankment repair, where directed by the Engineer, any localized filling in soft, hard or natural; selected material requirements shall be executed in accordance with Clause 505.

5.08 Compaction of Earthworks

At pipe culverts, all fill above ground level around the culverts shall be compacted to density

of 100% MDD (AASHTO T.99) up to the level of the top of the pipes or top of the surround(s), if any and for a width equal to the internal diameter of the pipe on either side of the pipe(s) or surround(s) as applicable.

At locations adjacent to structures, all fill above ground level up to the underside of the subgrade shall be compacted to density of 105% MDD (AASHTO T.99). In case of fill around box culverts this should be carried out for the full width of the fill and for a length bounded by the vertical plane passing through the ends of the wing walls.

Notwithstanding the provision of clause 503 of the standard Specification, Compaction of subgrade material (i.e. material immediately below formation) in cut areas shall not be carried out by the Contractor in areas where the formation is formed in hard material, unless specific instructions to the contrary are issued by the Engineer.

Where improved sub-grade material shall be required, this shall be compacted and finished to the same standards and tolerances as those required for normal subgrade and clauses in the specifications applying to normal subgrade shall also apply.

5.11 Borrow Pits

The first part of the Standard Specification is amended as follows: -

Fill material which is required in addition to that provided by excavation shall be obtained from borrow pits to be located and provided by the Contractor but to the approval of the Engineer contrary to what has been stated.

5.17 Measurement and Payment

Notwithstanding the provisions of clause 517 of the standard specifications, the rate for compaction of fill in soft material shall allow for the requirements of clause 508 of the special specification and no extra payment shall be made for compaction around pipe culverts (100% MDD AASHTO T.99).

SECTION 6 - QUARRIES, BORROW PITS, STOCKPILES AND SPOIL AREAS

6.01 General

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by him.

The Contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, Wining, haulage to site of these materials and all costs involved therein. Similarly, the Contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling materials and spoil dumps. Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works the Contractor may utilize these subject to the approval of the Engineer.

No additional payment will be made to the Contractor to cover costs arising from the requirements for this Clause and the Contractor must include these costs in the rates inserted into the Bills of Quantities.

6.02 Material Sites

The information on possible material sites is given for the general guidance of bidders. Bidders are however advised to conduct their own investigation as the information contained therein is neither guaranteed nor warranted

6.03 Provision of Land

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by him.

The Contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, Wining, haulage to site of these materials and all costs involved therein. Similarly, the Contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling materials and spoil dumps. Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works the Contractor may utilize these subject to the approval of the Engineer.

No additional payment will be made to the Contractor to cover costs arising from the requirements for this Clause and the Contractor must include these costs in the rates inserted into the Bills of Quantities.

6.05 Safety and Public Health Requirements

In addition to clause 605, the Contractor shall allow for professionals to conduct lectures to the workers regarding the spread of HIV/Aids.

SECTION 7 - EXCAVATION AND FILLING FOR STRUCTURES

7.03 Excavation of Foundations for Structures

Unless otherwise instructed by the Engineer, all excavated surfaces in material other than hard material, on which foundations for structures shall be placed, shall be compacted to 100% MDD (AASHTO T.99) immediately before structures are constructed.

Paragraph 4, last line: - Replace "95%" with "100%".

7.07 Backfilling for Structures

Unless otherwise instructed by the Engineer, all backfilling material shall be compacted to a minimum of 100% MDD (AASHTO T.99).

7.09 Excavations for River Training and New Water Courses

Payments for river training and establishment of new watercourses shall only be made where such work constitute permanent works. Works done for road deviation or other temporary works shall not qualify for payment.

7.10 Stone Pitching

Stone pitching to drains, inlets and outlets of culverts to embankments and around structure shall consist of sound unweathered rock approved by the Engineer.
The stone as dressed shall be roughly cubical in shape with minimum dimensions of 150 x 150mm for normal thickness of stone pitching.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone laid, interlocked and rammed into the material to give an even finished surface.

In areas where stone pitching has been damaged, the Contractor shall identify such areas and notify the Engineer for his agreement of the extent of the Works required and his approval and instructions to proceed with the Works. Stone Pitching Repair and Reconstruction shall be carried out in accordance with Clause 710 of the Standard Specifications.

The Works shall involve removal of the damaged stone pitching and reconstruction of the said areas in accordance with Clause 710 of the Standard Specifications by use of the sound salvaged material together with any necessary additional material where all such materials shall comply with Section 7 of the Standard Specifications.

Contrary to clause 713 of the standard specifications, the rates inserted for stone pitching shall allow for grouting.

7.11 Gabions

Where instructed by the Engineer the Contractor will install gabions as protection works to washout areas or bridge Piers and or Abutments. Gabions shall be constructed in accordance with Clause 711 of the Standard Specification.

I n cases where existing gabions have been damaged, the Contractor shall identify them and notify the Engineer for his agreement of the extent of the Work required and his approval and instructions to proceed with the Works.

The Works shall involve removal of the damaged gabions / rocks, excavation to the correct levels and grades as directed by the Engineer, and in accordance with Clause 711 of the Standard Specifications and reconstruction with new gabions and other necessary materials as necessary. The damaged gabions shall be recovered and transported to the nearest KAA's Yard.

7.12 Rip-Rap Protection Work

Quarry waste or similar approved material shall be used to backfill scoured and eroded side, outfall and cut-off drain. The material shall be compacted to form a flat or curved surface preparatory to stone [pitching of drainage channels, existing and new scour checks as directed by the Engineer.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone hand laid, interlocked and rammed into the material to give an even finished surface. The interstices of the Pitching shall be rammed with insitu material. The insitu material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T.99)

7.14 Backfill Below Structures

Where instructed this shall be carried out in compliance with the requirements of Clause 507 and 804 of the Standard Specification.

SECTION 8 - CULVERTS AND DRAINAGE WORKS

8.01 Scope of Section

The operations specified in this section apply to the installation of drainage works and reinstatement and improvement of the same.

In addition, this Section covers: -

- Extending of existing 450mm, 600mm and 900mm diameter pipes to be compatible with the increased road width or access.
- Desilting and cleaning of existing pipes and outfall drains to make them free flowing.

8.04 Excavation for Culverts and Drainage Works

In the Standard Specifications, make the following amendments: -

(a) In paragraph 6, line 3, and in paragraph 7, line 5 and in paragraph 11, line 6, delete "95%" and insert "100%".

(b) Removal of Existing Pipe Culverts

Where instructed by the Engineer, the Contractor shall excavate and remove all existing blocked or collapsed culvert pipes of 450mm, 600mm and 900mm diameter including concrete surround, bedding, inlet and outlet structure.

The void left after removal of culvert pipes shall be widened as necessary to accommodate new concrete bedding, pipe and haunching.

The payment of this work shall be per linear metre of pipes removed, and the volume in m3 of inlet/outlet structure removed. The void left by removal of these pipes shall be carefully preserved in order to accommodate replacement of 450mm, 600mm or 900mm diameter pipe culverts as shall be directed by the Engineer.

(c) Removal of Other Existing Drainage Structures

When instructed by the Engineer, the Contractor shall demolish or remove any other structure and payment for this shall be made on day work basis.

(d) Excavation for Culverts and Drainage Works

The Contractor shall carry out all excavations for new culverts and drainage works to the lines, levels, inclinations, and dimensions shown on the drawings or as instructed by the Engineer.

8.05 Excavation in Hard Material

In the Standard Specifications, Sub-clauses 805(a) and 805 (b) delete "95%" and insert "100%".

In sub-clause 809(a), paragraph 1, line 1, substitute "95%" with "100%".

In sub-clause 809(c), paragraph 2, line 4, between the words "compacted" and "and shaped" insert the words "to 100% MDD (AASHTO T.99)".

Hard material is material that can be excavated only after blasting with explosives or barring and wedging or the use of a mechanical breaker fitted with a rock point in good condition and operated correctly. Boulders of more than 0.2m3 occurring in soft material shall be classified as hard material.

8.09 Bedding and Laying of Pipe Culverts

Concrete pipes shall be laid on a 150mm thick concrete bed of class 15/20 and the pipes shall be bedded on a 1:3 cement: sand mortar at least 50mm thick, 150mm wide and extending the full length of the barrel.

The rates inserted shall allow for compaction of the bottom of excavation to 100% MDD (AASHTO T.99).

8.10 Jointing Concrete Pipes

The concrete pipes for the culverts shall have ogee joints and will be jointed by 1:2 cement: sand mortar and provided with fillets on the outside as described in clause 810 of the Standard Specification.

8.12 Backfilling Over Pipe Culverts

In the Standard Specifications, clause 812

a) Wherever the expression "dry density of 95% MDD (AASHTO T. 99)" occurs delete nd replace with "dry density of 100% MDD (AASHTO T.99)".

The rates entered for laying of pipe culverts shall allow for backfilling to pipe culverts and compacting to 100% MDD (AASHTO T.99) and these works shall not be measured and paid for separately.

8.14 Subsoil Drains

In the event of excavation for repairs exposing local seepage, springs or unacceptably high water table, the Engineer may instruct the provision of counter fort or French drains.

These drains shall consist of a trench excavated to the alignment, width, depth and gradient instructed by the Engineer, and backfilled with approved compacted clean hard crushed rock material as specified in clause 815 of the standard specification. Where these drains lie within the carriageway the carriageway shall be reinstated with compacted stabilized gravel and surfaced with hot asphalt or a surface dressing as instructed by the Engineer.

8.15 Invert Block Drains and Half Round Channels

Invert Block Drains and Half Round Channels shall be constructed as shown in the drawings provided in accordance with the Standard Specifications where directed by the Engineer.

8.17 Repairs to Drains

Cleaning and Repair of Existing Drains

In areas of existing side drains, mitre or outfall drains where such are blocked, the Engineer shall instruct the Contractor to clean and clear the drains to free flowing condition.

The work shall consist of:

a. Stripping and removal of any extraneous material to spoil including vegetation and roots in the drains to the satisfaction of the engineer.
b. Spreading of any spoil to the satisfaction of the Engineer.

Shaping the drains to free flowing condition as directed by the Engineer.

Removing any broken side slabs for inverted block drains and replacing with a new removing any broken inverted block drains and replacing with a new one well jointed.

Measurement and Payment for cleaning drains shall be by linear metre of drain cleaned measured as the product of plan area and vertical depth of extraneous material instructed to be removed. No extra payment will be made for removal of vegetation and roots.

Channels

The Engineer may instruct that the Contractor provides open channels in place of existing sub drains where the latter may be damaged or in any other place. The rates entered by the Contractor in the bills of quantities must include for removal and disposal of any sub drain material, excavation to line and level, backfilling and compaction as directed by the engineer. The channels shall be constructed of precast class 20/20 concrete of minimum 80mm thickness and lengths or widths not exceeding 1000mm. Joints shall be at least 15mm wide filled with 1:2 cement sand mortar.

Rubble fills for protection work

Quarry waste or similar approved material shall be used to back fill scoured and eroded side, outfall and cut-off drains. The material shall be compacted to form a flat or curved surface preparatory to stone pitching of drainage channels, existing and new scour checks as directed by the Engineer.

Stone Pitching

Stone pitching shall be constructed in accordance with clause 710 of the standard Specification.

Gabions

Gabions shall be constructed in accordance with clause 711 of the standard Specification.

Spoil Material

The Contractor shall be responsible for removal from site of all materials excavated in the course of undertaking works in this section of the specifications, unless suitable for re-use, and deposit of the material in a spoil dump to be approved by the Engineer.

8.18 Scour Checks

Scour checks are to be constructed in mass concrete in accordance with clause 818 of the standard Specifications and the drawings as shall be provided.

8.19 Cleaning and Maintenance

Desilting of Pipe Culverts

Where instructed, Contractor shall desilt the existing pipe culverts by removing all the material from the pipe to make them clean and free flowing.

Measurement and payment shall be by the linear metres of pipes de-silted, regardless of diameter size.

SECTION 9 - PASSAGE OF TRAFFIC

9.01 Scope of the Section

The Contractor shall so arrange his work to ensure the safe passage of the Traffic at all times and if necessary construct and maintain an adequate diversion for traffic complete with all the necessary road traffic signs.

The Contractor shall provide to the satisfaction of the Engineer adequate warning signs, temporary restriction signs, advance warning signs, barriers, temporary bumps and any other device and personnel equipped with two way radios to ensure the safe passage of traffic through the works.

When carrying out the Works the Contractor shall have full regard for the safety of all Airport users.

The Contractor shall also provide sign posts and maintain to the satisfaction of the Engineer all deviations necessary to complete the works. The Contractor should allow for the costs of complying with the requirements of this clause in his rates.

The Contractor will be deemed to have inspected the site and satisfied himself as to the adequacy of his bid for these works and no additional payments will be made to the Contractor for any expenditure on traffic control or the provision of deviations. The employer shall not be liable for inadequate prior investigations of this nature by the Contractor.

9.03 Maintenance of Existing Roads

The Contractor shall, when instructed, maintain the existing project road ahead of works using compacted asphalt concrete type I in accordance with the provisions in clause 1601B – 1607B of the Special Specifications or gravel material depending on the nature of the wearing course surface.

9.04 Construction of Deviations

(a) General

In addition to requirement of this clause, the Contractor shall when instructed, construct and complete deviations to the satisfaction of the Engineer before commencing any permanent work on the existing road. Also during these works the Contractor is supposed to provide a detour of adequate pipe culverts for pedestrian and traffic crossing where there is bridge works.

Subject to the approval by the Employer, the Contractor may maintain and use existing roads for deviation. Payment for this, made in accordance with clause 912 (a) (i), shall be by the Kilometer used depending on the type of road used, whether bituminous or earth/gravel. The rates shall include for the provision of materials and the works involved.

(b) Geometry

The carriageway width of the deviations shall not be less than 6m wide and suitable for 2-way lorry traffic unless otherwise specified.

(c) Construction

Unless otherwise instructed gravel wearing course for the deviation shall be 150mm compacted thickness complying with section 10 of the Standard Specification. The Contractor shall allow in his rate for removal of any unsuitable material before placing of gravel wearing course, as this will not be paid for separately.

In addition to provision of this clause, Contractor is required to sprinkle water at least 4 times a day at the rate of1 to 1.4 liters/M^2 in regular interval to minimize the effects of dust. Latest sprinkling time shall be one hour before the sunset.

Where existing neighboring roads are used as deviation, Contractor shall carry out repairs and maintenance in parent materials used for the existing base and surfacing of the road being used.

9.06 Passage of Traffic Through the Works

The Contractor shall arrange for passage of traffic through the works during construction whenever it is not practicable to make deviations.

Any damage caused by passing traffic through the works shall be made good at the Contractor's own cost.

9.07 Signs, Barriers and Lights

Contractor shall provide signs, barriers and lights as shown in the drawing in Book of Drawings at the locations where the traffic is being carried off the existing road to the deviation and back again to existing road. The Contractor shall provide ramps and carry out any other measures as instructed by the Engineer to safely carry traffic from the road to deviation.

Contrary to what has been specified in this clause the road signs provided shall be fully reflectorized and in conformity with clause 9.1 of the "Manual for Traffic Signs in Kenya Part II".

9.09 Assistance to Public

In addition to provision of clause 909, Contractor shall maintain close liaison with the relevant authorities to clear any broken down or accident vehicles from the deviations and the main road, in order to maintain smooth and safe flow of the traffic. Further, the Contractor shall provide a traffic management plan to be approved by the Engineer before the commencement of any construction works and execute the same, to the satisfaction of the Engineer, during the entire period of project implementation. A draft traffic management plan shall be submitted with Bid.

9.12 Measurement and Payment

Construct Deviation

Road Deviation

The Contractor shall be paid only 50% of the rate for this when he completes deviation road to the satisfaction of the Engineer. The balance shall be paid in equal monthly instalments over the contract period, as he satisfactorily maintains the deviation (as per clause 904 and 905 above) when it is in operation.

Where existing neighboring road has been used as deviation, payment shall be by the kilometer rate and shall include the cost of repairs and maintenance of the road carried out in parent base and subbase materials.

Deviation using Pipe Culverts

The Contractor shall be paid only 50% of the rate for this when he completes deviation to the satisfaction of the Engineer. The balance shall be paid in equal monthly instalments over the contract period, as he satisfactorily maintains the deviation when it is in operation. The Contractor shall be paid full amount when the bridge under construction will be in use.

Maintain existing road

Asphalt Concrete or gravel for maintaining the existing road shall be measured by the cubic meter placed and compacted upon the road.

Passage of traffic through the works

Payment shall be made on Lump Sum basis.

Assistance to Public

The Contractor will be deemed to have included cost of this item in other items and no separate payment shall be made.

SECTION 10 – GRADING AND GRAVELLING

10.01 General

Grading covers the works involved in the reinstatement of the road carriageway to the camber by removing the high points and filling up gullies, corrugations and wheel ruts to restore smooth running surface. Gravelling consists of excavation, loading, hauling, spreading, watering and compaction of gravel or soft stone wearing course material on the formation of the road carriageway.

Ditch and Shoulder grading

The activity consists of cutting of a V – ditch and reinstating or reforming of the shoulders of road using either Towed or Motor grader.

Carriageway grading

(a) Light grading

This consists of trimming of the carriageway to control roughness and corrugations using either a towed grader or a motorized grader.

(b) Heavy grading

This consists of scarifying the existing carriageway surface, cutting high spots and moving materials to fill potholes, corrugations and wheel ruts and reshaping of the surface to the specified camber, using either a towed grader or a motorized grader. All loose rocks, roots, grasses shall be removed and disposed well clear off the drains.

Heavy grading will be considered if 70% of the road has potholes, corrugations and wheel ruts of over 200mm deep.

The material shall be bladed toward the center of the road starting from both edges until the specified camber is achieved.

10.02 Materials

Gravel shall include lateritic gravel, quarzitic gravel, calcareous gravel, decomposed rock, soft stone/quarry waste material, clayey sand and crushed rock.

10.03 Material Requirements

Gravel material shall conform to the requirements given below:

GRADING REQUIREMENTS AFTER COMPACTION	
Sieve (mm)	% by weight passing
40	100
28	95 – 100
20	85 – 100
14	65 – 100
10	55 – 100
5	35 – 92
2	23 – 77
1	18 – 62
0.425	14 – 50
0.075	10 - 40

PLASTICITY INDEX REQUIREMENTS PI		
Zone	Min	Max
WET	5	15
DRY	10	25

BEARING STRENGTH REQUIREMENTS		
Traffic Commercial VPD	CBR	DCP Equivalent mm/Blow
Greater than 15	20	11
Less than 15	15	14
CBR at 95% at MDD, Modified AASHTO and 4 days soak		
Lower quality material (CBR 15) may be accepted if no better material can be found		

NB:

Wet Zone – mean annual rainfall greater than 500mm

Dry Zone – mean annual rainfall less than 500mm.

SECTION 11 – SHOULDERS TO PAVEMENT

11.01 General

Shoulders shall be constructed in accordance with guidelines given in 1102 and as directed by the Engineer.

For sections where shoulders are extremely low and requires fill material before the shoulder is reconstructed, the construction of fill embankment shall be in accordance with Section 5 of this specification.

11.02 Material for Construction of Shoulders

The shoulders shall be 1.0m wide both sides and shall be formed of 150mm thick well compacted soft stone material and top soiled with red coffee soil and planted with grass.

Low shoulder shall be reconstructed by cutting benches, filling and compacting approved fill material to form the formation to the shoulders.

Shoulder reconstruction shall be same in all sections including the slip roads.

11.05 Surface Treatment of Shoulders

The shoulders shall be planted with creeping type kikuyu grass.

11.06 Measurement and Payment

Payment for shoulder construction shall be in accordance with the relevant clauses in sections 11, 12, 14, 15 and 23 of the relevant Specifications. Payment for fill material on shoulder shall be in accordance with Section 5 of this specification.

SECTION 12 - NATURAL MATERIAL SUBBASE AND BASE

12.01 General

Where instructed by the Engineer, the Contractor shall undertake repairs, widening and reprocessing to the existing carriageway and shoulders in accordance with sections 12 and 14 of the Special Specifications.

a) **Areas to be scarified and reprocessed**
The Contractor will scarify, add new material and reprocess sections as determined by the Engineer.

b) **Pavement repairs**
The Contractor will carry out repairs to base and subbase as directed by the Engineer and according to Specifications given in Sections 12 and 14 of the Standard Specifications.

c) **Pavement widening**
The Contractor shall, as directed by the Engineer, bench and compact the subgrade to 100% MDD (AASHTO T99), provide lay and compact material for subbase and base as directed by the Engineer and in accordance with Sections 5 and 12 of the Standard Specifications.

12.03 Material Requirements

Natural materials for base and subbase shall conform to the specifications given in Section 12 of the Standard Specifications for Road and Bridge Construction for cement and lime improved base and subbase.

12.09 Measurement and Payment

Natural material for subbase and base shall be measured by the cubic metre placed and compacted upon the road calculated as the product of the compacted sectional area laid and the length.

12.10 Hand Packed Stone

Hand packed stone base is a layer of hand laid stone of defined size and durable in nature, laid in a manner such that when proof rolled and compacted it forms a stable and dense matrix as a road base.

a) Material for Hand Packed Stone Base

This shall consist of durable stone with nominal base dimensions of 75 mm square and minimum height of 150 mm or when compacted to give a layer of 150 mm. The stone shall be class C with the following requirements:

LAA	**45 max**
ACV	**32 max**
SSS	**12 max**
FI	**30 max**
CR	**60 min.**

Water Absorption 2% max.

It shall be free from foreign matter. The fines passing 0.425 mm sieve shall be **Nonplastic**

b) Laying

The stone shall be laid by hand closely together. The stone shall be carefully bedded and tightly wedged with suitable spalls. The base of the stone shall alternate with the apex in all directions or as directed by the Engineer. The layer shall be proof rolled with a loaded scrapper or truck with a minimum axle load of 8 tonnes in the presence of the Engineer who shall approve of its stability before compaction.

c) Compaction

This shall be by a steel wheeled roller of at least five tonnes per metre width of roll. It shall consist of four static runs or until there is no movement under the roller. There shall follow vibratory compaction until an average dry density of 85% minimum of specific gravity of stone has been achieved. No result shall be below 82% of specific gravity. The surface of the compacted layer shall then be levelled by quarry dust (0/6 mm). The dust shall have the following specifications:

The stone shall be class C

Grading

Sieve Size	**% Passing**
10	100
6.3	90-100
4	75-95
2	50-70
1	33-50
0.425	20-33
0.300	16-28
0.150	10-20
0.075	6-12

The dust shall be free from foreign matter and fines passing 0.425 mm sieve shall be **NON-PLASTIC**. The maximum layer shall be 40 mm or as directed by the Engineer

d) Measurement and Payment

Payment shall be by the cubic metre laid (m^3). Measurement of volume shall be determined as the product of length and compacted thickness laid. The rate quoted for this item should include the cost for laying the levelling quarry dust layer, as no extra payment shall be made

for this layer.

12.11 Reprocessing Existing Pavement Layers

a. General

The existing surfacing and the base shall be reprocessed with additional material and the composite mixture shall be compacted to form the subbase layer.
Before commencement of the work the Contractor shall propose plants and equipments he proposes to use for this activity.

The Contractor after approval of his proposal shall carry out test section in accordance with Section 3 of the Standard Specifications.

b. The existing surfacing and base course shall be broken up to specified depth and reprocessed in place, where required. The underlying layers shall not be damaged, and material from one layer may normally not be mixed with that of another layer. Where unauthorized mixing occurs or where the material is contaminated in any way by the actions of the Contractor, and the contaminated material does not meet the specified requirements of for the particular layer, he shall remove such material and replace it with other approved material, all at his own expense.
c. Any mixture composition of the new layer must not contain more than 30% of the bituminous material by volume. The mixture must not contain pieces of bound bituminous material larger than 37.5mm, and any such material shall be removed at the Contractor's cost.
d. The requirements for imported material used in the respective pavement layers shall comply with the limitations, norms, sizes and strengths specified in the Standard Specifications clause 1203(b) and (d) and shall be worked as per Section 14 of the Standard Specification.
e. Material reworked in-situ or that obtained from existing pavement is not expected to comply with the material requirements but the reworking should achieve the specified requirements.
f. Where the thickness of any existing pavement layer requires to be supplemented within reprocessing and the thickness of the additional material after compaction will be less than 100mm, the existing layer shall be scarified to a depth that will give a layer thickness of at least 100mm after compacting the loosened existing and the additional material.

Controlling the Reworked Depth

The Contractor shall submit a proven method to method to control the depth of excavation, or layer to be reworked, to the Engineer for approval. The Engineer may order a trial section to be reprocessed before any major length of the road is rehabilitated.

Excavations

Excavations in the pavement shall be kept dry. In the event of water penetrating the underlying layers, construction of the consecutive layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint when excavating, both longitudinally (if appropriate) and perpendicular to the direction of travel. The step width shall be 500mm perpendicular to the direction of travel, and 150mm long longitudinally, unless otherwise instructed by the Engineer.

Special care shall be taken when compacting the new material at the joint, ensuring that the specified density is achieved.

Measurement and Payment

(a) Item: In-situ reprocessing of existing pavement layers as subbase compacted to specified density (95% MDD AASHTO T180) and thickness.

Unit: M^3

The tendered rate shall include full compensation for breaking up the existing pavement layer to specified depth, breaking down and preparing the material and the spreading and mixing in of any additional material

(b) Item: The addition of extra gravel to subbase.

Unit: M^3

The tendered rate shall include full compensation for procuring and addition of the material to the in-situ scarified layers and the transportation of the material over unlimited free-haul distance. The tendered rates will also include full compensation for prospecting for materials and any payments necessary to acquire the specified quality material.

(c) Excavation of existing bituminous pavement materials including unlimited free-haul.

Unit: M^3

The tendered rates shall include full compensation for excavating the existing bituminous material from the pavement layers and for loading, transporting the material for unlimited free-haul, off-loading and disposing of the materials as specified.

(d) Excavation of the existing pavement

Unit: M^3

The tendered rate shall include full compensation for excavating the existing material from the pavement layers and for loading, transporting the material for unlimited free-haul

distance, off-loading and disposing of the material as specified.

Payment will only be made for breaking up and excavating existing pavement layers to the specified depth if the material is to be removed to spoil.

13.01 Definitions

The Graded crushed stone to be used for Base is to be Class A, and the Grade 0/30.

13.03 Material Requirements

In clarification to the provisions of this Clause, Graded Crushed Stone material shall comply with the following requirements:

- LAA :30 max
- ACV :25 max
- SSS :12 max
- FI :25 max
- CR :100 min

Stone should be free of foreign matter. The fines/passing 0.425mm sieve shall be non-plastic

In clarification to-the provisions of this Clause the material shall be 0/30 mm and it's grading after compaction shall be a smooth curve within and approximately parallel to the following envelope:

Sieve size	Percentage by weight
50	-
37.5	100
28	90-100
20	65-95
10	40-70
6.3	30-55
2.0	20-40
1.0	15-32
0.425	10-24
0.075	4-10

13.04 Crushing, Screening And Mixing

In clarification to the provisions of this Clause, Graded Crushed Stone shall be mixed in a mixing plant (pug mill).

13.06 Laying And Compacting Graded Crushed Stone Subbase And Base

In clarification to the provisions of this Clause, Graded Crushed Stone shall be laid by a paver and shall be stabilized by 1-2% of cement.

SECTION 14 - CEMENT TREATED MATERIALS

14.03 Material Requirements

a) Cement

In variation to this Sub-Clause, cement for improvement shall be ORDINARY PORTLAND CEMENT (OPC) complying with KS 1725: 2001 CEM I 42.5 N or equivalent, subject to the Engineer's approval.

b) Lime

Sub-clause 1403 (b) part (ii) of the Standard Specification applies.

14.04 Protection And Curing

Curing of treated material shall be by method **(i)** or method **(iii)**. Method **(ii)** is prohibited.

SECTION 15 - BITUMINOUS SURFACE TREATMENTS

15.01B Preparation of Surface

In addition to requirements of Clause 1503B of the Standard Specifications, the Contractor shall prepare and Repair Cracks, Edges, Potholes and Other Failures as follows: -

a) Cracks 3.0mm or less in width

The entire crack area shall be cleaned by brushing with a wire brush and then blowing with a compressed air jet and the crack sealed with 80/100 cutback bitumen using a pouring pot or pressure lance and hand squeegee. The surface shall then de dusted with sand or crushed dust.

b) Cracks greater than 3.0mm in width

Before these cracks are filled a steel wire brush or router shall be used to clean them and then a compressed air jet shall be used to clean and remove any foreign or lose material in the crack until the entire crack area is clean.

When the crack and surrounding area have been thoroughly cleaned, dry sand shall be forced into the crack until it is sealed in the manner specified for cracks less than 3.0mm width.

c) Potholes, edges and other repair areas

Where instructed, the Contractor shall prepare areas for the repair of potholes, road edges and other repair areas by excavating off unsuitable or failed material and debris, trimming off excavated edges, cleaning and compacting the resulting surfaces and applying MC 30 or MC 70 cut-back bitumen prime coat at a rate of 0.8-1.2 litres/m2, all as directed by the Engineer. Measurement and payment shall be made under the relevant item of Bill No 15. Where the surface repair on potholes and edges are to be carried out, Asphalt Concrete Type I (0/14gradation) shall be used. Bituminous material for repair of failures and other repair areas shall be paid for under the relevant item of Bill No 16

Part B - Prime Coat

15.02B Materials for Prime Coat and Tack Coat.

For prime coat, the binder shall be a medium-curing cutback MC 70 unless otherwise directed by the Engineer.

The rate of spray of bituminous prime coat refers to the gross volume of the cutback bitumen, that is to say the volume of the bitumen plus dilatants.

Prime coat shall be applied to gravel areas that are to receive bituminous mixes as directed by the Engineer.

The tack coat shall consist of bitumen emulsion KI-60 unless otherwise directed by the Engineer.

The rates of spray of the binder shall be as instructed by the Engineer and shall generally be within the range 0.8-1.2 litres/square metre.

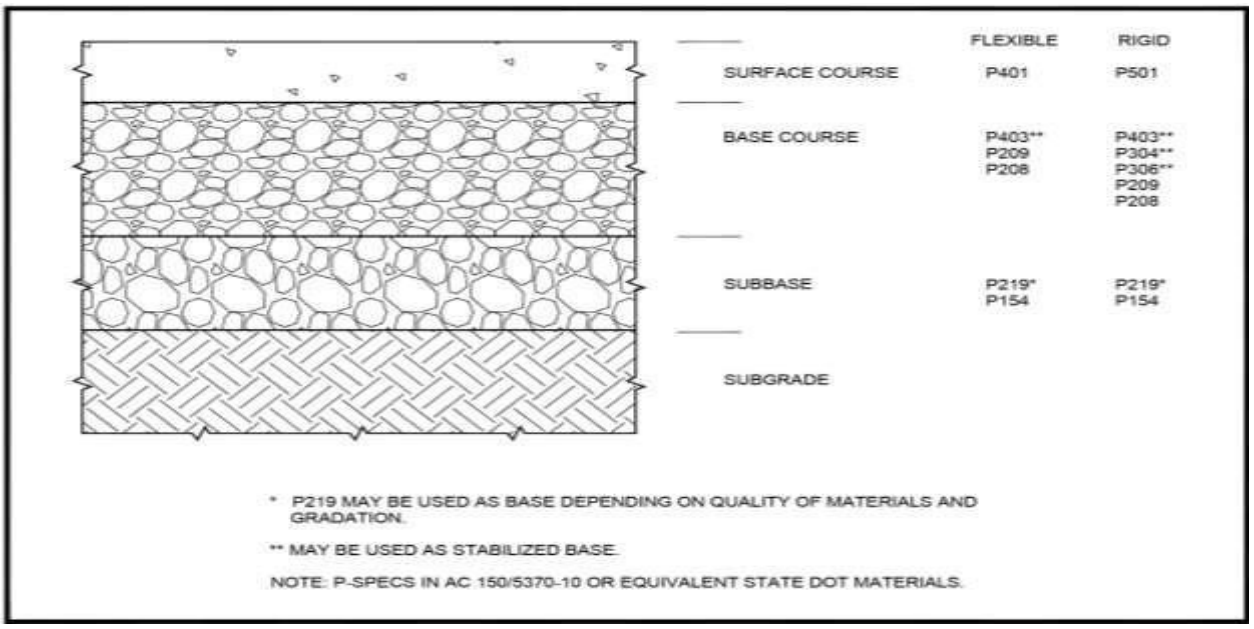
15.11C Measurement and Payment

Seal coat

Seal coats shall be measured by the litre, for each type of bituminous binder for each seal coat, calculated as the product of the area in square metres sprayed and the rate of application in litres/square metres, corrected to 15.6°C.

SECTION 16 - BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

Pavement Distress



Typical Pavement Structure

General.

This section provides a discussion and description of the types of pavement distress and relates them to likely causal factors. Various external signs or indicators make the deterioration of a pavement apparent, and often reveal the probable causes of the failure. AC 150/5380-7, ASTM D5340, and ASTM D6433, Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys, provide additional information on distresses.

Types of pavement distress.

The discussions of problems related to pavement distress are generally based on whether the pavement has a flexible or rigid surface type.

Flexible pavement distresses.

a) Cracking.

Cracks in flexible pavements are caused by deflection of the surface over an unstable foundation, shrinkage of the surface, thermal expansion and contraction of the surface, poorly constructed lane joints, or reflection cracking. The following types of cracks commonly occur in flexible pavements.

1) Longitudinal and transverse cracks.

Longitudinal and transverse cracks may result from shrinkage or contraction of the HMA surface. Shrinkage of the surface material is caused by oxidation and age hardening of the asphalt material. Contraction is caused by thermal fluctuations. Poorly constructed paving

lane joints may accelerate the development of longitudinal joint cracks. This type of cracking is not load associated.

2) Block cracking.

Block cracks are interconnected cracks that divide the pavement into approximately rectangular pieces. The blocks may range in size from approximately 1 foot by 1 foot (0.3 m by 0.3 m) to 10 feet by 10 feet (3 m by 3 m). Block cracking is caused mainly by contraction of the asphalt and daily temperature cycling that results in daily stress/strain cycling. It is not load associated. The occurrence of block cracking usually indicates that the asphalt has hardened significantly. Block cracking normally occurs over a large portion of pavement area, but sometimes will occur only in non-traffic areas. Block cracking differs from alligator cracking which is discussed in (4) below.

3) Reflection cracking.

Vertical or horizontal movement in the pavement beneath an overlay cause this type of distress. This movement may be due to expansion and contraction caused by temperature and moisture changes or traffic loads. The cracks in HMA overlays reflect the crack pattern or joint pattern in the underlying pavement. They occur most frequently in HMA overlays on PCC pavements. However, they may also occur on overlays of HMA pavements when cracks or joints in the old pavement have not been properly repaired.

4) Alligator or fatigue cracking.

Alligator or fatigue cracking is a series of interconnecting cracks caused by fatigue failure of the HMA surface under repeated traffic loading. The cracking begins at the bottom of the HMA surface (or stabilized base) where tensile stress and strain are highest under a wheel load. The cracks propagate to the surface initially as a series of parallel cracks. After repeated traffic loading or excessive deflection of the HMA surface over a weakened or under-designed foundation or interlayer, the cracks connect, forming many sided sharp angled pieces that develop a pattern resembling chicken wire or alligator skin. The pieces are less than 2 feet (0.6 m) on the longest side.

5) Slippage cracks.

Slippage cracks appear when braking or turning wheels cause the pavement surface to slide and deform. This usually occurs when there is a low-strength surface mix or poor bond between the surface and the next layer of the pavement structure. These cracks are crescent or half-moon-shaped with the two ends pointing away from the direction of traffic.

b) Disintegration.

Disintegration in a flexible pavement is typically caused by climate, insufficient compaction of the surface, insufficient asphalt binder in the mix, loss of adhesion between the asphalt coating and aggregate particles, or severe overheating of the mix. The following types of disintegration commonly occur.

1) Raveling.

Raveling is the wearing away of the pavement surface caused by the dislodging of aggregate particles. This distress may indicate that the asphalt binder has aged and hardened significantly. As the raveling continues, larger pieces break free, and the pavement takes on a rough and jagged appearance which can produce a significant source for FOD.

2) Weathering.

Weathering is the wearing away of the asphalt binder and fine aggregate matrix from the pavement surface. The asphalt surface begins to show signs of aging which may be

accelerated by climatic conditions. Loss of fine aggregate matrix is noticeable and may be accompanied by fading of the asphalt pavement color.

3) Potholes.

A pothole is defined as a disruption in the pavement surface where a portion of the pavement material has broken away, leaving a hole. Most potholes are caused by fatigue of the pavement surface. As fatigue cracks develop, they interlock forming alligator cracking. When the sections of cracked pavement work loose, they may eventually be picked out of the surface by continued wheel loads, and form a pothole. In northern climates, where freeze-thaw cycles are severe, pothole development is exacerbated due to the continuous freeze-thaw action and may not be related solely to traffic patterns. Although possible, potholes are not a common distress to airfields.

4) Asphalt stripping.

Asphalt stripping is caused by moisture infiltration into the HMA pavement structure leading to "stripping" of the bituminous binder from the aggregate particles. Asphalt stripping of HMA pavements may also be caused by cyclic water-vapor pressures within the mixture scrubbing the binder from the aggregates.

5) Jet blast erosion.

Jet blast erosion is defined as a darkened area of pavement surface where the bituminous binder has been burned or carbonized. Localized burned areas may vary in depth up to approximately 1/2-inch (13 mm).

6) Patching and utility cut patch.

A patch is defined as an area where the original pavement has been removed and replaced by a filler material. Deterioration of a patch typically progresses at a higher rate than the original pavement. Deterioration of patch areas affects the ride quality and creates FOD potential.

c) Distortion.

Distortion in flexible pavements is caused by foundation settlement, insufficient compaction of the pavement courses, a lack of stability in the bituminous mix, poor bond between the surface and the underlying layer of the pavement structure, and swelling soils or frost action in the subgrade. The following types of distortion commonly occur in flexible pavement.

1) Rutting.

A rut is characterized by a surface depression in the wheel path. In many instances, ruts become noticeable only after a rainfall when the wheel paths fill with water. This type of distress is caused by a permanent deformation in any one of the pavement layers or subgrade, resulting from the consolidation or displacement of the materials due to traffic loads.

2) Corrugation.

Corrugation results from a form of plastic surface movement typified by ripples across the surface. Corrugation can be caused by a lack of stability in the mix or a poor bond between material layers.

3) Shoving.

Shoving is the localized bulging of a pavement surface. It can be caused by lack of stability in the mix, shear movement at an interlayer, or lateral stresses produced by adjacent PCC pavement during expansion.

4) Depressions.

Depressions are localized low areas of limited size. Light depressions are typically only noticeable after a rain, when ponding creates "birdbath" areas. Depressions may result from heavier traffic than the pavement was designed for; localized settlement of the underlying pavement layers; or poor construction methods.

5) Swelling.

An upward bulge in the pavement's surface characterizes swelling. It may occur sharply over a small area or as a longer gradual wave. Both types of swelling may be accompanied by surface cracking. A swell is usually caused by frost action surrounding dissimilar material types in the subgrade or by swelling soil.

6) Loss of skid resistance.

Factors that decrease the skid resistance of a pavement surface and can lead to hydroplaning include too much asphalt in the bituminous mix; too heavy a tack coat; poor aggregate which is subject to wear; paint; and buildup of contaminants. In flexible pavements, a loss of skid resistance may result from the following distresses.

7) Polished aggregate.

Aggregate polishing is caused by repeated traffic applications. Polished aggregate is present when the portion of aggregate extending above the asphalt is either very small, of poor quality, or there are no rough or angular particles to provide good skid resistance.

8) Contaminants.

Accumulation of rubber particles, oils, or other external materials on the pavement surface will reduce the skid resistance of a pavement. In addition, buildup of rubber deposits in pavement grooves will reduce the effectiveness of the grooves and increase the likelihood of hydroplaning.

9) Bleeding.

Bleeding is characterized by a film of bituminous material on the pavement surface that resembles a shiny, glass-like, reflecting surface that usually becomes quite sticky. It is caused by excessive amounts of asphalt binder in the mix and/or low air-void content. Bleeding occurs when asphalt binder fills the voids in the mix during hot weather and then expands out onto the surface of the pavement. Bleeding may also result when an excessive tack coat is applied prior to placement of the HMA surface. Since the bleeding process is not reversible during cold weather, asphalt binder will accumulate on the surface. Extensive bleeding may cause a severe reduction in skid resistance.

10) Fuel/oil spillage.

Continuous fuel/oil spillage on a HMA surface will soften the asphalt. Areas subject to only minor fuel/oil spillage will usually heal without repair, and only minor damage will result.

Standard Material Specifications

C. The Standard Material Specifications shall be governed as stated in the relevant Standard Specifications for Road and bridge construction, ICAO Annex 14, and relevant FAA circulars.

D. When delivered to the works, the items must be accompanied by manufacturer's Certificate of Warranty to ensure approval by the Engineer.

Common materials for maintenance and repair.

The materials listed below are commonly used for maintenance and repair of pavements.

a. Hot-mix asphalt (HMA).

HMA is a blend of asphalt binder and well-graded, high-quality aggregates. The materials are mixed in a plant and placed and compacted while hot. HMA is used for construction of new airfield pavement and patching and overlay of airfield pavements. HMA for maintenance and repair should be equivalent or better than the existing pavement. P-401, Hot Mix Asphalt (HMA) Pavements or P-403, Hot Mix Asphalt (HMA) Pavements (Base, Leveling or Surface Course) in AC 150/5370-10; or equivalent state pavement specifications should be used.

b. Tack coat.

A tack coat is a light application of emulsified asphalt applied to an existing pavement to provide a bond with an overlying course, such as a HMA overlay. A tack coat is also used on the sides of an existing pavement that has been cut vertically before patching. Asphalt emulsions are manufactured in several grades and are selected by the desired setting time. P-603, Bituminous Tack Coat in AC 150/5370-10 or equivalent state specifications may be used.

c. Crack and joint sealing material.

Material for sealing cracks should meet ASTM standards for the type of pavement and service for which the sealant is intended.

a) ASTM D5893, Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements.
b) ASTM D6690, Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
c) ASTM D5249, Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints.

d. Crack filler material.

Material for filling cracks should meet ASTM D5078, Standard Specification for Crack Filler,

e. Concrete.

Concrete is a blend of Portland cement, fine and coarse aggregate, and water, with or without additives. Concrete is used to repair a distressed Portland cement concrete pavement so it may be used at its original designed capacity. P-501, Portland Cement Concrete Pavement in AC 150/5370-10 or equivalent state pavement specifications with non-reactive materials may be used.

This section covers different types of bituminous mixes for base and surface (wearing and binder courses) and is divided into the following parts: -

Part A General

Part B Asphalt Concrete for carriageway

Part A – General

16.01A Scope of Part A

Part A comprises all the general requirements for bituminous mixes, which apply to Part B as well.

16.02A Requirements from Other Sections

The following sections of this Specification apply to Part B of this section and shall be read in conjunction therewith: -

Section 2	Materials and Testing of Materials
Section 3	Setting Out and Tolerances
Section 6	Quarries, Borrow Pits, Stockpile and Spoil Areas
Section 15	Bituminous Surface Treatments and Surface Dressing

16.03A Construction Plant

a) General

The Contractor shall submit to the Engineer in accordance with Section 1 of its Specification, full details of the construction plant he proposes to use and the procedures he proposes to adopt for carrying out the permanent Works.

The Engineer shall have access at all times to construction plant for the purposes of inspection. The Contractor shall carry out regular calibration checks in the presence of the Engineer and shall correct forthwith any faults that are found.

All construction plant used in the mixing, laying and compacting of bituminous mixes shall be of adequate rated capacity, in good working condition, and shall be acceptable to the Engineer. Obsolete or worn-out plant will not be allowed on the work.

b) Mixing Plant

Bituminous materials shall be mixed in a plant complying with ASTM Designation D995 and shall be located on the Site unless otherwise agreed by the Engineer. It shall be equipped with at least three bins for the storage of heated aggregates and a separate bin for filler. All bins shall be covered to prevent the ingress of moisture.

The plant may be either the batch-mix type or the continuous-mix type and shall be capable of regulating the composition of the mixture to within the tolerances specified in Clause 1614A of this Specification.

The bitumen tank shall be capable of maintaining its contents at the specified temperature within a tolerance of 50C and a fixed thermometer easily read from outside the tank. Any bitumen that has been heated above 1800C or has suffered carbonisation from prolonged heating shall be removed from the plant and disposed of.

c) Laying Plant

Bituminous materials shall be laid by a self-propelled spreader finisher equipped with a hopper, delivery augers and a heated adjustable vibrating screed. It shall be capable of laying bituminous materials with no segregation, dragging, burning or other defects and within the specified level and surface regularity tolerance. Delivery augers shall terminate not more than 200mm from the edge plates.

d) Compaction Plant

The Contractor shall provide sufficient rollers of adequate size and weight to achieve the specified compaction. Prior to commencing the laying of bituminous mixes in the permanent Works the Contractor shall carry out site trials in accordance with Section 2 of this Specification to demonstrate the adequacy of his plant and to determine the optimum method of use and sequence of operation of the rollers.

It is important to achieve as high a density as possible at the time of construction and it is expected that vibrating rollers will be required to produce the best results. However, it is essential that thorough pre-construction trials are carried out to ensure that: -

a) The roller is set up to have the optimum amplitude and frequency of vibration for the particular material being laid
b) That the roller does not cause breakdown of the aggregate particles.
c) That the optimum compaction temperatures are established which allow compaction without causing ripple effects or other distortions of the surfacing.

16.04A Preparation of Surface

Immediately before placing the bituminous mix in the pavement, the existing surface shall be cleaned of all material and foreign matter with mechanical brooms or by other approved methods. The debris shall be deposited well clear of the surface to be covered.

Any defect of the surface shall be made good and no bituminous mix shall be laid until the Engineer has approved the surface.

A tack coat shall be applied in accordance with Section 15 of this Specification. If the Engineer considers a tack coat is required prior to laying the bituminous mix or between layers of the bituminous mix, due solely to the

Contractor's method of working, then such tack coat shall be at the Contractor's expense.

16.05A Design and Working Mixes

At least two months prior to commencing work using a bituminous mix, the Contractor shall, having demonstrated that he can produce aggregates meeting the grading requirements of the Specification, submit samples of each constituent of the mix to the Engineer. The Engineer will then carry out laboratory tests in order to decide upon the proportion of each constituent of the initial design mix or mixes to be used for site trials to be carried out in accordance with Clause 1606A of this Specification.

Should the Engineer conclude from the site trials that the mix proportion or aggregate grading are to be changed, the Contractor shall submit further samples of the constituents and carry out further site trials all as directed by the Engineer.

The Engineer may instruct the alteration of the composition of the -75 micron fraction of the aggregates by the addition or substitution of mineral filler. The Engineer may also

instruct the alteration of all or part of the -6.3mm fraction of the aggregates by the addition or substitution of natural sand.

The Contractor shall make the necessary adjustments to his plant to enable the revised mix to be produced.

Following laboratory and site trials the Engineer will determine the proportions of the working mix and the Contractor shall maintain this composition within the tolerances given in Clause 1614A.

Should any changes occur in the nature or source of the constituent materials, the Contractor shall advise the Engineer accordingly. The procedure set out above shall be followed in establishing the new mix design.

16.06A Site Trials

Full scale laying and compaction site trials shall be carried out by the Contractor on all asphalt pavement materials proposed for the Works using the construction plant and methods proposed by the Contractor for constructing the Works. The trials shall be carried out with the agreement, and in the presence of the Engineer, at a location approved by the Engineer.

The trials shall be carried out to: -

a) Test materials, designed in the laboratory, so that a workable mix that satisfies the specification requirements can be selected.
b) To enable the Contractor to demonstrate the suitability of his mixing and compaction equipment to provide and compact the material to the specified density and to confirm that the other specified requirements of the completed asphalt pavement layer can be achieved.

Each trial area shall be at least 100 metres long and to the full construction width and depth for the material. It may form part of the Works provided it complies with this Specification. Any areas that do not comply with this Specification shall be removed.

The Contractor shall allow in his program for conducting site trials and for carrying out the appropriate tests on them. The trial on any pavement layer shall be undertaken at least 21 days ahead of the Contractor proposing to commence full-scale work on that layer.

The Contractor shall compact each section of trial over the range of compactive effort the Contractor is proposing and the following data shall be recorded for each level of compactive effort at each site trial: -

(i) The composition and grading of the material including the bitumen content and type and grade of bitumen used.
(ii) The moisture content of aggregate in the asphalt plant hot bins.
(iii) The temperature of the bitumen and aggregate immediately prior to entering the mixer, the temperature of the mix on discharge from the mixer and the temperature of the mix on commencement of laying, on commencement of compaction and on completion of compaction. The temperature of the mixture is to be measured in accordance with BS 598, Part 3, Appendix A.
(iv) The type, size, mass, width of roll, number of wheels, wheel load, tyre pressures,

frequency of vibration and the number of passes of the compaction equipment, as appropriate for the type of roller.

(v) The target voids and other target properties of the mix together with the results of the laboratory tests on the mix.

(vi) The density and voids achieved.

(vii) The compacted thickness of the layer.

(viii) Any other relevant information as directed by the Engineer.

At least eight sets of tests shall be made by the Contractor and the Engineer on each 100 metres of trial for each level of compactive effort and provided all eight sets of results over

the range of compactive effort proposed by the Contractor meet the specified requirements for the material then the site trial shall be deemed successful. The above data recorded in the trial shall become the agreed basis on which the particular material shall be provided and processed to achieve the specified requirements.

16.07A Mixing of Aggregates and Bitumen

The bitumen shall be heated so that it can be distributed uniformly and care shall be taken not to overheat it. The temperature shall never exceed 1700 C for 80/100-penetration grade bitumen.

The aggregates shall be dried and heated so that they are mixed at the following temperatures:

125-165°C when 80/100 bitumen is used

The dried aggregates shall be combined in the mixer in the amount of each fraction instructed by the Engineer and the bitumen shall then be introduced into the mixer in the amount specified. The materials shall then be mixed until a complete and uniform coating of the aggregate is obtained.

The mixing time shall be the shortest required to obtain a uniform mix and thorough coating. The wet mixing time shall be determined by the Contractor and agreed by the Engineer for each plant and for each type of aggregate used. It shall normally not exceed 60 seconds.

16.08A Transporting the Mixture

The bituminous mix shall be kept free of contamination and segregation during transportation. Each load shall be covered with canvas or similar covering to protect it from the weather and dust.

16.09A Laying the Mixture

Immediately after the surface has been prepared and approved, the mixture shall be spread to line and level by the laying plant without segregation and dragging.

The mixture shall be placed in widths of one traffic lane at a time, unless otherwise agreed by the Engineer. The compacted thickness of any layer shall be at least 2.5 times the maximum size of the aggregate for wearing course and at least 2 times for binder course. The minimum thickness shall be 25mm.

Only on areas where irregularities or unavoidable obstacles make the use of mechanical laying impracticable, may the mixture be spread and compacted by hand.

16.10A Compaction

Immediately after the bituminous mixture has been spread, it shall be thoroughly and uniformly compacted by rolling.

The layer shall be rolled when the mixture is in such a condition that rolling does not cause undue displacement or shoving.

The number, weight and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. The sequence of rolling operations shall be as agreed with the Engineer and proved during site trials. Initial rolling

with steel tandem or three-wheeled roller shall follow the laying plant as closely as possible. The rollers shall be operated with the drive roll nearest the laying plant, at a slow and uniform speed (not exceeding 5 Km/Hr).

Rolling shall normally commence from the outer edge and proceed longitudinally parallel to the centerline, each trip overlapping one half of the roller width. On super elevated curves, rolling shall begin at the low side and progress to the high side. Where laying is carried out in lanes care must be taken to prevent water entrapment.

Intermediate rolling with a pneumatic-tyred or vibratory roller shall follow immediately. Final rolling with a steel-wheeled roller shall be used to eliminate marks from previous rolling.

To prevent adhesion of the mixture to the rollers, the wheels shall be kept lightly moistened with water.

In areas too small for the roller, a vibrating plate compactor or a hand tamper shall be used to achieve the specified compaction.

16.11A Finishing, Joints and Edges

Any mixture that becomes loose and broken, mixed with dirt or foreign matter or is in any way defective, shall be removed and replaced with fresh hot mixture, which shall be compacted to conform to the surrounding area.

Spreading of the mixture shall be as continuous as possible. Transverse joints shall be formed by cutting neatly in a straight line across the previous run to expose the full depth of the course. The vertical face so formed shall be painted lightly with hot 80/100 penetration grade bitumen just before the additional mixture is placed against it.

Longitudinal joints shall be rolled directly behind the paving operation. The first lane shall be placed true to line and level and have an approximately vertical face. The mixture placed in the abutting lane shall then be tightly crowded against the face of the previously placed lane. The paver shall be positioned to spread material overlapping the joint face by 20-30mm. Before rolling, the excess mixture shall be raked off and discarded.

When the abutting lane is not placed in the same day, or the joint is destroyed by traffic, the edge of the lane shall be cut back as necessary, trimmed to line and painted lightly with hot 80/100 penetration grade bitumen just before the abutting lane is placed.

Any fresh mixture spread accidentally on the existing work at a joint shall be carefully removed by brooming it back on to uncompacted work, so as to avoid formation of

irregularities at the joint. The finish at joints shall comply with the surface requirements and shall present the same uniformity of finish, texture and density as other sections of the work.

The edges of the course shall be rolled concurrently with or immediately after the longitudinal joint. In rolling the edges, roller wheels shall extend 50 to 100mm beyond the edge.

16.12A Sampling and Testing of Bituminous Mixtures

The sampling of bituminous mixtures shall be carried out in accordance with AASHTO T168 (ASTM Designation D979).

16.13A Quality Control Testing

During mixing and laying of bituminous mixtures, control tests on the constituents and on the mixed material shall be carried out in accordance with Clause 1612A and Section 2 of this Specification.

If the results of any tests show that any of the constituent materials fail to comply with this Specification, the Contractor shall carry out whatever changes may be necessary to the materials or the source of supply to ensure compliance.

If the results of more than one test in ten on the mixed material show that the material fails to comply with this Specification, laying shall forthwith cease until the reason for the failure has been found and corrected. The Contractor shall remove any faulty material laid and replace it with material complying with this Specification all at his own expense.

16.14A Tolerances

Surfacing courses and base shall be constructed within the geometric tolerances specified in Section 3 of this Specification.

The Contractor shall maintain the composition of the mixture as determined from the laboratory and site trials within the following tolerances, per single test: -

Bitumen Content	0.3% (by total weight of total mix)
Passing 10mm sieve	6% (by total weight of dry aggregate and larger sieves including mineral filler)
Passing sieves between 10mm and 1.0mm sieves	4% (by total weight of dry aggregate including mineral filler)
Passing sieves between 1.0mm and 0.075mm sieve	3% (by total weight of dry aggregate including mineral filler
Passing 0.075mm sieve	2% (by total weight of dry aggregate including mineral filler)

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The final average overall width of the upper surface of a bituminous mix layer measured at six equidistant points over a length of 100m shall be at least equal to the width specified. At no point shall the distance between the centerline of the road and the edge of the upper surface of a bituminous mix layer be narrower than that specified by more than 13mm.

16.15A Measurement and Payment

No separate measurement and payment shall be made for complying with the requirements of Clauses 1601A to 1614A inclusive and the Contractor shall be deemed to have allowed in his rates in Parts B and C of Section 16 of this Specification for the costs of complying with the requirements of Part A of Section 16 of this Specification

Part B - Asphalt Concrete for Surfacing

16.01B Definition

Asphalt concrete means a thoroughly controlled, hot-mixed, hot-laid, plant mixture of well-graded dried aggregate and penetration grade bitumen, which, when compacted forms a dense material.

A distinction is drawn between asphalt concrete Type I (High Stability) and asphalt concrete Type II (Flexible). The asphalt concrete type to be used will be Type I.

16.02B Materials for Asphalt Concrete Type I

a) Type of bituminous material

The type of material to be used on severe sites will be of the continuously graded type similar to Asphaltic Concrete or Close Graded Macadam. It is essential that these materials are sealed with a single or double surface dressing or a Cape seal.

b) Penetration Grade Bitumen

Bitumen shall be 80/100 penetration grade since material is being laid at an altitude of more than 2,500m.

c) Aggregate

Coarse aggregate (retained on a 6.3mm sieve) shall consist of crushed stone free from clay, silt, organic matter and other deleterious substances. The aggregate class will be specified in the Special Specification and it shall comply with the requirements given in Table 16B-1(b).

The grading for 0/20 mm for carriageway and 0/14mm for shoulders for binder course is as specified below:

Sieve size	0/20	0/14
28	100	-
20	90-100	100
14	75-95	90-100
10	60-82	70-90
6.3	47-68	52-75
4	37-57	40-60
2	25-43	30-45
1	18-32	20-35
0.425	11-22	12-24
0.300	9-17	10-20
0.150	5-12	6-14
0.075	3-7	4-8

Table 16b-1(B) - Requirements for Coarse Aggregate

Coarse Aggregate

(Retained on a 6.3mm Sieve)

Coarse Aggregate (Retained on a 6.3mm Sieve)	
Test	**Maximum Value**
LAA	30
ACV	25
SSS	12
FI	25

Fine aggregate (passing a 6.3mm sieve) shall be free from clay, silt, organic and other deleterious matter and shall be non-plastic. Unless otherwise specified in the Special Specification it shall consist of entirely crushed rock produced from stone having a Los Angeles Abrasion of not more than 40. The Sand Equivalent of the fine aggregate shall not be less than 40 and the SSS not more than 12.

Mineral Filler

Mineral Filler shall consist of ordinary Portland Cement 42.5 Grade

16.03B Grading Requirements

The grading of the mixture of coarse and fine aggregate shall be within and approximately parallel to the grading envelopes given in Table 16B-1(b), for 0/14mm as specified for binder course, as described below.

Grading Requirements

To arrive at a suitable design, it is necessary to investigate a number of grading so that a workable mix, which also retains a minimum of 3 % voids at refusal density, is identified.

The largest particle size used should not be more than 25mm so that the requirements of the Marshall test method can be complied with.

Although the complete range of nominal maximum particle sizes is shown in the Tables, the total thickness of material laid should not be more than 75mm.

16.04B Requirements for Asphalt Concrete Type 1

The mixture shall comply with the requirements given in Table 16B-2 as specified in the Specification. In addition, minimum Marshall Stability for 2 x 75 blows shall be 9 kN and maximum 18 kN and at compaction to refusal shall have 3% VIM.

The proportion, by weight of total mixture, of bitumen shall be 5.0 – 6.5 % for 0/14 mm and 4.5 – 6.5 % for 0/20mm. This shall be termed the nominal binder content. The binder content of the working mix will be instructed by the Engineer following laboratory and site trials.

In order to determine the suitability of a coarse aggregate source a Marshall test programme shall be carried out. It will be advantageous to use a crushed rock which is known from past experience to give good results in this test procedure. A grading conforming to the Type I Binder Course detailed in Table 16B-1(a) 0/20 of this Specification should be tested (but with 100% passing the 25mm sieve) and it shall meet the requirements of Table 16B-2 of this Specification.

Having established the suitability of the aggregate source several grading shall be tested in the laboratory, including that used for the Marshall test, to establish relationships between bitumen content and VIM at refusal density. For each mix, samples will be made up to a range of bitumen contents and compacted to refusal using a gyratory compactor and a vibratory hammer in accordance with the procedure described in BS 598 (Part 104 : 1989), with one revision.

It should first be confirmed that compaction on one face of the sample gives the same refusal density as when the same compaction cycle is applied to both faces of the same sample. The procedure, which gives the highest density, must be used.

From the bitumen content-VIM relationship it will be possible to identify a bitumen content which corresponds to a VIM of 3 - 7%. If it is considered that the workability of the mix may be difficult then compaction trials should be undertaken. It is advisable to establish two or more gradings for compaction trials.

The mixes identified for compaction trials should be manufactured to the laboratory design bitumen content and to two other bitumen contents of +0.5% and +1% additional bitumen. Cores will be cut to determine the density of the compacted material, having completed this the core will then be reheated to 145+/-5□C in the appropriate mould and compacted to refusal in the vibrating hammer test. To be acceptable the cores cut from the compaction trial must have a density equivalent to at least 95% of refusal density.

The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% VIM at refusal density.

16.05B Mixing and Laying Heavy Duty Asphalt

The temperature of the bitumen and aggregates when mixed shall be 110+/-3□C above the softening point (R&B) of the bitumen.

Compaction should commence as soon as the mix can support the roller without undue displacement of material and completed before the temperature of the mix falls below 900C.

The minimum thickness of individual layers should be as follows: -

a)	For the 37.5mm mix	65mm
b)	For the 25.0mm mix	60mm
c)	For the 19.0mm mix	50mm
d)	For the 12.5mm mix	40mm

16.06B Compaction

Rolling shall be continued until the voids measured in the completed layer are in accordance with the requirement for a minimum density of 98% of Marshall optimum, or, a minimum mean value of 95% of refusal density (no value less than 93%) as appropriate.

Measurement and Payment

a) Item : Asphalt Concrete
Unit : m^3 of Asphalt Concrete Used

Asphalt concrete shall be measured by the cubic metre compacted on the road calculated as the product of the length instructed to be laid on the compacted cross-sectional area shown on the Drawings or instructed by the Engineer.

The rate for asphalt concrete shall include for the cost of providing, transporting, laying and compacting the mix with the nominal binder content and complying with the requirements of Parts A and B of Section 16 of this Specification.

SECTION 17 - CONCRETE WORKS

17.03 Materials for Concrete

This work shall consist of placing selected approved material of 250mm minimum diameter on the foundation put after excavation to receive levelling concrete in accordance with these specifications and in conformity with the lines, grades and cross sections shown on the Drawings as directed by the Engineer.

a) Materials

Selected rock: The selected rock builders to be placed for this work shall be hard, sound, durable quarry stones as approved by the Engineer. Samples of the stone to be used shall be submitted to and approved by the Engineer before any stone is placed. The maximum size of the stone boulders shall be 300mm.

b) Construction Method

After completion of the structural excavation the surface of the loose soil shall be levelled and compacted. Then the stone of the above sizes shall be placed in one layer of 250mm over the compacted bed where the bottom slab will rest. Coarse sand shall be spread to fill up the voids in the stone boulders, and compaction with vibratory compactors should be performed to make this layer dense whereon a concrete of levelling course shall be placed.

c) Measurement and payment

Measurement for the bedding materials shall be made in cubic metres for the completed and accepted work, measured from the dimension shown on the Drawings, unless otherwise directed by the Engineer.

Payment for the bedding Materials for Levelling Concrete Works shall be full compensation for furnishing and placing all materials, all labour equipment, tools and all other items necessary for proper completion of the work in accordance with the Drawings and specifications and as directed by the Engineer.

17.03A Levelling Concrete (Class 15/20) For Bottom Slab Inclusive of Cost of Form Works

This work shall consist of placing and levelling lean concrete class 15/20 over the prepared bed of stone boulders in the foundation for bottom slab and wingwalls in accordance with these specifications and which conformity with the lines, grades, thickness and typical cross-sections shown on the drawings unless otherwise directed by the Engineer.

a) Materials for Levelling Concrete

Requirement for the concrete class 15/20 is specified as follows:-

Design compressive strength (28) days : 15N/mm^2

Maximum size of coarse aggregate : 20mm

Maximum cement content : 300 kg/m^3.

Maximum water/cement ration of 50% with slump of 80mm.

b) Construction Method

The bed of stone boulders upon which the levelling concrete will be placed shall be smooth, compacted and true to the grades and cross-section shall be set to the required lines and grades.

c) Measurement and payment

Measurement for levelling concrete (class 15/20) shall be made in cubic metres completed and accepted levelling concrete work measured in place which is done in accordance with the Drawings and the Specifications.

Payment for this work shall be the full compensation for furnishing and placing all materials, labour, equipment and tools, and other incidentals to Specifications and as directed by the Engineer.

Pay item No. 17/02 Levelling Concrete Works (Class 15/20) for Box Culvert and wingwalls inclusive of Cost of Form works.

17.03C Formwork for Culvert Walls

This work shall consist of all temporary molds for forming the concrete for culvert walls and slabs together with all temporary construction required for their support. Unless otherwise directed by the Engineer all formworks shall be removed on completion of the walls and slabs.

a) Materials

Forms shall be made of wood or metal and shall conform to the shape, lines and dimensions shown on the Drawings.

All timber shall be free from holes, loose material, knots, cracks, splits and warps or other defects affecting the strength or appearance of the finished structure.

Release Agents – Release agents shall be either neat oils containing a surface activating agent, cream emulsions, or chemical agents to be approved by the Engineer.

b) Construction Method

Formworks

Formworks shall be designed to carry the maximum loads that may be imposed, and so be rigidly constructed as to prevent deformation due to load, drying and wetting, vibration and other causes. After forms have been set in correct location, they shall be inspected and approved by the Engineer before the concrete is placed. If requested, the Contractor shall

submit to the Engineer working drawings of the forms and also, if requested, calculations to certify the rigidity of the forms.

17.03D Concrete Works (Class 25/20) Of Culvert Walls and Slabs

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of culvert walls and slabs, in accordance with these Specifications and in conformity with the requirements shown on the Drawings.

Concrete class 25/20 shall be used for Culvert walls and slabs.

a) Concrete Materials

Cement: Cement shall be of Portland type and shall conform to the requirements of BS 12 or equivalent.

The Contractor shall select only one type or brand of cement or others. Changing of type or brand of cement will not be permitted without a new mix design approved by the Engineer. All cement is subject to the Engineer's approval; however, approval of cement by the Engineer shall not relieve the Contractor of the responsibility to furnish concrete of the specified compressive strength.

Conveyance of cement by jute bags shall not be permitted. Storage in the Contractor's silo or storehouse shall not exceed more than two (2) months, and age of cement after manufacture at mill shall not exceed more than four (4) months. The Contractor shall submit to the Engineer for his approval the result of quality certificate prepared by the manufacturer.

Whenever it is found out that cement have been stored too long, moist, or caked, the cement shall be rejected and removed from the project.

b) Aggregates

Fine and coarse aggregates must be clean, hard, strong and durable, and free from absorbed chemicals, clay coating, or materials in amounts that could affect hydration, bonding, strength and durability of concrete.
Grading of aggregates shall conform to the following requirements:

Fine and coarse aggregates must be clean, hard, strong and durable, and free from absorbed chemicals, clay coating, or materials in amounts that could affect hydration, bonding, strength and durability of concrete.
Grading of aggregates shall conform to the following requirements:

(i) Grading of Fine Aggregates

Sieve Size	Percentage by Weight Passing
10 mm	100
5 mm	89-100
2.5 mm	60-100
1.2 mm	30-100
0.6 mm	15- 54
0.3 mm	5- 40
0.15 mm	0 – 15

(ii) Grading of Coarse Aggregates

Size of Coarse Aggregate	Amounts finer than each standard sieve percentage by weight						
	40	30	25	20	15	10	5 2.5
	100	-	-	90-100	-	30-69	0-10 -

Other requirements for aggregates are as follows:

(iii) Fine Aggregates

Fitness Modulus, AASHTO M-6 : 2.3 – 3.1
Sodium Sulphate Soundness, AASHTO T104 : Max. 10% loss
Content of Friable Particles AASHTO 112 : Max 1% by weight
Sand Equivalent, AASHTO T176 : Min. 75

(iv) Coarse Aggregate

Abrasion, AASGTO T96 : Max. 405 loss
Soft Fragment and shale, AASHTO M80 : Max. 5% by weight
Thin and elongated Pieces, AASHTO M80 : Max. 15%

(v) Water

All sources of water to be used with cement shall be approved by the Engineer. Water shall be free from injurious quantities of oil, alkali, vegetable matter and salt as determined by the Engineer.

(vi) Admixture

Only admixture, which have been tested and approved in the site laboratory through trial mixing for design proportion shall be used. Before selection of admixture, the Contractor shall submit to the Engineer the specific information or guarantees prepared by the admixture supplier. The Contractor shall not exclude the admixture from concrete proportions.

c) Concrete class 20/20

Concrete class 25/20 shall be used for culvert walls and slabs. The requirements of Concrete class 25/20 are provided as follows unless otherwise the Engineer will designate any alteration.

Design compressive strength (28 days) : 25N/mm^2
Maximum size of coarse aggregates : 20mm
Maximum water/cement ratio of 45% with slump of 80mm

d) Proportioning Concrete

The Contractor shall consult with the Engineer as to mix proportions at least thirty (30) days prior to beginning the concrete work. The actual mix proportions of cement, aggregates, water and admixture shall be determined by the Contractor under supervision of the Engineer in the site laboratory.
The Contractor shall prepare the design proportions which has 120% of the strength requirement specified for the designated class of concrete.
No class of concrete shall be prepared or placed until its job-mix proportions have been approved by the Engineer.

e) Concrete Work

(i) Batching

Batching shall be done by weight with accuracy of:

Cement : ½ percent
Aggregate : ½ percent
Water and Admixture : 1 percent.

Equipment should be capable of measuring quantities within these tolerances for the smartest batch regularly used, as well as for larger batches.

The accuracy of batching equipment should be checked every month in the presence of the Engineer and adjusted when necessary.

(ii) Mixing and delivery

Slump of mixed concrete shall be checked and approved at an accuracy of +25mm against designated slump in these specifications.

(iii) Concrete in hot weather

No concrete shall be placed when the ambient air temperature is expected to exceed thirty-three degrees Celsius (33°C) during placement operations).

(iv) Concreting at night

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an

adequate approved artificial lighting system is operated; such night work is subject to approval by the engineer.

(v) Placing

In preparation of the placing of concrete, the interior space of forms shall be cleaned and approved by the engineer prior to placing concrete. All temporary members except tie bars to support forms shall be removed entirely from the forms and not buried in the concrete. The use of open and vertical chute shall not be permitted unless otherwise directed by the engineer.

The Contractor shall provide a sufficient number of vibrators to properly compact each batch immediately after it is placed in the forms.

f) Measurement and Payment

Measurements for the Concrete Works Class 20/20 of culvert walls and slabs shall be made in cubic metres for the walls and slabs actually constructed, measured from their dimensions shown on the Drawings. Payment for the Concrete Works (Class 20/20) of culvert walls and slabs shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing and curing the concrete, equipment and tools, labour and other incidental necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

SECTION 20 - ROAD FURNITURE

20.01 Road Reserve Boundary Posts

Road reserve boundary posts shall be provided as directed by the Engineer and in compliance with Standard Specification clause 2001. They shall be placed at 50m. intervals along the boundary of the road reserve.

20.03 Edge Marker Post

Edge marker post shall be provided as directed by the Engineer and in compliance with Standard Specification clause 2003

20.04 Permanent Road Signs

Permanent Road Signs shall be provided as directed by the Engineer and in compliance with the requirements of the "Manual for Traffic Signs in Kenya" Part II and standard Specification clause 2004.

20.04B Existing Road Signs

Where directed by the Engineer, the Contractor shall take down road signs including all posts, nuts, bolts and fittings, and remove and dispose of the concrete foundation and backfill the post holes. The signs shall be stored as directed by the Engineer.

Measurement and payment for taking down road signs shall be made by the number of signs of any type and size taken down, cleaned and stored as directed.

20.05 Road Marking

Paint for road marking shall be internally reflectorized hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification.

The rates inserted in the Bills of Quantities for road marking shall include for prior application of approved tack coat.

20.05A Raised Pavement Markers – Road Studs

Material

Road studs are moulded of acrylonitrile butadiene styrene (ABS) conforming to ASTM Specification D1788 – 68, class 5-2-2 shell filled with inert, thermosetting compound and filler. The lens portion of the marker of the marker is of optical menthly methacrylic.

Construction

The road studs shall be constructed of high impact ABS containing a multi-biconvex glass lens reflector system. It shall be of monolithic construction, and not less than 98.5. m^2. The height of the marker shall not exceed 17mm and the underside shall contain a non-honeycomb base (flat).

Requirements

The markers shall conform to the following requirements

Color

Shall be white, yellow or red as specified and the Retro – reflectance values should conform to the testing procedures of ASTME 809.

Impact Resistance

The market shall not crack or break when tested using a 1000-gram weight from a height of 1 metre. (ASTM D 2444) or BS 3900 Part E3.

Resistance to Water Penetration

Shall not have water penetration behind the lens after submerged in a water bath at 70 + 50 °F for 10 minutes. And it should still meet the reflectance Requirement. BS 998.

Heat Resistance

Shall comply with the initial brightness as per BS 873 Part IV of 1978

Night Visibility

The marker shall be bright as per BS 873 Part IV of 1978

Compression Resistance

There shall be no cracking sound at a pressure lower than 25 tones as per BS 873 Part IV of 1978.

Corrosion Resistance

After immersing a sample of Road stud in a solution containing 30g/1 of sodium chloride for 30 days, there shall not be any signs of corrosion -(BS998).

NOTE: These markers are intended for application directly to pavement surfaces and are compatible with raised pavement makers. These adhesives should be of high quality and tested for conformance to customer requirements.

Adhesives

They shall be of Resin Type–Epoxy of 2 different components part 1 and 2 i.e Adhesive and Reactor without any volatile solvents in both.

Pot life : not less than 20 minutes at 20 °C

Rotational cure time : between 20 and 30 minutes at 20 °C

Hard cure : Between 40 and 60 minutes at 20 °C

Application Instruction

Preparation of Pavements

Make sure that the road surface is absolutely dry and free of oil and grease**.**

Mixing of Adhesive

Pour component B into the container of component A. Stir mixture by hand with a wooden or metal stick until uniform Grey Tint without a striate is obtained.

Installation

Pour the mixture on to the underside of the road stud. Then place the road stud firmly on the road surface. Adhesive should stand out for about 5mm to 10 mm over the edges of the stud.

Protection from the Traffic

Protect studs from traffic for 2 hours until the adhesive has properly hardened. Try by touching the adhesive.

Number of studs needed for laboratory tests.

In order to approve a particular type of road stud, 4 sample road studs of each color shall be submitted.

20.06 Guardrails

Contrary to the Standard Specification, guardrail posts shall be concrete 200 mm diameter set vertically at least 1.2m into the shoulder as directed by the Engineer. Spacer blocks shall also be made of concrete.

Beams for guardrails shall be "Armco Flex-beam" or similar obtained from a manufacturer approved by the Engineer.

20.07 Kerbs

a) Vertical Joints

Vertical joints between adjacent Kerbs shall not be greater than 5 mm in width and shall be filled with a mortar consisting of 1:3 cement: sand by volume.

b) Transition between flush and raised kerbs

The transition between flush and raised kerbs (e.g. at bus bays) shall be termed as ramped kerbs. The transition between flush and raised kerbs shall occur within a length of 2.0 m.

20.08 Kilometre Marker Posts

Kilometer marker posts shall be provided as directed by the Engineer and in compliance with Standard Specification clause 2008.

20.09 Rumble Strips

Where directed by the Engineer, the Contractor shall provide, place, trim, shape and compact to line and level asphalt concrete rumble strips on the finished shoulders. This shall be done to the satisfaction of the Engineer

20.11 Measurement and Payment

Road reserve boundary posts

Road reserve boundary posts shall be measured by the number erected

Permanent road signs

Permanent road signs shall be measured by the number of each particular size erected.

Road marking

Road markings in yellow or white material shall be measured in square metres calculated as the plan area painted.

Road Studs

Road studs shall be measured by the number of each particular size erected.

Guardrail

Guardrail shall be measured by the meter as the length of the guardrail constructed.

Kerbs

Kerbs shall be measured by the meter as the length of kerbs constructed.

SECTION 22-DAYWORKS

20.02 MEASUREMENTS AND PAYMENT

(a) Plant

Where items of major plant listed in the schedule of Day works are specified by type (e.g. Concrete mixer etc.) the power rating if such items of plant are provided by the Contractor shall not be lower than the power ratings of such plant manufactured within the last two years prior to the date of BID. Any item of major plant employed upon Dayworks that has a power rating lower than specified above shall be paid for at rates lower than those in the schedule of Dayworks. The reduction in the rate payable shall be in proportion to the reduction in power rating below that specified above.

SECTION 23: CONCRETE PAVING BLOCKS

This works shall consist of providing, laying and fixing of concrete paving blocks and concrete paving slabs on a sand base on the driveway and walkways and other areas as directed by the Engineer.

a. Concrete Paving Blocks

The paving blocks shall be of type S of any shape fitting within a 295 mm square coordinating space and a work size thickness of at least 30 mm. The blocks shall confirm to the requirements of BS 6717: Pt. 1:1986 or Kenya standard equivalent.

The laying shall be broken at intervals of 50 m by concrete ribs of class 25 concrete.

The blocks shall be laid on a 40 mm minimum sand base whose specifications are as in section (b) of this specification.

b. Sand for Sand Base

Sand used as bedding for paving blocks and slabs shall be natural sand either pit or river sand. The grading shall conform and be parallel as much as possible to KS02 – 95 Parts 1 &2: 1984 for zones 1,2 or 3. The other requirements shall be as specified in section 1703 (c) of Standard Specifications.

c. Measurement and Payment

Payment for paving blocks and paving slabs shall be by square metre laid. The rate quoted would include the cost of haulage to site of the blocks, slabs and sand, as no extra payment shall be made for haulage

SECTION VII - BILLS OF QUANTITIES

Preamble

i. The Bills of Quantities shall be read in conjunction with the Instructions to Tenderers, General and Particular Conditions of Contract, Technical Specifications, and Drawings.

ii. The quantities given in the Bills of Quantities are estimated and provisional, and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tender in the priced Bills of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.

iii. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labor, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.

iv. A rate or price shall be entered against each item in the priced Bills of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bills of Quantities.

v. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.

vi. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bills of Quantities.

vii. Provisional Sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions.

viii. The method of measurement of completed work for payment shall be in accordance with [insert the name of a standard reference guide, or full details of the methods to be used] 6.

Work Items

The Bills of Quantities usually contains the following part Bills, which have been grouped according to the nature or timing of the work:

Bill	Description
1	GENERAL
4	SITE CLEARANCE
5	EARTHWORKS
7	EXCAVATION AND FILLING FOR STRUCTURES
8	CULVERT AND DRAINAGE WORKS
9	PASSAGE OF TRAFIC
10	GRADING AND GRAVELLING
11	SHOULDERS TO PAVEMENTS
12	NATURAL MATERIAL BASES AND SUBBASE
13	GRADED CRUSHED STONE FOR BASE AND SUBBASE
14	CEMENT AND LIME TREATED SUBGRADE,SUBBASE AND BASE
15	BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING
16	BITUMINOUS MIXES
17	CONCRETE WORKS
20	ROAD FURNITURE
22	DAYWORKS
23	CONCRETE PAVING BLOCKS

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT JKIA AND WILSON AIRPORT.

Item	Description	Unit	Rate for JKIA and WAP
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	

Item	Description	Unit	Rate for JKIA and WAP
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	

Item	Description		
		Unit	Rate for JKIA and WAP
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a	Month	

Item	Description	Unit	Rate for JKIA and WAP
	comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	

Item	Description		
		Unit	Rate for JKIA and WAP
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in accordance with the specification and as directed by the engineer.	Cu.m	
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	

Item	Description		
		Unit	Rate for JKIA and WAP
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and	cu.m	

Item	Description	Unit	Rate for JKIA and WAP
	directed by the Engineer.		
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement	cu.m	

Item	Description	Unit	Rate for JKIA and WAP
	material to spoil or stockpile for reuse as directed by the Engineer.		
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2	cu.m	

Item	Description	Unit	Rate for JKIA and WAP
	ltr/sq.m as binder for first seal on carriageway shoulder and junctions.		
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.	cu.m	
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type 1 with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300		

Item	Description	Unit	Rate for JKIA and WAP
	cu.m		
16.07	Provide, place and compact asphalt concrete Type 1 for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type 1 to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.	Cu.m	
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the	sq.m	

Item	Description		
		Unit	Rate for JKIA and WAP
	pavements using suitable equipment and cart away debris and dispose away from airport.		
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where		

Item	Description	Unit	Rate for JKIA and WAP
	instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts	No.	

Item	Description	Unit	Rate for JKIA and WAP
	and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.		
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings	No.	

Item	Description		
		Unit	Rate for JKIA and WAP
	and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.		
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT MOI INTERNATIONAL AIRPORT.

Item	Description	Unit	Rate for MIA
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material	Day rate	

Item	Description		
		Unit	Rate for MIA
	for use by the Engineer during construction.		
1.04	Capacity building (Kenya based) training of civil engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	

Item	Description		
		Unit	Rate for MIA
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the	Month	

Item	Description	Unit	Rate for MIA
	engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by	Ha.	

Item	Description	Unit	Rate for MIA
	the engineer.		
4.04	Removal of topsoil to a maximum depth of 200mm in accordance with the specification and as directed by the engineer.	Cu.m	
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil	cu.m	

Item	Description	Unit	Rate for MIA
	any excess grass debris and soils as and where directed by the Engineer.		
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes	m	

Item	Description	Unit	Rate for MIA
	for weep holes as directed by the Engineer.		
	BILL 9: PASSAGE OF TRAFFIC		
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for MIA
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	

Item	Description	Unit	Rate for MIA
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.	cu.m	
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	

Item	Description	Unit	Rate for MIA
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.	Cu.m	
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	

Item	Description	Unit	Rate for MIA
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class		

Item	Description	Unit	Rate for MIA
	25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail	No.	

Item	Description	Unit	Rate for MIA
	drawing to Engineer's approval.		
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire	m	

Item	Description		
		Unit	Rate for MIA
	(m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT ELDORET INTERNATIONAL AIRPORT.

Item	Description	Unit	Rate for EIA
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	

Item	Description	Unit	Rate for EIA
1.04	Capacity building (Kenya based) training of civil engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for EIA
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	

Item	Description	Unit	Rate for EIA
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in accordance with the specification and as directed by the engineer.	Cu.m	

Item	Description	Unit	Rate for EIA
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls,	cu.m	

Item	Description	Unit	Rate for EIA
	wing walls, apron, toe walls and drop inlets.		
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	

Item	Description	Unit	Rate for EIA
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the	cu.m	

Item	Description	Unit	Rate for EIA
	Engineer.		
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.	cu.m	
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated	litre	

Item	Description	Unit	Rate for EIA
	chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.		
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.	Cu.m	
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	

Item	Description	Unit	Rate for EIA
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the	Sq.m	

Item	Description	Unit	Rate for EIA
	surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer		
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	

Item	Description	Unit	Rate for EIA
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two	No.	

Item	Description	Unit	Rate for EIA
	equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.		
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT KISUMU INTERNATIONAL AIRPORT.

Item	Description	Unit	Rate for KIA
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	

Item	Description	Unit	Rate for KIA
1.04	Capacity building (Kenya based) training of civil engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	

Item	Description	Unit	Rate for KIA
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle	Month	

Item	Description	Unit	Rate for KIA
	month in accordance with clause 138 of the standard specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	

Item	Description	Unit	Rate for KIA
4.04	Removal of topsoil to a maximum depth of 200mm in accordance with the specification and as directed by the engineer.	Cu.m	
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where	cu.m	

Item	Description	Unit	Rate for KIA
	directed by the Engineer.		
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	

Item	Description	Unit	Rate for KIA
	BILL 9: PASSAGE OF TRAFFIC		
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous	cu.m	

Item	Description	Unit	Rate for KIA
	pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide	cu.m	

Item	Description	Unit	Rate for KIA
	and spray 80/100 penetration grade bitumen at a spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type 1 with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type 1 for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type 1 to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	

Item	Description	Unit	Rate for KIA
16.11	Provide, place and compact dense bituminous macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.	Cu.m	
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of	sq.m	

Item	Description	Unit	Rate for KIA
	white/yellow/black/red acrylic road marking paints to new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs		

Item	Description	Unit	Rate for KIA
	haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for KIA
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for KIA
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT MALINDI AIRPORT.

Item	Description	Unit	Rate for MALINDI
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil		

Item	Description	Unit	Rate for MALINDI
	engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for MALINDI
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard	Month	

Item	Description	Unit	Rate for MALINDI
	specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in	Cu.m	

Item	Description	Unit	Rate for MALINDI
	accordance with the specification and as directed by the engineer.		
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for MALINDI
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		

Item	Description	Unit	Rate for MALINDI
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of	cu.m	

Item	Description	Unit	Rate for MALINDI
	approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a	cu.m	

Item	Description	Unit	Rate for MALINDI
	spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous	Cu.m	

Item	Description	Unit	Rate for MALINDI
	macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.		
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to	sq.m	

Item	Description	Unit	Rate for MALINDI
	new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base		

Item	Description	Unit	Rate for MALINDI
	bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for MALINDI
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for MALINDI
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT WAJIR AIRPORT.

Item	Description	Unit	Rate for WAJIR
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil		

Item	Description	Unit	Rate for WAJIR
	engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for WAJIR
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard	Month	

Item	Description	Unit	Rate for WAJIR
	specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in	Cu.m	

Item	Description	Unit	Rate for WAJIR
	accordance with the specification and as directed by the engineer.		
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for WAJIR
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		

Item	Description	Unit	Rate for WAJIR
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of	cu.m	

Item	Description	Unit	Rate for WAJIR
	approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a	cu.m	

Item	Description	Unit	Rate for WAJIR
	spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous	Cu.m	

Item	Description	Unit	Rate for WAJIR
	macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.		
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to	sq.m	

Item	Description	Unit	Rate for WAJIR
	new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base		

Item	Description	Unit	Rate for WAJIR
	bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for WAJIR
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for WAJIR
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT LOKICHOGIO AIRPORT.

Item	Description	Unit	Rate for LOKI
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil		

Item	Description	Unit	Rate for LOKI
	engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for LOKI
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard	Month	

Item	Description	Unit	Rate for LOKI
	specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in	Cu.m	

Item	Description	Unit	Rate for LOKI
	accordance with the specification and as directed by the engineer.		
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for LOKI
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		

Item	Description	Unit	Rate for LOKI
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of	cu.m	

Item	Description	Unit	Rate for LOKI
	approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a	cu.m	

Item	Description	Unit	Rate for LOKI
	spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous	Cu.m	

Item	Description	Unit	Rate for LOKI
	macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.		
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to	sq.m	

Item	Description	Unit	Rate for LOKI
	new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base		

Item	Description	Unit	Rate for LOKI
	bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for LOKI
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for LOKI
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT ISIOLO AIRPORT.

Item	Description	Unit	Rate for ISIOLO
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil		

Item	Description	Unit	Rate for ISIOLO
	engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for ISIOLO
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard	Month	

Item	Description	Unit	Rate for ISIOLO
	specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in	Cu.m	

Item	Description	Unit	Rate for ISIOLO
	accordance with the specification and as directed by the engineer.		
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for ISIOLO
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		

Item	Description	Unit	Rate for ISIOLO
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of	cu.m	

Item	Description	Unit	Rate for ISIOLO
	approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a	cu.m	

Item	Description	Unit	Rate for ISIOLO
	spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous	Cu.m	

Item	Description	Unit	Rate for ISIOLO
	macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.		
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to	sq.m	

Item	Description	Unit	Rate for ISIOLO
	new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base		

Item	Description	Unit	Rate for ISIOLO
	bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for ISIOLO
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for ISIOLO
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

BILL OF QUANTITIES OF FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE TERM CONTRACT SERVICES AT KITALE AIRSTRIP.

Item	Description	Unit	Rate for KITALE
	BILL 1: GENERAL		
1.01	Rate for mobilization/demobilization of construction equipment for the duration of the Contract as per schedule below:		
1.01a	Asphalt Paver	Day Rate	
1.01b	Single Steel Drum Compaction Roller > or =18tonnes	Day Rate	
1.01c	Double tandem steel drum roller >/= 18 Tonnes	Day Rate	
1.01d	Sheepsfoot Roller > or = 20 Tonnes	Day Rate	
1.01e	Pneumatic Tiered Roller >/= 20 Tonnes	Day Rate	
1.01f	Bi-axial Pedestrian Roller >/= 6 Tonnes, 13.0/9.0 HP	Day Rate	
1.01g	Plate Compactor – plate size 540x420mm	Day Rate	
1.01h	Motor Grader CAT 12H or Equivalent.	Day Rate	
1.01i	Hydraulic Excavator CAT 322 or Equivalent.	Day Rate	
1.01j	Excavator with Jack hammer attachment CAT 322 or Equivalent	Day Rate	
1.01k	Back hoe Loader CAT 428 or Equivalent	Day Rate	
1.01l	Wheel Loader 4WD Articulated CAT 950 or Equivalent.	Day Rate	
1.01m	Disk concrete cutter	Day Rate	
1.01n	Air compressor	Day Rate	
1.01o	Pressure Bitumen Distributor Min 5000L	Day Rate	
1.01p	Bitumen Hand sprayer	Day Rate	
1.01q	Mechanical broom 74HP	Day Rate	
1.01r	Air Blower	Day Rate	
1.01s	Poker Vibrator 200Hz,2850 rpm	Day Rate	
1.01t	Concrete Balloon – Rubber/Synthetic Tire-cord	Day Rate	
1.01u	Concrete Pump	Day Rate	
1.01v	Concrete mixer with 400l bucket capacity	Day Rate	
1.01w	Tipper Truck 16-25 Tonnes Gross Capacity	Day Rate	
1.01x	Water Bowser	Day Rate	
1.01z	Crane – 20Tonne capacity	Day Rate	
1.01aa	Crane – 100Tonne capacity	Day Rate	
1.01bb	Drill	Day Rate	
1.01cc	High loader	Day Rate	
1.01dd	Asphalt Milling Machine	Day Rate	
1.02	Allow for provision, mobilization, demobilization and maintenance of a containerized office for the engineers site office, including lighting, drinking water, flushable toilet, sockets and internet services.	Day Rate	
1.03	Allow for provision of survey equipment and material for use by the Engineer during construction.	Day rate	
1.04	Capacity building (Kenya based) training of civil		

Item	Description	Unit	Rate for KITALE
	engineering staff to ensure progressive career development and adaptability to the modern technology and modes of operation in the following areas; The training must be by an institution approved by ICAO and/or KCAA such as EASA and other state regulatory bodies such as KEBS, EBK, IEK or any other relevant body meeting the description herein.		
1.04a	Tuition fee per person up to a maximum of Ksh 250,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.04b	Tuition fee per person up to a max of 100,000.00 as in item 1.04a above.	Rate/pax	
1.04c	Tuition fee per person up to a max of 50,000.00 as in item 1.04a above	Rate/pax	
1.04d	KAA staff Travel Cost - Air ticket to any major town within the Country.	Pax	
1.04e	KAA Staff Travel Cost -Local Travel –provide van to accommodate Max 14 pax complete with fuel and driver.	Veh/day	
1.04f	KAA Staff Grade 8 –Allowances Kshs.16,800/day	Pax/Day	
1.04g	KAA Staff Grade 7- Allowance Kshs.14,000/ day	Pax/Day	
1.04h	KAA Staff Grade 6 Allowance Kshs.11,200 / day	Pax/Day	
1.04i	KAA Staff Grade 5 Allowance Kshs.11,200/day	Pax/Day	
1.04j	KAA Staff Grade 4 Allowance Ksh. 6,300 /day	Pax/Day	
1.04k	KAA Casual Allowance Ksh. 4,200 /day	Pax/Day	
1.05	Ditto as in 1.05 but International Training		
1.05a	Tuition fee per person up to a maximum of Ksh 2,000,000.00 for Airport pavement design, evaluation and maintenance or any other approved course.	Rate/pax	
1.05b	Tuition fee per person up to a maximum of Ksh 1,500,000.00 as in item 1.05a above.	Rate/pax	
1.05c	Tuition fee per person up to a maximum of Ksh 1,000,000.00 as in item 1.05a above.	Rate/pax	
1.05d	Tuition fee per person up to a maximum of Ksh 500,000.00 as in item 1.05a above.	Rate/pax	
1.05e	Tuition fee per person up to a maximum of Ksh 250,000.00 as in item 1.05a above.	Rate/pax	
1.05f	KAA staff Travel Cost inclusive of Air ticket and VISA fees to any foreign country.	Rate/pax	
1.05g	KAA staff local travel cost within the foreign country	Rate/pax/day	
1.05h	KAA Staff Grade 9 –Allowances 647 USD per day	Pax/Day	
1.05i	KAA Staff Grade 8 – Allowances 647 USD per day	Pax/Day	
1.05j	KAA Staff Grade 7- Allowance 549 USD per day	Pax/Day	

Item	Description	Unit	Rate for KITALE
1.05k	KAA Staff Grade 6 Allowance 549 USD per day	Pax/Day	
1.05l	KAA Staff Grade 5 Allowance 549 USD per day	Pax/Day	
1.05m	KAA Staff Grade 4 Allowance 477 USD per day	Pax/Day	
1.06	Prime Cost Sum for removal and reinstatement of services.	PC Sum	500,000.00
1.06a	Percentage of Prime Cost Sum in Item 1.06 for Contractor's overheads and profits.	%	
1.07	Engineer's site staff communication airtime Kshs. 30,000.	Rate	
1.08	Prime Cost Sum for materials testing.	PC Sum	500,000.00
1.09	Percentage of Prime Cost Sum in Item 1.08 for Contractor's overheads and profits.	%	
1.10	Provide a Total Station to the approval and exclusive use by the Engineer, complete with Prism and Tripod with an accuracy of 0.9 seconds for the duration of the Contract. The TS to be supplied with download software. Upon completion of the Contract, it shall revert to the Contractor.	Day Rate	
1.11	Allow for provision and maintenance of dumpy level survey equipment complete with staff and bubble for exclusive use by the Engineer.	Day Rate	
1.12	Prime Cost Sum for Engineer's miscellaneous account.	PC Sum	500,000.00
1.13	Percentage of Prime Cost Sum in Item 1.12 for Contractor's overheads and profits.	%	
1.14	Prime Cost Sum for off-site materials testing.	PC Sum	500,000.00
1.15	Percentage of Prime Cost Sum in Item 1.14 for Contractor's overheads and profits.	%	
1.16	Provide and erect publicity signs as directed by the engineer in accordance with the standard KAA publicity signboard specifications.	No.	
1.17	Provide, fuel and maintain with driver, comprehensively insured, new 4WD,double cabin vehicle (odometer:0-10,000km)of diesel engine capacity 2,700 - 3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.18	E.O.Item 1.17 for mileage over 4,000km per vehicle month.	Km	
1.19	Provide, fuel and maintain with driver, a comprehensively insured, 4WD,station wagon vehicle (odometer:0-10,000km)of diesel engine capacity 1600cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard	Month	

Item	Description	Unit	Rate for KITALE
	specification.		
1.20	E.O.Item 1.19 for mileage over 4,000km per vehicle month.	Km	
1.21	Provide, fuel and maintain with driver, a comprehensively insured, new 4WD,saloon vehicle (odometer:0-10,000km) of diesel engine capacity 2,700-3000cc or equivalent for the exclusive use of the engineer inclusive of the first 4000km per vehicle month in accordance with clause 138 of the standard specification.	Month	
1.22	E.O.Item 1.21 for mileage over 4,000km per vehicle month.	Km	
1.23	Prime Cost Sum for attendance to the Engineers site staff	PC Sum	500,000.00
1.24	Percentage of Prime Cost Sum in Item 1.23 for Contractor's overheads and profits.	%	
1.25	Prime Cost Sum for provision of equipment for the engineers site office.	PC Sum	500,000.00
1.26	Percentage of Prime Cost Sum in Item 1.25 for Contractor's overheads and profits.	%	
1.27	Prime cost sum for off-road environmental mitigation measures.	PC Sum	
1.28	Percentage of Prime Cost Sum in Item 1.27 for Contractor's overheads and profits.	%	
1.29	Allow for provision of communication air to ground base radio for car mounting of range from (118 – 136) MH with frequencies selectable within the range and appropriate antenna, 2 new handheld air to ground radios of same frequencies NB: The Radios Shall be Handed over to the Client on Completion of the Project in good working condition.	Rate	
1.30	Allow for working at night on active aircraft pavements.	Item	
1.31	Allow for sampling and testing of material samples by KeBS or accredited laboratory approved by employer – a certificate shall accompany each material stating compliance with the applicable standards.	PC Sum	
	BILL 4: SITE CLEARANCE AND TOPSOIL STRIPPING		
4.01	Light Bush clearing as directed by the engineer.	sq.m	
4.02	Heavy bush clearing as directed by the engineer.	sq.m	
4.03	Clear site on road reserve including removal of trees, hedges, bushes, vegetation with approved material in accordance with the specification, and as directed by the engineer.	Ha.	
4.04	Removal of topsoil to a maximum depth of 200mm in	Cu.m	

Item	Description	Unit	Rate for KITALE
	accordance with the specification and as directed by the engineer.		
4.05	Hack concrete from bridge deck slab, abutments and wing walls to expose reinforcement as directed.	Cu.m	
4.06	Excavate, remove and dispose cracked pipe culverts of any size.	M	
4.07	Cutting and disposal of trees of girth 1000mm and below	No.	
4.08	Cutting and disposal of trees of girth 1000mm and above	No.	
4.09	Grass cutting to a height below 50mm or as specified.	Sq.m	
	BILL 5: EARTHWORKS.		
5.01	Fill in soft material.	cu.m	
5.02	As in Item 5.01 but in hard material	cu.m	
5.03	As in Item 5.01 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	cu.m	
5.04	Cut to spoil in soft material.	cu.m	
5.05	As in Item 5.04 but in hard material.	cu.m	
5.06	Overhaul.	cu.m km	
5.07	Compact the top 150mm layer of existing ground fills and cuts to 95% MDD (AASHTO T99)	cu.m	
5.08	Rockfill	Tonne	
5.09	Filter fabric under, over or around rockfill.	sq.m	
5.10	Top soiling	sq.m	
5.11	Grassing	sq.m	
	BILL 7: EXCAVATION AND FILLING FOR STRUCTURES		
7.01	Excavation in soft material for major structures i.e. box culverts and gabion works.	cu.m	
7.02	As for Item 7.01 but in hard material.	cu.m	
7.03	Provide and place macaferri or equivalent gabion boxes and mattresses as specified.	sq.m	
7.04	Provide and place rockfill to gabions.		
7.05	Provide stone pitching as directed by the Engineer.	sq.m	
7.06	E.O. Item 7.05 for cement grouting as directed by the Engineer.	sq.m	
7.07	Provide, place and compact rockfill below structures as directed by the Engineer.	cu.m	
7.08	Provide and place porous material behind wing walls.	cu.m	
	BILL 8: CULVERTS AND DRAINAGE WORKS		
8.01	Excavate, desilt, grade to shape inlets outfalls, side drains to free flow conditions including cart to spoil any excess grass debris and soils as and where directed by the Engineer.	cu.m	

Item	Description	Unit	Rate for KITALE
8.02	Clean culverts to free flow conditions.	m	
8.03	Clean Drains to free flow conditions	m	
8.04	Excavate in soft materials for pipe culverts headwalls, wing walls, apron, toe walls and drop inlets.	cu.m	
8.05	Repair inlet or outlet to existing pipe culverts in Class 25/20 concrete as directed by the Engineer.	cu.m	
8.06	Provide, lay and joint 600mm inner diameter (ID) precast concrete pipes.	m	
8.07	As in Item 8.07 but 450mm ID.	m	
8.08	As in Item 8.07 but 900mm ID.	m	
8.09	As in Item 8.07 but 1200mm ID.	m	
8.10	Provide place and compact class 15/20 concrete to beds, surrounds and haunches.	cu.m	
8.11	Provide place and compact class 20/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.12	Provide place and compact class 25/20 concrete to headwalls, wing walls, aprons and culverts including formwork.	cu.m	
8.13	Provide and place A142 fabric mesh reinforcement	sq.m	
8.14	Excavate in any material provided and joint 300mm inner diameter half round precast concrete channel with maximum 4 no. courses of precast side slabs of 600x225x75mm as lining for storm water drain including bedding and backfilling with selected material as directed by the Engineer.	m	
8.15	Excavate in any material provided and joint 600x360mm invert block drains (IBD) precast concrete channels with two courses of side slabs of 600x225x75mm as lining on each side for storm water drain including bedding, jointing and backfilling with selected material as directed by the Engineer.	m	
8.16	Excavate and trim to shape, provide place precast concrete side slabs of 600x225x75mm as lining on each side for storm water drain including bedding jointing and backfilling with selected material as directed by the Engineer.	sq.m	
8.17	Construct concrete scour checks as specified and directed by the Engineer.	cu.m	
8.18	Excavate for and construct subsoil drains where directed including backfilling with approved hard material.	cu.m	
8.19	E.O. Item 8.17 for filter fabric material.	sq.m	
8.20	Provide and place heavy gauge 100-150mm PVC pipes for weep holes as directed by the Engineer.	m	
	BILL 9: PASSAGE OF TRAFFIC		

Item	Description	Unit	Rate for KITALE
9.01	Allow for the passage of traffic through the works.	Km	
9.02	Construct and maintain 6m wide deviation in accordance with the specifications and as directed by the Engineer.	Km	
9.03	Improve existing public road in accordance with the specification and as directed by the engineer.	Km	
9.04	Provide natural gravel of CBR greater than 30%, lay water and compact to 150mm thickness as gravel wearing course on deviation and existing road in accordance with the specifications and as directed by the Engineer.	cu.m	
9.05	Construct access roads, including gravel wearing course, in accordance with the specifications and as directed by the Engineer.	Km	
	BILL 10: GRADING AND GRAVELLING		
10.01	Carry out carriageway light grading to the existing carriage with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	sq.m	
10.02	Carry out heavy grading to existing carriageway with watering and compaction to camber, including slope and ditches as instructed by the Engineer.	Sq.m	
10.03	Remove overburden material sites as instructed.	cu.m	
10.04	Excavate gravel and stockpile as instructed.	cu.m	
10.05	Load, haul and dump gravel as instructed.	cu.m	
10.06	Spread, grade, water and compact approved gravel to specified thickness at 95% MDD.	cu.m	
	BILL 11: SHOULDERS TO PAVEMENTS		
11.01	Prepare surface of existing shoulders, and accesses, including benching where necessary, water process and compact in accordance with the specifications and as directed by the Engineer to receive gravel.	sq.m	
11.02	Provide, place and compact natural gravel to shoulders and accesses.	cu.m	
	BILL 12: NATURAL MATERIAL BASE AND BASECOURSE		
12.01	Excavate existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.02	Break or scarify the existing pavement layer, and compact as specified and directed by the Engineer.	cu.m	
12.03	Excavate by milling existing bituminous surfacing or pavement material to spoil or stockpile for reuse as directed by the Engineer.	cu.m	
12.04	Recycle (cold in place) the existing bituminous pavement layer for re-use including addition of	cu.m	

Item	Description	Unit	Rate for KITALE
	approved fresh material and as directed by the Engineer.		
12.05	Recycle (hot in place) the existing bituminous pavement layer for re-use including addition of approved fresh material and as directed by the Engineer.	cu.m	
12.06	Provide, place and spread natural gravel of CBR greater than 30% on repair and reconstruction areas as specified and as directed by the Engineer.	cu.m	
12.07	Provide, lay and compact hand packed stone material including filling of voids with stone dust as directed by the Engineer.	cu.m	
	BILL 13: GRADED CRUSHED STONE SUBBASE AND BASE		
13.01	Provide, place, spread and compact Class A Graded Crushed Stone (GCS) to 98% MDD with results not less than 96% MDD	Cu.m	
	BILL 14: CEMENT AND LIME TREATED MATERIAL		
14.01	Provide, transport to site and spread cement on natural gravel or GCS material for base or subbase as specified and as directed by the Engineer at 30-50kg/cu.m.	Tonne	
14.02	As Item 14.01 but lime.	Tonne	
14.03	Allow for mixing in cement and/or lime into natural gravel or GCS.	cu.m	
14.04	Allow for curing and protection of treated layers as specified.	sq.m	
	BILL15: BITUMINOUS SURFACE TREATMENT AND DRESSING		
15.01	Prepare surface of carriageway and repair areas, provide and spray MC-30 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat.	litre	
15.02	Prepare primed surfaces, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.2 ltr/sq.m as binder for first seal on carriageway shoulder and junctions.	cu.m	
15.03	Prepare surface of carriageway and repair areas, provide and spray MC-70 cut back bitumen at a rate of 0.8-1.2 ltr/sq.m as prime coat	litre	
15.04	Prepare surface of repair areas, provide and spray K1-70 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.05	Prepare existing or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a	cu.m	

Item	Description	Unit	Rate for KITALE
	spray rate of 1.0-1.2 ltr/sq.m as binder for single or second seal on carriageway shoulders and junctions.		
15.06	Provide, spread and roll 10/14 mm pre coated chippings at a spread rate of 90-110 sq.m/cu.m for a single seal to carriageway as directed by the Engineer.	cu.m	
15.07	Provide, spread and roll 6/10 mm pre coated chippings at a spread rate of 110-130 sq.m/cu.m as second seal as directed by the Engineer.	litre	
15.08	Prepare surface of carriageway, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 ltr/sq.m..	litre	
15.09	Prepare surface of repair areas, provide and spray K1-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 ltr/sq.m.	litre	
15.10	Provide kerosene fuel as a cutter for 80/100 penetration grade bitumen.	litre	
15.11	Provide, spread and roll 0/6 mm chippings (quarry dust) at a spread rate of 150-200 sq.m/cu.m to the seal on repair areas or on repaired areas to allow passage of traffic.	Cu.m	
	BILL 16: BITUMINOUS MIXES		
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	Cu.m	
16.02	Repair transverse or longitudinal cracking on asphalt concrete (crack sealing) as directed by the Engineer.	Sq.m	
16.03	Milling the existing bituminous layer to spoil.	Sq.m	
16.04	Provide, place and compact asphalt concrete Type I with 5-7% nominal bitumen content by weight to total mix as wearing course on carriageway as directed by the Engineer. Maximum volume 15 cu.m.	Cu.m	
16.05	As in item 16.04 but total volume between 15cu.m-300 cu.m	Cu.m	
16.06	As in item 16.04 but total volume between over 300 cu.m		
16.07	Provide, place and compact asphalt concrete Type I for bumps and rumble strips as directed by the Engineer.	Cu.m	
16.08	Provide, place and compact asphalt concrete Type I to repair areas and for regulation to carriageway as directed by the Engineer. Total volume 10cu.m	Cu.m	
16.09	As in item 16.08 but total volume between 10cu.m-50 cu.m	Cu.m	
16.10	As in item 16.08 but total volume between 50 cu.m	Cu.m	
16.11	Provide, place and compact dense bituminous	Cu.m	

Item	Description	Unit	Rate for KITALE
	macadam (DBM) with 3.0-4.5% nominal bitumen content by weight to total mix or as base on reconstruction sections as directed by the Engineer. Maximum volume 15cu.m.		
16.12	As in item 16.11 but total volume between 15cu.m-300 cu.m	Cu.m	
16.13	As in item 16.11 but total volume over 300 cu.m	Cu.m	
	Bill 17: CONCRETE WORKS		
	Concrete Provide, place and compact the following classes of concrete as specified.		
17.01	Class 15/20 for blinding	Cu.m	
17.02	Class 20/20 concrete	Cu.m	
17.03	Class 25/20 for concrete	Cu.m	
17.04	Class P for concrete	Cu.m	
	Formwork Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer		
17.05	Vertical formwork class F3 finish	sq.m	
17.06	Horizontal formwork class F3 finish	sq.m	
	Reinforcement Provide, bend and fix into positions high yield steel bars to BS4461 the following steel reinforcement as directed and as shown on the drawings.		
17.07	Reinforcement bars of high yield strength to BS4461, size 16mm and above.	Tonne	
17.08	Reinforcement bars of high yield strength to BS4461, size 12mm and below.	Tonne	
17.09	Provide and place concrete cabro blocks as specified.	sq.m	
17.10	Provide and place standard heavy duty paving slab size 600x600x50mm	sq.m	
	BILL 20: ROAD FURNITURE		
20.01	Allow for removal/obliteration of peeling and accumulated rubber on the marked surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.02	Allow for removal/obliteration of unwanted markings on the surface of the pavements using suitable equipment and cart away debris and dispose away from airport.	sq.m	
20.03	Prepare surface and repaint(apply) two coats of white/yellow/black/red oxide acrylic airfield pavement marking paint mixed with approved pavement thinner and ballotini beads as directed by engineer.	sq.m	
20.04	Prepare surface and apply three coats of white/yellow/black/red acrylic road marking paints to	sq.m	

Item	Description	Unit	Rate for KITALE
	new pavement surfaces mixed with approved pavement thinner and ballotini beads as directed by engineer.		
20.05	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade for road marking on bituminous surface using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/premarking, finishing and managing the traffic movements as instructed by the Engineer	Sq.m	
20.06	Provide and place the appropriate sealant for sealing Joints in concrete works (Elastic jet fuel resistant sealant to ASTM D3581)	m	
20.07	Provide and place Styrofoam at expansion joints for concrete and/or Asphalt and as specified by the Engineer.	m	
20.08	Provide and place reflectors (cat eyes) as instructed	No.	
20.09	Remove and dispose the damaged existing guard rails as directed by the Engineer.	m	
20.10	Provide and place new flex-beam guard rails complete with pre-cast flex-beam guardrail posts, spacers, nuts, bolts and fittings as directed by the Engineer.	m	
20.09	Provide and place 1500mmx200mmx3mm thickness CHS steel bollards 1200mm above and 300mm embedded below ground. Filled with concrete class 20/20, painted with alternating yellow and black strips 150mm wide place as directed by the Engineer.	No.	
20.10	Provide and place night safety reflective tape 50mm wide of colors Yellow, white or red glued to bollards as instructed by Engineer.	m	
20.11	Provide and erect permanent road signs where instructed by the Engineer and in accordance with the specifications as follows:		
	(a) Warning signs	No.	
	(b) Priority, prohibitory and mandatory signs	No.	
	(c) Standard informatory signs	No.	
	(d) Nonstandard signs (i) Less than 1.0 sq.m (ii) 1.0 sq.m to 2.0 sq.m (iii) 2.0 sq.m to 4.0 sq.m (iv) 4.0 sq.m to 5.0 sq.m	 No. No. No. No.	
20.12	Excavate for, provide and place 250x125mm class 25/20 precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base		

Item	Description	Unit	Rate for KITALE
	bedding and mortar joined in support to carriageway as directed by the Engineer.		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.13	Ditto 20.11 but flush kerbs:		
	(a) Straight Kerbs	m	
	(b) Kerbs radius: 12m – 6m	m	
	(c) Ditto but radius:5m – 1m	m	
20.14	Excavate holes for fencing posts footing not exceeding 1.50 m deep, average 1.0m deep in hard and soft material; ram base to receive 'Class 20' concrete bases; include carting away.	Cu.m	
20.15	Ditto but for chain-link anchoring posts	Cu.m	
20.16	Mass concrete; Class 20 in footings	Cu.m	
20.17	Ditto but for chain-link anchoring posts	Cu.m	
20.18	Supply and install precast reinforced intermediate posts size 125 x125mm overall height 2.4m with cranked top of 475mm long as per detailed drawing including labor for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing to Engineer's approval and satisfaction.	No.	
20.19	Ditto 20.05 but precast reinforced straining posts size 125x125mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	
20.20	Ditto 20.05 but precast reinforced straining posts size 150x150mm all through; overall height 2.4m with cranked top of 475mm long as per detailed drawing including labour for 6mm diameter holes and bolts and 8mm galvanized mild steel bars with 12.5 S.W.G. stirrups at 350mm c/c as per detailed drawing with and including provision to receive struts to detail drawing to Engineer's approval.	No.	

Item	Description	Unit	Rate for KITALE
20.21	100 x 80mm precast reinforced concrete struts to detail anchor on to concrete base and straining posts at approved level and 45 degrees to the horizontal to detail drawings and Engineer's approval.	No.	
20.23	High tensile galvanized barbed wire 12 1/2 G (2.5mm diameter) threaded through posts secured by galvanized binding wire to Engineer's approval.	m	
20.24	Supply, fabricate and install galvanized heavy duty metal gate overall size 6000 x 2400mm high; in two equal leaves; with and including 100 x 100 x 6mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top of each leaf; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint.	No.	
20.25	High tensile galvanized straining wire 9 Gauge through concrete posts (m/s) including hook bolts.	m	
20.26	Supply materials, fabricate and install galvanized heavy duty metal gate overall size 1000 x 2400mm high pedestrian gate with and including 75 x 75 x 4mm SHS fixed firmly to the ground in approved concrete base; 8 gauge welded wire mesh covering fixed to 50 x 50 x 4mm SHS and tower locking heavy gauge bolt (including VIRO Cylinder 104); 3 lines of 12.5 gauge barbed wire at the top; all as per attached drawings and approval of Project Manager. Gate to be painted in three coats of approved protective paint. Rate inclusive of casting of beam.	No.	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 9.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook bolts; secured by binding wire; all as per the drawings.	m	
20.27	Supply and fix 2.4m high galvanized chain-link; gauge 12.5; 50x50mm mesh onto precast concrete posts (m/s); fastening with 5 No. lines of galvanized wire (m/s); threaded through and including mesh and hook	m	

Item	Description		
		Unit	Rate for KITALE
	bolts; secured by binding wire; all as per the drawings.		
20.28	Excavate 150mm by 300 mm for ground beam	Cu.m	
20.29	Mass concrete; Class 20 in ground beam	Cu.m	

PART III: CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

In the Conditions of Contract ("these Conditions"), which include Particular Conditions, Parts A and B, and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

1.1.1 **The Contract**

"Bills of Quantities", "Day work Schedule" and "Schedule of Payment Currencies" mean the documents so named (if any) which are comprised in the Schedules.

"Contract Agreement" means the contract agreement referred to in Sub-Clause 1.6 [Contract Agreement].

"Contract" means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Specification, the Drawings, the Schedules, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.

"Drawings" means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) Kenya Airports Authority in accordance with the Contract.

"Laws" means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.

"Letter of Acceptance" means the letter of formal acceptance, signed by the Contractor and Kenya Airports Authority, including any annexed memoranda comprising agreements between and signed by both Parties.

"Letter of Tender" means the document entitled letter of tender or letter of tender, which was completed by the Contractor and includes the signed offer to Kenya Airports Authority for the Works.

a) "SCC" **means the Special Conditions of Contract completed by Kenya Airports Authority which modify the General Conditions of Contract.**

"Schedules" means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include the Bills of Quantities, data, lists, and schedules of rates and/or prices.

"Specification" means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

"Tender" means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.2 **Parties and Persons**

"Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labor and other employees of the Contractor and of each Sub-contractor; and any other personnel assisting the Contractor in the execution of the Works.

"Contractor's Representative" means the person named by the Contract or in the Contractor appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor's Representative], who acts on behalf of the Contractor.

"Contractor" means the person(s) named as Contractor in the Letter of Tender accepted by Kenya Airports Authority and the legal successors in title to this person(s).

"Engineer" means the person appointed by Kenya Airports Authority to act as the Engineer for the purposes of the Contract and named in the **SCC**, or other person appointed from time to time by Kenya Airports Authority and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].
"Party" means Kenya Airports Authority or the Contractor, as the context requires.

"Procuring Entity" means the Entity named in the Special Conditions of Contract.

"Procuring Entity's Personnel" means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labor and other employees of the Engineer and of Kenya Airports Authority; and any other personnel notified to the Contractor, by Kenya Airports Authority or the Engineer, as Procuring Entity's Personnel.

"Procuring Entity" means the person named as Procuring Entity in the **SCC** and the legal successors in title to this person.

"Sub-contractor" means any person named in the Contract as a Sub-contractor, or any person appointed as a Sub-contractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.3 **Dates, Tests, Periods and Completion**

"Base Date" means a date 30 day prior to the submission of tenders.

"Commencement Date" means the date notified under Sub-

Clause 8.1 [Commencement of Works]. **"Completion**

Certificate" means the certificate issued under Sub-Clause 11.9

[Performance Certificate]. **"Day"** means a calendar day and "year"

means 365 days.

"Defects Notification Period" means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over 365 days except if otherwise stated in the **SCC** (with any extension under Sub-Clause 11.3 [Extension of Defects Notification Period]), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1[Taking Over of the Works and Sections].

"Taking-Over Certificate" means a certificate issued under Clause 10 [Procuring Entity's Taking Over].

"Tests after Completion" means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by Kenya Airports Authority.

"Tests on Completion" means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by Kenya Airports Authority.

"Time for Completion" means the time for completing the Works or a Section (as the case may be) under Sub- Clause 8.2 [Time for Completion], as stated in the **SCC** (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.

1.1.4 **Money and Payments**

"Accepted Contract Amount" means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

"Contract Price" means the price defined in Sub-Clause 14.1 [The Contract Price] and includes adjustments in accordance with the Contract.

"Cost" means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

"Final Payment Certificate" means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

"Final Statement" means the statement defined in Sub-Clause 14.11 [Application for Final Payment

Certificate].
"Foreign Currency" means a currency in which part (oral) of the Contract Price is payable, but not the Local Currency.

"Interim Payment Certificate" means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

"Local Currency" means the currency of the Country.

"Payment Certificate" means a payment certificate issued under Clause 14 [Contract Price and Payment].

"Provisional Sum" means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

"Retention Money" means the accumulated retention moneys which Kenya Airports Authority retains under Sub- Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

"Statement" means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

1.1.5 **Works and Goods**

"Contractor's Equipment" means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Procuring Entity's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

"Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

"Materials" means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

"Permanent Works" means the permanent works to be executed by the Contractor under the Contract.

"Plant" means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for Kenya Airports Authority and relating to the construction or operation of the Works.

"Section" means a part of the Works specified in the **SCC** as a Section (if any).

"Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

"Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate.

1.1.6 **Other Definitions**

"Contractor's Documents" means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

"Country" means Kenya as the country in which the Site is located, where the Permanent Works are to be executed.

"Force Majeure" is defined in Clause 19 [Force Majeure].

"Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by- laws of any legally constituted public authority.

"Notice of Dissatisfaction" means the notice given by either Party to the other under Sub-Clause 20.4 indicating its dissatisfaction and intention to commence arbitration.

"Performance Security" means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].

"Procuring Entity's Equipment" means the apparatus, machinery and vehicles (if any) made available by Kenya Airports Authority for the use of the Contractor in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by Kenya Airports Authority.

"Site" means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

"Unforeseeable" means not reasonably foreseeable by an experienced Contractor by the Base Date.

"Variation" means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

1.2 Interpretation

In the Contract, except where the context requires otherwise:

a) Words indicating one gender include all genders;
b) words indicating the singular also include the plural and words indicating

the plural also include the singular;

c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing;

d) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and

e) the word "tender" is synonymous with "tender" and "tenderer" with "Tenderer" and the words "tender documents" with "tendering documents."

1.3 Communications

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

a) In writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the **SCC**; and

b) Delivered, sent or transmitted to the address for the recipient's communications as stated in the **SCC**. However:

   i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and

   ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

1.4 Law and Language

The Contract shall be governed by the **laws of Kenya**.

The ruling language of the Contract shall be the **English Language.**

1.5 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

a) The Contract Agreement,

b) The Letter of Acceptance

c) the Particular Conditions–Part A,

d) the Particular Conditions–Part B

e) the General Conditions of Contract

f) the Form of Tender,
g) the Specifications and Bills of Quantities
h) the Drawings, and
i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

1.6 Contract Agreement

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by Kenya Airports Authority.

1.7 Assignment

Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:

a) May assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and
b) May, as security in favor of a Procuring Entity or financial institution, assign its right to any moneys due, or to become due, under the Contract.

1.8 Care and Supply of Documents

The Specification and Drawings shall be in the custody and care of Kenya Airports Authority. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by Kenya Airports Authority. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. Kenya Airports Authority's Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9 Delayed Drawings or Instructions

The Contractor shall give notice to the Engineer whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the

Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Engineer to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that the Engineer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

1.10 Kenya Airports' Authority Use of Contractor's Documents

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing the Contract) to give to Kenya Airports Authority a non-terminable transferable non- exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) Kenya Airports Authority for purposes other than those permitted under this Sub-Clause.

1.11 Contractor's Use of Procuring Entity's Documents

As between the Parties, Kenya Airports Authority shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) Kenya Airports Authority. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without Kenya Airports Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12 Confidential Details

The Contractor's and Kenya Airports Authority's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

1.13 Compliance with Laws

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:

a) Kenya Airports Authority shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specification as having been (or to be) obtained by Kenya Airports Authority; and Kenya Airports Authority shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold Kenya Airports Authority harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

1.14 Joint and Several Liability

If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

a) These persons shall be deemed to be jointly and severally liable to Kenya Airports Authority for the performance of the Contract;

b) these persons shall notify Kenya Airports Authority of their leader who shall have authority to bind the Contractor and each of these persons; and

c) the Contractor shall not alter its composition or legal status without the prior consent of Kenya Airports Authority.

1.15 Inspections and Audit by Kenya Airports Authority

Pursuant to paragraph 2.2 e. of Appendix B to the General Conditions, the Contractor shall permit and shall cause its Sub - contractor and sub-consultants to permit, Kenya Airports Authority and/or persons appointed by Kenya Airports Authority to inspect the Site and/or

the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by Kenya Airports Authority. The Contractor's and its Sub - contractor' and sub- consultants' attention is drawn to Sub-Clause15.6 (Fraud and Corruption) which provides, interracial, that acts intended to materially impede the exercise of Kenya Airports Authority's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to Kenya Airports Authority's prevailing sanctions procedures).

2. KENYA AIRPORTS AUTHORITY

2.1 Right of Access to the Site

Kenya Airports Authority shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **SCC**. The right and possession may not be exclusive to the Contractor. If, under the Contract, Kenya Airports Authority is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, Kenya Airports Authority shall do so in the time and manner stated in the Specification. However, Kenya Airports Authority may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the **SCC**, Kenya Airports Authority shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the program submitted under Sub-Clause 8.3 [Program].

If the Contractor suffers delay and/or incurs Cost as a result of a failure by Kenya Airports Authority to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall been titled subject toSub-Clause20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that Kenya Airports Authority's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

2.2. Permits, Licenses or Approvals

Kenya Airports Authority shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

a) Copies of the Laws of the Country which are relevant to the Contract but are not readily available, and
b) Any permits, licenses or approvals required by the Laws of the Country:
   i. Which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
   ii. For the delivery of Goods, including clearance through customs, and
   iii. For the export of Contractor's Equipment when it is removed from the Site.

2.3. Kenya Airports Authority's Personnel

Kenya Airports Authority shall be responsible for ensuring that Kenya Airports Authority's Personnel and other Contractors on the Site:

a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

2.4. Procuring Entity's Financial Arrangement

Kenya Airports Authority shall submit, before the Commencement Date and there after within 30 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable Kenya Airports Authority to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before Kenya Airports Authority makes any material change to his financial arrangements, Kenya Airports Authority shall give notice to the Contractor with detailed particulars.

In addition, if Kenya Airports Authority has notified to the Contractor that Kenya Airports Authority has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, Kenya Airports Authority shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the 2.4.3 Engineer, within 7 days of Kenya Airports Authority having received the suspension notification from Kenya Airports Authority.

If alternative funds will be available in appropriate currencies to Kenya Airports Authority to continue making payments to the Contractor beyond a date 60 day after the date of Procuring Entity notification of the suspension, Kenya Airports Authority shall provide reasonable evidence in his notice of the extent to which such funds will be available.

2.5. Procuring Entity's Claims

If Kenya Airports Authority considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, Kenya Airports Authority or they shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.

The notice shall be given as soon as practicable and no longer than 30 days after Kenya Airports Authority became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which Kenya Airports Authority considers itself to be entitled in connection with the Contract. The Engineer shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if

any) which Kenya Airports Authority is entitled to be paid by the Contractor, and/or(ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

3. THE ENGINEER

3.1. Engineer's Duties and Authority

Kenya Airports Authority shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties. The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of Kenya Airports Authority before exercising a specified authority, the requirements shall be as stated in the Particular Conditions.

Kenya Airports Authority shall promptly inform the Contractor of any change to the authority attributed to the Engineer. However, whenever the Engineer exercises a specified authority for which Kenya Airports Authority's approval is required, then (for the purposes of the Contract) Kenya Airports Authority shall be deemed to have given approval. Except as otherwise stated in these Conditions:

a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for Kenya Airports Authority; the Engineer has no authority to relieve either Party of any duties, obligations or
b) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
c) any act by the Engineer in response to a Contractor's request except as otherwise expressly specified shall be notified in writing to the Contractor within 14 days of receipt.

The following provisions shall apply; The Engineer shall obtain the specific approval of Kenya Airports Authority before taking action under the-following Sub-Clauses of these Conditions:

a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
b) Sub-Clause13.1: instructing a Variation, except;
    i) In an emergency situation as determined by the Engineer, or
    ii) If such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the **SCC**.
c) Sub-Clause13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause13.1or13.2.
d) Sub-Clause13.4: Specifying the amount payable in each of the applicable

currencies.

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contract or to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk.

The Contractor shall forthwith comply, despite the absence of approval of Kenya Airports Authority, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to Kenya Airports Authority.

3.2. Delegation by the Engineer

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause3.5 [Determinations].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

a) Any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
b) If the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

3.3. Instructions of The Engineer

The Engineer may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated

assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

a) Gives an oral instruction,
b) Receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
c) Does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation, then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

3.4. Replacement of The Engineer

If Kenya Airports Authority intends to replace the Engineer, Kenya Airports Authority shall, not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. If the Contractor considers the intended replacement Engineer to be unsuitable, he has the right to raise objection against him by notice to Kenya Airports Authority, with supporting particulars, and Kenya Airports Authority shall give full and fair consideration to this objection.

3.5. Determinations

Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4. THE CONTRACTOR

4.1. Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by Kenya Airports Authority.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

The Contractor shall not commence any Works, including mobilization and/or pre-construction activities (e.g., limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Engineer is satisfied that appropriate measures are in place to address environmental, social, health and safety risks and impacts.

If the Contract specifies that the Contract or shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

a) The Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
b) These Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;
c) The Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
d) Prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as- built" documents and, if applicable, operation and maintenance

manuals in accordance with the Specification and insufficient detail for Kenya Airports Authority to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

4.2. Performance Security

Performance security shall not be required for contracts estimated to cost less than Kenya shillings five million shillings.

The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **SCC** and denominated in the currency (ies) of the Contractor in a freely convertible currency acceptable to Kenya Airports Authority. If an amount is not stated in the **SCC,** this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security to Kenya Airports Authority within 14 days after receiving the Letter of Acceptance and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable Procuring Entity or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions, as stipulated by Kenya Airports Authority in the **SCC**, or in another form approved by Kenya Airports Authority.

The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

Kenya Airports Authority shall not make a claim under the Performance Security, except for amounts to which Kenya Airports Authority is entitled under the Contract.

Kenya Airports Authority shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which Kenya Airports Authority was not entitled to make the claim.

Kenya Airports Authority shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or deduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

4.3. Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

4.4. Sub - contractor

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Sub-contractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:

a) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Sub-contractor is named in the Contract;
b) The prior consent of the Engineer shall be obtained to other proposed Sub Contractors;

c) the Contractor shall give Kenya Airports Authority not less than 14 days' notice of the intended date of the commencement of each Sub-contractor's work, and of the commencement of such work on the Site; and
d) each subcontract shall include provisions which would entitle Kenya Airports Authority to require the subcontract to be assigned to Kenya Airports Authority under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause15.2 [Termination by Procuring Entity].

The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Sub-contractor.

Where practicable, the Contractor shall give fair and reasonable opportunity for Contractors from the Country to be appointed as Sub - contractors.

4.5. Assignment of Benefit of Subcontract

If a Sub-contractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to Kenya Airports Authority, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to Kenya Airports Authority for the work carried out by the Sub-contractor after the assignment takes effect.

4.6. Co-operation

The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:
a) Kenya Airports Authority's Personnel,
b) Any other Contractors employed by Kenya Airports Authority, and
c) The personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.

Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other Contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

If, under the Contract, Kenya Airports Authority is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Engineer in the time and manner stated in the Specification.

4.7. Setting Out of the Works

The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contractor notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

Kenya Airports Authority shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.

If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced Contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to these.

4.8. Safety Procedures

The Contractor shall:

a) Comply with all applicable safety regulations,
b) Take care for the safety of all persons entitled to be on the Site,
c) Use reasonable efforts to keep the Site and Works clear of unnecessary obstructions as to avoid danger to these persons,
d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause10 [Procuring Entity's Taking Over], and
e) Provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

4.9. Quality Assurance

The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.

Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor itself shall be apparent on the document itself. Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

4.10. Site Data

Kenya Airports Authority shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in Kenya Airports Authority's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. Kenya Airports Authority shall similarly make available to the Contract or all such data which

come into Kenya Airports Authority's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

a) The form and nature of the Site, including sub-surface conditions,
b) The hydrological and climatic conditions,
c) The extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
d) The Laws, procedures and labor practices of the Country, and
e) The Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

4.11. Sufficiency of the Accepted Contract Amount

The Contractor shall be deemed to:

a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
b) Have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

4.12. Unforeseeable Physical Conditions

In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Engineer as soon as practicable. This notice shall describe the physical conditions, so that they can be inspected by the Engineer, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these

conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:

a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) Payment of any such Cost, which shall be included in the Contract Price.

Upon receiving such notice and inspecting and/or investigating these physical conditions, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Engineer may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in any reduction in the Contract Price.

The Engineer shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

4.13. Rights of Way and Facilities

Unless otherwise specified in the Contract Kenya Airports Authority shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

4.14. Avoidance of Interference

The Contractor shall not interfere unnecessarily or improperly with:

a) The convenience of the public, or
b) The access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of Kenya Airports Authority or of others.

The Contractor shall indemnify and hold Kenya Airports Authority harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15. Access Route

The Contractor shall be deemed to have been satisfied as to the suitability and availability

of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
c) Kenya Airports Authority shall not be responsible for any claims which may arise from the use or otherwise of any access route;
d) Kenya Airports Authority does not guarantee the suitability or availability of particular access routes; and
e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16. Transport of Goods

Unless otherwise stated in the Particular Conditions:

a) The Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
b) The Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
c) The Contractor shall indemnify and hold Kenya Airports Authority harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.

4.17. Contractor's Equipment

The Contractor shall be responsible for all Contractor's Equipment. When brought onto the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

4.18. Protection of the Environment

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surfaced is charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

4.19. Electricity, Water and Gas

The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.

The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specification. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.

The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to Kenya Airports Authority.

4.20. Procuring Entity's Equipment and Free-Issue Materials

Kenya Airports Authority shall make Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:

Kenya Airports Authority shall be responsible for Equipment, except that The Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to Kenya Airports Authority. Kenya Airports Authority shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. Kenya Airports Authority shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Engineer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, Kenya Airports Authority shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve Kenya Airports Authority of liability for any shortage, defect or default not apparent from a visual inspection.

4.21. Progress Reports

Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include:

i. charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Sub-contractor (as defined in Clause 5 [Nominated Sub - contractor]),

ii. photographs showing the status of manufacture and of progress on the Site;

iii. for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:

- commencement of manufacture,
- Contractor's inspections, tests, and
- shipment and arrival at the Site;
- the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- copies of quality assurance documents, test results and certificates of Materials;
- list of notices given under Sub-Clause 2.5 [Procuring Entity's Claims] and notices given under Sub-Clause
- 20.1 [Contractor's Claims];
- safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

The Contractor shall provide immediate notification to the Engineer of incidents in the following categories.

- Full details of such incidents shall be provided to the Engineer within the time frame agreed with the Engineer.
- confirmed or likely violation of any law or international agreement;
- any fatality or serious injury;
- significant adverse effects or damage to private property (e.g., vehicle accident, damage from fly rock, working beyond the boundary);
- major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or
- any allegation of sexual harassment or sexual misbehavior, child abuse,

defilement, or other violations involving children.

4.22. Security of the Site

Unless otherwise stated in the Particular Conditions:

a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and

b) Authorized persons shall be limited to the Contractor's Personnel and Kenya Airports Authority's Personnel; and to any other personnel notified to the Contractor, by Kenya Airports Authority or the Engineer, as authorized personnel of Kenya Airports Authority's other Contractors on the Site.

4.23. Contractor's Operations on Site

The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

4.24. Fossils

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of Kenya Airports Authority. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

5. NOMINATED SUB CONTRACTORS

5.1. Definition of "Nominated Sub-contractor

In the Contract, "nominated Sub-contractor" means a Sub-contractor:

a) Who is stated in the Contract as being a nominated Sub-contractor, or
b) whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Sub-contractor subject to Sub-Clause 5.2 [Objection to Notification].

5.2. Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Sub-contractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless Kenya Airports Authority agrees in writing to indemnify the Contractor against and from the consequences of the matter:

a) there are reasons to believe that the Sub-contractor does not have sufficient competence, resources or financial strength;
b) the nominated Subcontract or does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Sub-contractor, his agents and employees; or
c) the nominated Sub-contractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontract or shall:
   i. undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
   ii. indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Sub-contractor to perform these obligations or to fulfil these liabilities, and
   iii. be paid only if and when the Contractor has received from Kenya Airports Authority payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Sub - contractor].

5.3. Payments to nominated Sub - contractor

The Contractor shall pay to the nominated Sub-contractor the amounts shown on the nominated Sub - contractor's invoices approved by the Contractor which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

5.4. Evidence of Payments

Before issuing a Payment Certificate which includes an amount payable to a nominated Sub-contractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Sub-contractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise.

Unless the Contractor:

a) Submits this reasonable evidence to the Engineer, or
b) Satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
c) Submits to the Engineer reasonable evidence that the nominated Sub-contractor has been notified of the Contractor's entitlement, then Kenya Airports Authority may (at his sole discretion) pay, direct to the nominated Sub-contractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Sub-contractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to Kenya Airports Authority, the amount which the nominated Sub-contractor was directly paid by Kenya Airports Authority.

6. STAFF AND LABOR

6.1. Engagement of Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within the Country.

6.2. Rates of Wages and Conditions of Labor

The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by Procuring Entity's whose trade or industry is similar to that of the Contractor.

The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in Kenya in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of Kenya for the time being in force, and the Contractor shall perform such duties in regard to such deductions there of as may be imposed on him by such Laws.

6.3. Persons in the Service of Procuring Entity

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst Kenya Airports Authority's Personnel.

6.4. Labor Laws

The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

6.5. Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **SCC**, unless:

a) Otherwise stated in the Contract,
b) The Engineer gives consent, or
c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the

Engineer.

6.6. Facilities for Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for Kenya Airports Authority's Personnel as stated in the Specification.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

6.7. Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.

HIV-AIDS Prevention. The Contractor shall conduct an HIV-AIDS awareness program via an approved service provider and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

6.8. Contractor's Superintendence

Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques

required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

6.9. Contractor's Personnel

The Contractor's Personnel specified in the **SCC** shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

a) Persists in any misconduct or lack of care,

b) Carries out duties incompetently or negligently,

c) Fails to conform with any provisions of the Contract,

d) Persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or

e) Based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

6.10. Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

6.11. Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

6.12. Foreign Personnel

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. Kenya Airports Authority will, if requested by the Contractor, use his Lowest endeavors in a timely and expeditious manner to assist the Contract or in obtaining any local, state, national or government permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

6.13. Supply of Foodstuffs

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

6.14. Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

6.15. Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

6.16. Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.

6.17. Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

6.18. Festivals and Religious Customs

The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.

6.19. Funeral Arrangements

The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.

6.20. Prohibition of Forced or Compulsory Labor

The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

6.21. Prohibition of Harmful Child Labor

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labor laws of the Country have provisions for employment of minors, the Contract or shall follow those laws applicable to the Contractor. Children below the age

of 18 years shall not be employed in dangerous work.

6.22. Employment Records of Workers

The Contractor shall keep complete and accurate records of the employment of labor at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

6.23. Workers' Organizations

The Contractor shall comply with laws on workers' rights to form and to join workers' organizations without interference and to bargain collectively.

6.24. Non-Discrimination and Equal Opportunity

The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline.

7. PLANT, MATERIALS AND WORKMANSHIP

7.1. Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

a) In the manner (if any) specified in the Contract,
b) In a proper workman like and careful manner, in accordance with recognized good practice, and
c) With properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2. Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for consent prior to using the Materials in or for the Works:

a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
b) additional samples instructed by the Engineer as a Variation. Each sample shall be labeled as to origin and intended use in the Works.

7.3. Inspection

Kenya Airports Authority's Personnel shall at all reasonable times:

a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give Kenya Airports Authority's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

7.4. Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labor, materials, and suitably qualified and experienced staff, as are necessary

to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which Kenya Airports Authority is responsible, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5. Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Engineer requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause Kenya Airports Authority to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to Kenya Airports Authority.

7.6. Remedial Work

Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to remove from the Site and replace any Plant or Materials which is not in accordance with the Contract, remove and re-execute any other work which is not in accordance with the Contract, and execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

The Contractor shall comply with the instruction within a reasonable time, which shall be

the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).

If the Contractor fails to comply with the instruction, Kenya Airports Authority shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to Kenya Airports Authority all costs arising from this failure.

7.7. Ownership of Plant and Materials

Except as otherwise provided in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of Kenya Airports Authority at whichever is the earlier of the following times, free from liens and other encumbrances:

a) When it is incorporated in the Works;
b) When the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

7.8. Royalties

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

a) Natural Materials obtained from outside the Site, and
b) The disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

8. COMMENCEMENT, DELAYS AND SUSPENSION

8.1. Commencement of Works

Except as otherwise specified in the Special Conditions of Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Engineer's notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:

a) Contract by relevant authorities of the Country;
b) delivery to the Contractor of reasonable evidence of Kenya Airports Authority's financial arrangements (under Sub-Clause 2.4 [Procuring Entity's Financial Arrangements]);
c) signature of the Contract Agreement by both Parties, and if required, approval of the except if otherwise specified in the **SCC**, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works
d) receipt by the Contract or of the Advance Payment under Sub-Clause14.2 [Advance Payment] provided that the corresponding Procuring Entity guarantee has been delivered by the Contractor.

If the said Engineer's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].

The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shall then proceed with the Works with due expedition and without delay.

8.2. Time for Completion

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

a) achieving the passing of the Tests on Completion, and
b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

8.3. Program

The Contractor shall submit a detailed time program to the Engineer within 14 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised program whenever the previous program is inconsistent with actual progress or with the Contractor's obligations. Each program shall include:

a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
b) Each of these stages for work by each nominated Sub-contractor (as defined in Clause

5 [Nominated Sub - contractor]),

c) The sequence and timing of inspections and tests specified in the Contract, and

d) A supporting report which includes:

   i. a general description of the methods which the Contract or intends to adopt, and of the major stages, in the execution of the Works, and

   ii. details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 14 days after receiving a program, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the program, subject to his other obligations under the Contract. Kenya Airports Authority's Personnel shall be entitled to rely upon the program when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a program fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised program to the Engineer in accordance with this Sub-Clause.

8.4. Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,

b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,

c) exceptionally adverse climatic conditions,

d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or

e) Any delay, impediment or prevention caused by or attributable to Kenya Airports Authority, Kenya Airports Authority's Personnel, or Kenya Airports Authority's other Contractors.

If the Contractor considers itself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall

not decrease, the total extension of time.

8.5. Delays Caused by Authorities

If the following conditions apply, namely:

a) The Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,

b) These authorities delay or disrupt the Contractor's work, and

c) The delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

8.6. Rate of Progress

If, at any time:

a) Actual progress is too slow to complete within the Time for Completion, and/or

b) Progress has fallen (or will fall) behind the current program under Sub-Clause 8.3 [Program], other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Program], a revised program and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause Kenya Airports Authority to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to Kenya Airports Authority, in addition to delay damages (if any) under Sub-Clause 8.7 below.

Additional costs of revised methods including acceleration measures, instructed by the Engineer to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by Kenya Airports Authority, without generating, however, any other additional payment benefit to the Contractor.

8.7. Delay Damages

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to Kenya Airports Authority for this default. These delay damages shall be the sum stated in the **SCC**, which shall be paid for everyday which shall elapse between the relevant Time for Completion and the date state din the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the **SCC**.

These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

8.8. Suspension of Work

The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

8.9. Consequences of Suspension

If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub- Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Engineer and shall been titled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) Payment of any such Cost, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10. Payment for Plant and Materials in Event of Suspension

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if:

a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 30 days, and
b) the Contractor has marked the Plant and/or Materials as Kenya Airports Authority's property in accordance with the Engineer's instructions.

8.11. Prolonged Suspension

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 30 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12. Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause13 [Variations and Adjustments].

9. TESTS ON COMPLETION

9.1 Contractor's Obligations

The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].

The Contractor shall give to the Engineer not less than 21 days' notice of the date after which the Contract or will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by Kenya Airports Authority on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

9.2 Delayed Tests

If the Tests on Completion are being unduly delayed by Kenya Airports Authority, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.

If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contract or may fix and of which he shall give notice to the Engineer.

If the Contractor fails to carry out the Tests on Completion within the period of 21 days, Kenya Airports Authority's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contract or and the results of the Tests shall be accepted as accurate.

9.3. Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

9.4. Failure to Pass Tests on Completion

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Engineer shall be entitled to:

a) Order further repetition of Tests on Completion under Sub-Clause 9.3;
b) If the failure deprives Kenya Airports Authority of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event Kenya Airports Authority shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or
c) Issue a Taking-Over Certificate, if Kenya Airports Authority so requests.

In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to Kenya Airports Authority as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, Kenya Airports Authority may require the reduction to be;

(i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or

(ii) determined and paid under Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations].

10. PROCURING ENTITY'S TAKING OVER

10.1. Taking Over of the Works and Sections

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by Kenya Airports Authority when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The Contract or may apply by notice to the Engineer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contract or may similarly apply for a Taking-Over Certificate for each Section.

The Engineer shall, within 30 days after receiving the Contractor's application:

a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

10.2 Taking Over of Parts of the Works

The Engineer may, at the sole discretion of Kenya Airports Authority, issue a Taking-Over Certificate for any part of the Permanent Works.

Kenya Airports Authority shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if Kenya Airports Authority does use any part of the Works before the Taking-Over Certificate is issued:

a) The part which is used shall be deemed to have been taken over as from the date on which it is used,
b) The Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to Kenya Airports Authority, and
c) If requested by the Contractor, the Engineer shall issue a Taking-Over Certificate

for this part.

After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.

If the Contractor incurs Cost as a result of Kenya Airports Authority taking over and/or using a part of the Works, other than such use as is specified in the Contractor agreed by the Contractor, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such Cost-plus profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this Cost and profit.

If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages] and shall not affect the maximum amount of these damages.

10.3. Interference with Tests on Completion

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which Kenya Airports Authority is responsible, Kenya Airports Authority shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.

The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Engineer shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) Payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

10.4. Surfaces Requiring Reinstatement

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

11. DEFECTS LIABILITY

11.1. Completion of Outstanding Work and Remedying Defects

In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:

a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and

b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) Kenya Airports Authority on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) Kenya Airports Authority.

11.2. Cost of Remedying Defects

All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

a) Any design for which the Contractor is responsible,
b) Plant, Materials or workmanship not being in accordance with the Contract, or
c) Failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) Kenya Airports Authority, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3. Extension of Defects Notification Period

Kenya Airports Authority shall be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or

Materials would otherwise have expired.

11.4. Failure to Remedy Defects

If the Contractor fails to remedy any defector damage within a reasonable time, a date may be fixed by (or on behalf of) Kenya Airports Authority, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], Kenya Airports Authority may (at his option):

a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to Kenya Airports Authority the costs reasonably incurred by Kenya Airports Authority in remedying the defect or damage;
b) Require the Engineer to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause3.5 [Determinations]; or
c) If the defect or damage deprives Kenya Airports Authority of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use.

Without prejudice to any other rights, under the Contractor otherwise, Kenya Airports Authority shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5. Removal of Defective Work

If the defect or damage cannot be remedied expeditiously on the Site and Kenya Airports Authority gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

11.6. Further Tests

If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 30 days after the defect or damage is remedied.

These tests shall be carried out in accordance with the terms applicable to the previous tests, except that hey shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7 Right of Access

Until the Performance Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with Kenya Airports Authority's reasonable security restrictions.

11.8. Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Engineer in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

11.9. Completion Certificate

Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

The Engineer shall issue the Performance Certificate within 30 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to Kenya Airports Authority.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

11.10. Unfulfilled Obligations

After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11. Clearance of Site

Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If all these items have not been removed within 30 days after receipt by the Contractor of the Performance Certificate, Kenya Airports Authority may sell or otherwise dispose of any remaining items. Kenya Airports Authority shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than Kenya Airports Authority's costs, the Contractor shall pay the outstanding balance to Kenya Airports Authority.

12. MEASUREMENT AND EVALUATION

12.1. Works to be Measured

The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.

Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and
b) supply any particulars requested by the Engineer.
    i. If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2. Method of Measurement

Except as otherwise stated in the Contract and notwithstanding local practice:

a) Measurement shall be made of the net actual quantity of each item of the Permanent Works, and
b) The method of measurement shall be in accordance with the Bills of Quantities or other applicable Schedules.

12.3. Evaluation

Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause

3.5 [Determinations] to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.

For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contractor, if there is no such item, specified for similar work.

Any item of work included in the Bills of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bills of Quantities and will not be paid for separately.

However, a new rate or price shall be appropriate for an item of work if:

a) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bills of Quantities or another Schedule,
   i. This change in quantity multiplied by such specified rate of this item exceeds 0.25% of the Accepted Contract Amount,
   ii. This change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
   iii. This item is not specified in the Contract as a "fixed rate item"; or
b) the work is instructed under Clause 13 [Variations and Adjustments],
c) no rate or price is specified in the Contract for this item, and
d) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with profit, taking account of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.

Where the contract price is different from the corrected tender price, in order to ensure the Contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price–tender price)/tender price X 100*.

12.4. Omissions

Whenever the omission of any work form's part (or all) of a Variation, the value of which has not been agreed, if:

a) the Contractor will incur (or has incurred) cost which, if the work had not

been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;

b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and

c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

13. VARIATIONS AND ADJUSTMENTS

13.1. Right to Vary

Variations may be initiated by the Engineer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.
Each Variation may include:

a) Changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
b) Changes to the quality and other characteristics of any item of work,
c) Changes to the levels, positions and/or dimensions of any part of the Works,
d) Omission of any work unless it is to be carried out by others,
e) Any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
f) Changes to the sequence or timing of the execution of the Works.

The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation.

13.2. Variation Order Procedure

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

a) a description of the proposed work to be performed and a program for its execution,
b) the Contractor's proposal for any necessary modifications to the program according to Sub-Clause 8.3 [programd] and to the Time for Completion, and
c) the Contractor's proposal for evaluation of the Variation.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Engineer instructs or approves otherwise in accordance with this

Clause.

13.3. Value Engineering

The Contract or may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to Kenya Airports Authority of executing, maintaining or operating the Works, (iii) improve the efficiency or value to Kenya Airports Authority of the completed Works, or (iv) otherwise be of benefit to Kenya Airports Authority.

The proposal shall be prepared at the cost of the Contract or and shall include the items listed in Sub- Clause 13.3 [Variation Procedure].

If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

a) The Contractor shall design this part,
b) Sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
c) If this change results in a reduction in the contract value of this part, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
   i. such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
   ii. the reduction (if any) in the value to Kenya Airports Authority of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

13.4. Variation Procedure for Value Engineering proposal

If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

a) A description of the proposed work to be performed and a programme for its execution,
b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
c) the Contractor's proposal for evaluation of the Variation.

The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst a waiting a response.

Each instruction to execute a Variation, with any requirements for the recording of

Costs, shall be issued by the Architect to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Architect instructs or approves otherwise in accordance with this Clause.

13.5. Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.6. Provisional Sums

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:

a) Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
b) Plant, Materials or services to be purchased by the Contractor, from a nominated Sub-contractor (as defined in Clause 5 [Nominated Sub - contractor]) or otherwise; and for which there shall be included in the Contract Price:
   i. The actual amounts paid (or due to be paid) by the Contractor, and
   ii. A sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule.
   iii. If there is no such rate, the percentage rate stated in the **SCC** shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.7. Day work

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub- Clauses Hall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

a) The names, occupations and time of Contractor's Personnel,
b) The identification, type and time of Contractor's Equipment and Temporary Works, and
c) The quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

13.8. Adjustments for Changes in Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

If the Contract or suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) Payment of any such Cost, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause [Adjustments for Changes in Cost].

13.9. Adjustments for Changes in Cost

In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub- Clause shall not apply.

If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or

deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

Pn = a + b Ln/ Lo + c En/Eo + d Mn/Mo + ... where:

"Pn" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the **SCC**;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", … are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labor, equipment and materials;

"Ln", "En", "Mn", … are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo" … are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the "currency of index" is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central Procuring Entity of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to Kenya Airports Authority.

The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

14. CONTRACT PRICE AND PAYMENT

14.1. The Contract Price

Unless otherwise stated in the Particular Conditions:

a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;

b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];

c) any quantities which may be set out in the Bills of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:

   i. of the Works which the Contractor is required to execute, or

   ii. for the purposes of Clause 12 [Measurement and Evaluation]; and

d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lumpsum price in the Schedules.

The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.

Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.

14.2. Advance Payment

Kenya Airports Authority shall make an advance payment, as an interest- free loan for mobilization and cashflow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the **SCC**. Unless and until Kenya Airports Authority receives this guarantee, or if the total advance payment is not stated in the **SCC**, this Sub-Clause shall not apply.

The Engineer shall deliver to Kenya Airports Authority and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after Kenya Airports Authority receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable Procuring Entity or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions or in another form approved by Kenya Airports Authority.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the guarantee

until the advance payment has been repaid.

Unless stated otherwise in the SCC, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Engineer in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

a) Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount Less Provisional Sums; and
b) Deductions shall be made at the amortization rate stated in the **SCC** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to Kenya Airports Authority.

14.3. Application for Interim Payment Certificates

The Contractor shall submit a Statement in six copies to the Engineer after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers itself to been titled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

a) The estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
b) Any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
c) Any amount to be deducted for retention, calculated by applying the percentage of retention stated in the **SCC** to the total of the above amounts, until the amount so retained by Kenya Airports Authority reaches the limit of Retention Money (if any) stated in the **SCC**;

d) Any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
e) Any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause14.5[Plant and Materials intended for the Works];
f) Any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
g) The deduction of amounts certified in all previous Payment Certificates.

Where the contract price is different from the corrected tender price, in order to ensure the Contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price–tender price)/tender priceX100*.

14.4. Schedule of Payments

If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

a) The instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
b) Sub-Clause14.5[Plant and Materials intended for the Works] shall not apply; and
c) If these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5. Plant and Materials intended for the Works *(see SCC for lists)*

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b) (i) or (c) (i) below are not included in the Schedules, this Sub-Clause shall not apply. The Engineer shall determine and certify each addition if the following conditions are satisfied:

a) The Contractor has:
   i. Kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
   ii. Submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; and either:

b) The relevant Plant and Materials:
   i. Are those listed in the Schedules for payment when shipped,
   ii. Have been shipped to the Country, enroute to the Site, in accordance with the Contract; and
   iii. are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and an Procuring Entity guarantee in a form and issued by an entity approved by Kenya Airports Authority in amounts and currencies equal to the amount due under this Sub- Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2[Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

c) the relevant Plant and Materials:
   i. are those listed in the Schedules for payment when delivered to the Site, and
   ii. have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6. Issue of Interim Payment Certificates

No amount will be certified or paid until Kenya Airports Authority has received and approved the Performance Security. Thereafter, the Engineer shall, within 30 days after receiving a Statement and supporting documents, deliver to Kenya Airports Authority and to the Contractor an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the **SCC**. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

14.7. Payment

Kenya Airports Authority shall pay to the Contractor:

a) The first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents; or, at a time when Kenya Airports Authority's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and
c) the amount certified in the Final Payment Certificate within 56 days after Kenya Airports Authority receives this Payment Certificate; or, at a time when Kenya Airports Authority's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor].

Payment of the amount due in each currency shall be made in to Kenya Airports Authority account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

14.8. Delayed Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on

the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central Procuring Entity in the country of the currency of payment, or if not available, the inter-Procuring Entity offered rate, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

14.9. Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

However, if any work remains to be executed under Clause 11 [Defects Liability], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].

Unless otherwise stated in the Particular Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by Kenya Airports Authority and issued by a reputable Procuring Entity or financial institution selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contract or has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by Kenya Airports Authority of the required guarantee, the Engineer shall certify and Kenya Airports Authority shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this Sub-Clause. Kenya Airports Authority

shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security.

14.10. Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
b) any further sums which the Contractor considers to be due, and
c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11. Application for Final Payment Certificate

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:

a) The value of all work done in accordance with the Contract, and
b) Any further sums which the Contractor considers to be due to him under the Contractor otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However, if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to Kenya Airports Authority (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining

Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to Kenya Airports Authority (with a copy to the Engineer) a Final Statement.

14.12. Discharge

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

14.13. Issue of Final Payment Certificate

Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall deliver, to Kenya Airports Authority and to the Contractor, the Final Payment Certificate which shall state:

a) The amount which he fairly determines is finally due, and
b) After giving credit to Kenya Airports Authority for all amounts previously paid by Kenya Airports Authority and for all sums to which Kenya Airports Authority is entitled, the balance (if any) due from Kenya Airports Authority to the Contractor or from the Contractor to Kenya Airports Authority, as the case may be.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14. Cessation of Procuring Entity's Liability

Kenya Airports Authority shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

a) In the Final Statement and also
b) (Except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10[Statement at Completion].

However, this Sub-Clause shall not limit Kenya Airports Authority's liability under his indemnification obligations, or Kenya Airports Authority's liability in any case of fraud, deliberate default or reckless misconduct by Kenya Airports Authority.

14.15. Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Schedule of

Payment Currencies. If more than one currency is so named, payments shall be made as follows:

a) If the Accepted Contract Amount was expressed in Local Currency only:
   i. The proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties;
   ii. payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
   iii. other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub- paragraph (a) (i) above;
b) payment of the damages specified in the **SCC**, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
c) other payments to Kenya Airports Authority by the Contractor shall be made in the currency in which the sum was expended by Kenya Airports Authority, or in such currency as may be agreed by both Parties;
d) if any amount payable by the Contractor to Kenya Airports Authority in a particular currency exceeds the sum payable by Kenya Airports Authority to the Contractor in that currency, Kenya Airports Authority may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the central Procuring Entity of the Country.

15. TERMINATION BY PROCURING ENTITY

15.1. Notice to Correct

If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

15.2. Termination by Procuring Entity

Kenya Airports Authority shall be entitled to terminate the Contract if the Contractor:

a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
c) without reasonable excuse fails:
   i. to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
   ii. to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work],
d) within 30 days after receiving it, subcontracts the whole of the Works or assigns the Contract without the required agreement,
e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
   i. for doing or forbearing to do any action in relation to the Contract, or
   ii. for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
   iii. if any of the Contractor's Personnel, agents or Sub - contractor gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or
g) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, in competing for or in executing the Contract.

In any of these events or circumstances, Kenya Airports Authority may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub- paragraph (e) or (f) or (g), Kenya Airports Authority may by notice terminate the Contract immediately.

Kenya Airports Authority's election to terminate the Contract shall not prejudice any other rights of Kenya Airports Authority, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However,the Contractor shall use his lowest efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, Kenya Airports Authority may complete the Works and/or arrange for any other entities to do so. Kenya Airports Authority and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

Kenya Airports Authority shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to Kenya Airports Authority, these items may be sold by Kenya Airports Authority in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

15.3. Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

15.4. Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, Kenya Airports Authority may:

a) Proceed in accordance with Sub-Clause 2.5 [Procuring Entity's Claims],
b) Withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by Kenya Airports Authority, have been established, and/or
c) Recover from the Contractor any losses and damages incurred by Kenya Airports Authority and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, Kenya Airports Authority shall pay any balance to the Contractor.

15.5. Procuring Entity's Entitlement to Termination for Convenience

Kenya Airports Authority shall be entitled to terminate the Contract, at any time for Kenya Airports Authority's convenience, by giving notice of such termination to the Contractor. The termination rexdgon shall take effect 30 days after the later of the dates

on which the Contractor receives this notice or Kenya Airports Authority returns the Performance Security. Kenya Airports Authority shall not terminate the Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another Contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2[Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

15.6. Fraud and Corruption

Kenya Airports Authority requires compliance with the national law and regulations against corruption. All available sanctions will apply where corruption is detected.

16. SUSPENSION AND TERMINATION BY CONTRACTOR

16.1. Contractor's Entitlement to Suspend Work

If the Engineer fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Kenya Airports Authority fails to comply with Sub-Clause 2.4 [Procuring Entity's Financial Arrangements] or Sub- Clause 14.7 [Payment], the Contractor may, after giving not less than 21days' notice to Kenya Airports Authority, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

Notwithstanding the above, if Kenya Airports Authority has suspended disbursements under the loan or credit from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Procuring Entity's Financial Arrangements], the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after Kenya Airports Authority having received the suspension notification from Kenya Airports Authority.

The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2[Termination by Contractor].

If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

(i). an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

(ii). payment of any such Cost-plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineers Hall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

16.3 Termination by Contractor

The Contractor shall be entitled to terminate the Contract if:

a) the Contractor does not receive the reasonable evidence within 42 days after giving

notice under Sub- Clause 16.1 [Contractor's Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause 2.4 [Procuring Entity's Financial Arrangements],

b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,

c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),

d) Kenya Airports Authority substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,

e) Kenya Airports Authority fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7 [Assignment],

f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or

g) Kenya Airports Authority becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.

h) The Contractor does not receive the Engineer's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works.

In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to Kenya Airports Authority, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

In the event Kenya Airports Authority suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1 above, or (ii) terminate the Contract by giving notice to Kenya Airports Authority, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

16.4. Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

a) Cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works,

b) Handover Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
c) Remove all other Goods from the Site, except as necessary for safety, and leave the Site.

16.5. Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, Kenya Airports Authority shall promptly:

a) Return the Performance Security to the Contractor,
b) Pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
c) Pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

17. RISK AND RESPONSIBILITY

17.1. Indemnities

The Contractor shall indemnify and hold harmless Kenya Airports Authority, Kenya Airports Authority's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

a) B
odily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful actor breach of the Contract by Kenya Airports Authority, Kenya Airports Authority's Personnel, or any of the irrespective agents, and

b) D
amage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by Kenya Airports Authority, Kenya Airports Authority's Personnel, the irrespective agents, or any one directly or indirectly employed by any of them.

Kenya Airports Authority shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by Kenya Airports Authority, Kenya Airports Authority's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

17.2. Contractor's Care of the Works

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to Kenya Airports Authority. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to Kenya Airports Authority.

After responsibility has accordingly passed to Kenya Airports Authority, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during

the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3. Procuring Entity's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Procuring Entity's Risks] below, insofar as they directly affect the execution of the Works in the Country, are:

a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,
c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel,

munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity,

d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
e) use or occupation by Kenya Airports Authority of any part of the Permanent Works, except as may be specified in the Contract,
f) design of any part of the Works by Kenya Airports Authority's Personnel or by others for whom Kenya Airports Authority is responsible, and
g) any operation of the forces of nature which is Unforeseeable or against which an experienced Contractor could not reasonably have been expected to have taken adequate preventive precautions.

17.4. Consequences of Procuring Entity's Risks

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1[Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Cost plus profit shall be payable.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

17.5. Intellectual and Industrial Property Rights

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trademark, tradename, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 30 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

Kenya Airports Authority shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

a) An unavoidable result of the Contractor's compliance with the Contract, or
b) A result of any Works being used by Kenya Airports Authority:
   i. For a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
   ii. In conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold Kenya Airports Authority harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

17.6. Limitation of Liability

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any Contractor for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause17.1 [Indemnities]; Sub-Clause 17.4 (b) [Consequences of Procuring Entity's Risks] and Sub-Clause 17.5[Intellectual and Industrial Property Rights].

The total liability of the Contractor to Kenya Airports Authority, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Procuring Entity's Equipment and Free- Issue Materials], Sub-Clause 17.1

[Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the **SCC**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

17.7. Use of Procuring Entity's Accommodation/Facilities

The Contractor shall take full responsibility for the care of Kenya Airports Authority provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contract or until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which Kenya Airports Authority is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

18. INSURANCE

18.1. General Requirements for Insurances

In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.
Wherever the Contractor is the insuring Party, each insurance shall be affected with insurers and in terms approved by Kenya Airports Authority. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever Kenya Airports Authority is the insuring Party, each insurance shall be affected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that Kenya Airports Authority shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the **SCC** (calculated from the Commencement Date), submit to the other Party:

a) Evidence that the insurances described in this Clause have been affected, and
b) Copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

The insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract or fails to provide satisfactory evidence and copies of policies in accordance with this Sub- Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or Kenya Airports Authority, under the other terms of the Contractor otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or Kenya Airports Authority.

Kenya Airports Authority in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub- Clause 20.1[Contractor's Claims], as applicable.

The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause18) with insurers from any eligible source country.

18.2. Insurance for Works and Contractor's Equipment

The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.

The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).

The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.

Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

a) Shall be affected and maintained by the Contractor as insuring Party,
b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually

bearing the costs of rectifying the loss or damage,

c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],

d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by Kenya Airports Authority of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the **SCC**(if an amount is not so stated, this sub-paragraph (d) shall not apply), and

e) may however exclude loss of, damage to, and reinstatement of:

i. a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),

ii. a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,

iii. a part of the Works which has been taken over by Kenya Airports Authority, except to the extent that the Contractor is liable for the loss or damage, and

iv. Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to Kenya Airports Authority, with supporting particulars. Kenya Airports Authority shall then (i) be entitled subject to Sub- Clause 2.5 [Procuring Entity's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

18.3. Insurance against Injury to Persons and Damage to Property

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

This insurance shall be for a limit per occurrence of not less than the amount stated in the **SCC**, with no limit on the number of occurrences. If an amount is not stated in the **SCC**, this Sub-Clause shall not apply.

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

a) Shall be affected and maintained by the Contractor as insuring Party,
b) Shall be in the joint names of the Parties,
c) Shall be extended to cover liability for all loss and damage to Kenya Airports Authority's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
d) May however exclude liability to the extent that it arises from:
   i. Kenya Airports Authority's right to have the Permanent Works executed on, over, under, in or
   ii. through any land, and to occupy this land for the Permanent Works,
   iii. damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and
   iv. a cause listed in Sub-Clause 17.3 [Procuring Entity's Risks], except to the extent that cover is available at commercially reasonable terms.

18.4. Insurance for Contractor's Personnel

The Contractor shall affect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The insurance shall cover Kenya Airports Authority and the Engineer against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of Kenya Airports Authority or of Kenya Airports Authority's Personnel.

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Sub-contractor's employees, the insurance may be affected by the Sub-contractor, but the Contractor shall be responsible for compliance with this Clause.

19. FORCE MAJEURE

19.1. Definition of Force Majeure

In this Clause, "Force Majeure" means an exceptional event or circumstance:

a) Which is beyond a Party's control,

b) Which such Party could not reasonably have provided against before entering into the Contract,

c) Which, having arisen, such Party could not reasonably have avoided or overcome, and

d) Which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

i. war, hostilities (whether war be declared or not), invasion, act of foreign enemies,

ii. rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,

iii. riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,

iv. munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio- activity, and

v. natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2. Notice of Force Majeure

If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3. Duty to Minimize Delay

Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

19.4. Consequences of Force Majeure

If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause
20.1 [Contractor's Claims] to:

a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5[Determinations] to agree or determine these matters.

19.5. Force Majeure Affecting Sub Contractor

If any Sub-contractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

19.6 Optional Termination, Payment and Release

If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:

a) The amounts payable for any work carried out for which a price is stated in the Contract;
b) The Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) Kenya Airports Authority when paid for by Kenya Airports Authority, and the Contractor shall place the same at Kenya Airports Authority's disposal;
c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and there turn of these items to the Contractor's works in his country (or to any other destination at no greater cost); and

e) the Cost of repatriation of the Contractor's staff and labor employed wholly in connection with the Works at the date of termination.

19.7. Release from Performance

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

a) The Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and

b) The sum payable by Kenya Airports Authority to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

20. CLAIMS, DISPUTES AND ARBITRATION

20.1 Contractor's Claims

If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and Kenya Airports Authority shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub- Clauses shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting Kenya Airports Authority's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

a) This fully detailed claim shall be considered as interim;
b) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

Within the above defined period of 42 days, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

If the Engineer does not respond within the time frame defined in this Clause, either Party may consider that the claim is rejected by the Engineer and any of the Parties may refer to Arbitration in accordance with Sub-Clause 20.4 [Arbitration].

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of Sub-Clause 20.3 (f).

20.2 Procuring Entity's Claims

If Kenya Airports Authority considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.

The notice shall be given as soon as practicable and no longer than 30 days afte rthe Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Procuring Entity considers itself to be entitled in connection with the Contract. The Architect shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/ or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against

the Contractor, in accordance with this Sub-Clause.

20.3 Amicable Settlement

Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 20.1 above should move to commence arbitration after the fifty-sixth day from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

20.4 Matters that may be referred to arbitration

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

a) The appointment of a replacement Engineer upon the said person ceasing to act.
b) Whether or not the issue of an instruction by the Engineer is empowered by these Conditions.
c) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
d) Any dispute arising in respect of war risks or war damage.
e) All other maters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless Kenya Airports Authority and the Contract or agree otherwise in writing.

20.5 Arbitration

Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration.

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

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

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

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

The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Engineer from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Engineer shall not be altered by reason of any arbitration being conducted during the progress of the Works.

The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

20.6 Arbitration with National Contractors

If the Contract is with national Contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

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

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

20.7 Arbitration with Foreign Contractors

Arbitration with foreign Contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and

conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.

The place of arbitration shall be a location specified in the **SCC;** and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

20.8 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

20.9 Failure to Comply with Arbitrator's Decision

The award of such Arbitrator shall be final and binding upon the parties.
In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

Number of GC Clause	Amendments of, and Supplements to, Clauses in General Conditions of Contract
1.1(a)	The Adjudicator is ***as per Nairobi Centre for International Arbitration (NCIA guidelines).***
1.1(w)	Project Manager is **General Manager (P&ES) KAA**
1.1(e)	The contract Name is **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS**
1.1(h)	The Procuring Entity is **KENYA AIRPORTS AUTHORITY**
1.1(m)	The Member in Charge is _____
1.1(p)	The Service Provider is_____
1.4	The address are: Procuring Entity: __**KENYA AIRPORTS AUTHORITY**__ Attention: **AIRPORT MANAGER JOMO KENYATTA INTERNATIONAL AIRPORT** Telex: _____ Service Provider: _____ Attention: _____ Email address: ___tenders@kaa.go.ke _____
1.6	The Authorized Representative are: For the Procuring Entity: __officer appointed by Kenya Airports Authority_____ For the Service Provider: _____
2	The Contractor shall Submit a Programme for the Works within **7 days** of delivery of the Letter of Acceptance.
2.1	The date on this Contract shall come into effect is Date of signing of contract_
2.2.2	The Starting Date for the commencement of Service is shall be ***immediately after site hand-over as instructed by the Project Engineer***

2.3	The Intended Completion Date is will vary from contract to contract but in principle should not more than **eight (8) weeks** from ***the start date.***
3.2.3	Activities prohibited after termination of this Contract are: as stated in the General Conditions_____
3.8.1	The liquidated damages rate is___**Ksh20,000** _____ per day The maximum amount of liquidated damages for the whole Contract is_Ksh ____**10**____ percent of the final contract price.
6.2(a)	The amount in Kenya shillings as per the contract
6.4	Payments shall be made Upon receipt of: • invoice • Signed Inspection report
6.5	Payment shall be made within 60 days of the invoice and the relevant documents specified in Sub – Clause 6.4, and within 30 days Days in the case of the final payment The interest rate is as per Central Bank of Kenya minimum interest rate
6.6.1	Price Adjustment is____**N/A**_____ in accordance with Sub – Clause 6.6. The coefficients for adjustment of price are_____: (a) For local currency: A_L is_____ B_L is _____ C_L is _____ L_{MC} and L_{OC} are the index for Labor from _____ I_{MC} and I_{OC} are the index for _____from _____
	(b) For foreign currency A_F is_____ B_F is _____ C_F is _____ L_{MC} and L_{OC} are the index for Labor from _____ I_{MC} and I_{OC} are the index for _____from _____
7.1	The principle and modalities of inspection of the Services by the Procuring Entity are as follows: __Contract Implementation Team/Inspection and Acceptance Committee_____ The **Defects Liability Period** (DLP) for painting works shall be– **three (3) months** and for other civil works shall be – **six (6) months**_____
9.1	The designated Appointing Authority for a new Adjudicator is__**Chief Justice_**

9.2	The Adjudicator is _**Arbitrator**_____.Who will be paid a rate of _____ per hour of work .The following reimbursable expenses are recognized:_____

Conditions	**GCC Clause**	**Data**
Procuring Entity's name and address	1.1.3	Kenya Airports Authority P.O. Box 19001-00501 NAIROBI-KENYA
Engineer's name and address	3.1	The said "Engineer" shall be; The General Manager Projects and Engineering Services, Kenya Airports Authority, P.O. Box 19001 – 00501, Nairobi, Kenya or any other "Competent Person" appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer. The "Competent Person" may be an individual(s), a Consultancy Firm, a Government Agency, or any combination of professionals to be appointed at the discretion of the Employer.
Engineer's Duties and Authority	3.1	The Engineer shall obtain specific approval of the Employer before taking any of the following actions specified in Part I: (i) Consenting to the sub-letting of any part of the Works. (ii) Certifying additional cost determined (iii) Determining an Extension of Time (iv) Issuing a Variation except in an emergency situation as reasonably determined by the Engineer. (v) Fixing rates or prices
Sub - contractor	4.4	No single subcontract may be for more than 10 percent of the Contract Price nor shall the sum of all subcontracts exceed 25 percent of the Contract price. No one Sub-contractor may be awarded subcontracts to a total value greater than 10 percent of the Contract Price. All subcontracts greater than 2 percent of the Contract Price are to have the prior consent of the Engineer. The Contractor shall however, not require such consent for purchases of materials or to place contracts for minor details or for any part of the Works of which the

		manufacturer of supplier is named in the Contract. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen.
Compliance with Laws	1.4	(a) The language governing this Contract shall be English. The "Ruling Language" which shall be used to interpret this Contract shall be English. Communication between the Contractor and Engineer or Engineer's representative shall be in English. (b) The law applicable to this Contract shall be the laws of the Republic of Kenya. Except to the extent otherwise provided by the Contract, the Kenyan courts shall have exclusive jurisdiction to hear and to determine all actions and proceedings in connection with and arising out of the Contract, and the Contractor shall submit to the jurisdiction of Kenyan courts for the purpose of any such actions and proceedings.
Contractor's General Obligations	4.1	(a) Within 28 days after receipt of the Engineer's order to commence the Works, the Contractor shall establish an office at the Site duly equipped for the Contractor's representative and his supervisory personnel. The Contractor shall maintain this office throughout the Contract period. The said office shall be the legal domicile of the Contractor, and all correspondence sent to this office shall be deemed to have been sent to the Contractor's head office. (b) A foreign Contractor or a Kenya-foreign joint venture, if not registered in Kenya under the applicable laws of Kenya, shall undertake registration upon receipt of the letter of acceptance and prior to signing of the Contract.
Performance Security	4.2	The Contractor shall obtain a Performance Security within 14 days after receiving the Letter of Acceptance The Performance Security shall be issued by a Bank incorporated in Kenya. The amount of guarantee shall be

		10% of the contract amount. The bank guarantee, shall be issued either (a) by an established and reputable bank approved by the Employer and located in Kenya or a foreign bank through a correspondent established and reputable bank located in Kenya and approved by the Employer or (b) directly by a foreign bank acceptable to the Employer. The performance security shall normally be in the currency or currencies requested for payment by the Contractor and in the same proportions as those requested for payment in the Contract. The performance security may, subject to the approval of the Engineer, be adjusted at the end of each period of 12months to reflect the residual value of the Contract Works. The performance guarantee shall be valid until a date 28days after the date of issue of the Taking-Over Certificate. The security shall be returned to the Contractor within 28 days of the expiration.
Program	8.3	The time within which the Program shall be submitted shall be twenty-eight (28) days. This detailed Program shall be based upon the program submitted by the Contractor as part of his tender and shall, in no material manner, deviate from the said program. The Contractor shall allow in his Program for the following 11 public holidays per calendar year in Kenya upon which the Contractor shall not be permitted to work. a) New Year's Day (1st January) b) Good Friday c) Easter Monday d) Labor Day (1st May) e) Madaraka Day (1st June) f) Idd-Ul-Fitr g) Moi Day (10th October) h) Mashujaa Day (20th October) i) Jamhuri Day (12th December) j) Christmas Day (25th December) k) Boxing Day (26th December) The Contractor should also allow per calendar year for a further 4 unspecified public holidays which may be

		announced by the Government of Kenya with no prior notification, and upon which he shall not be permitted to work. The Employer shall have the right to withhold payment at any time if the Contractor fails to submit the contractual construction programs in accordance with sub clause 14.1 above or revise construction programs due to his negligence, failure or omission. Cash Flow Estimate to be submitted The time limit within which a detailed cash flow estimate is to be submitted shall be twenty-eight (28) days. In preparing the estimates, the Contractor shall make provision for Advance payment, repayment of advance, retention, payment for services provided by the Employer and timing implications of sub clause 60 – Certificates and Payments.
Contractor's Superintendence	6.8	The Contractor shall, within seven (7) days of receipt of the Engineer's order to commence the Works, inform the Engineer in writing, the name of the Contractor's representative and the anticipated date of his arrival on Site. The Contractor's agent or representative on the Site shall be an Engineer registered as a Professional Engineer by the Engineers Board of Kenya in accordance with the Engineers Act of 2011 and shall be able to read, write and speak English fluently.
Health and Safety procedures	6.7	The formulation and enforcement of an adequate safety program shall be the obligation of the Contractor with respect to all the Works under this Contract, regardless of whether performed by the Contractor or his Sub CContractors. The Contractor shall, within 14 days after commencement of the Works, meet the Engineer to present and discuss his plan for the establishment of such safety measures as may be necessary to provide against accidents, unsafe acts and so forth. Within 28 days after commencement of the Works, the Contractor shall submit a written safety program to the Engineer covering the overall Works and based on the laws and regulations of Kenya. In addition, he shall prepare special safety programs for blasting and handling of explosives as stipulated in the General and Special Specifications.

		Notwithstanding the foregoing, the Contractor shall observe the following measures with a view to reducing or eliminating adverse environmental effects by the Site Works: (i). All queries and borrow pits shall be filled and landscaped to their original state after extraction of construction material (ii). Soil erosion due to surface runoff or water from culverts or other drainage structures should be avoided by putting in place proper erosion control measures that shall include, but not limited to grassing, planting of trees, gabions etc. (iii). Long traffic diversion roads shall be avoided so as to minimize the effect of dust on the surrounding environment. In any case all diversions shall be kept damp and dust free at the Contractor's expense. (iv). Spillage of oils, fuels and lubricants shall be avoided and if spilt, shall be collected and disposed of in such a way as not to adversely affect the environment. (v). Rock blasting near settlement areas shall be properly coordinated with the relevant officers of the Government so as to minimize noise pollution and community interference. (vi). Dumping shall be done only at designated dumping areas and not haphazardly on surroundings. (vii). The Contractor must register the site as a workplace. (viii). Within seven (7) days upon receipt of order to Commence Works the Contractor shall submit the following Health and Safety documents. a) Written Health and Safety Policy which shall be displayed at all times on site at a location visible to all visitors entering the site. b) Obtain and keep records of Permits to Work for operations. c) Carry out Job Safety Analysis and submit Risk assessment before commencement of site activities. d) Contractor shall give Notices of accidents,

		incidences and near misses during the performance of the Contract and shall give copies of the notices to the Engineer. (ix). The Contractor shall provide wholesome portable water for drinking to all workers on site. (x). Contractor must have safe work practices and procedures displayed on site at a location visible to all visitors entering the site. (xi). Contractor shall form a safety and health committee if the site shall have more than 20 persons/workers.
Insurance	18	The formulation and enforcement of an adequate safety program shall be the obligation of the Contractor with respect to all the Works under this Contract, regardless of whether performed by the Contractor or his Sub - contractor. The Contractor shall, within 14 days after commencement of the Works, meet the Engineer to present and discuss his plan for the establishment of such safety measures as may be necessary to provide against accidents, unsafe acts and so forth. Within 28 days after commencement of the Works, the Contractor shall submit a written safety program to the Engineer covering the overall Works and based on the laws and regulations of Kenya. In addition, he shall prepare special safety programs for blasting and handling of explosives as stipulated in the General and Special Specifications. Notwithstanding the foregoing, the Contractor shall observe the following measures with a view to reducing or eliminating adverse environmental effects by the Site Works: (i) All queries and borrow pits shall be filled and landscaped to their original state after extraction of construction material (ii) Soil erosion due to surface runoff or water from culverts or other drainage structures should be avoided by putting in place proper erosion control measures that shall include, but not limited to grassing, planting of trees, gabions etc. (iii) Long traffic diversion roads shall be avoided so as to minimize the effect of dust on the surrounding

		environment. In any case all diversions shall be kept damp and dust free at the Contractor's expense. (iv) Spillage of oils, fuels and lubricants shall be avoided and if spilt, shall be collected and disposed of in such a way as not to adversely affect the environment. (v) Rock blasting near settlement areas shall be properly coordinated with the relevant officers of the Government so as to minimize noise pollution and community interference. (vi) Dumping shall be done only at designated dumping areas and not haphazardly on surroundings.
Royalties	7.8	The Contractor shall also be liable for all payments or compensation, if any, that are levied in connection with the dumping of part or all of any such material."
Defects Liability	10	Any work ordered to be executed under this clause shall be done at a time and in a manner as directed by the Engineer so as to interfere as little as possible with the operations of the Employer or of other Contractors and no extension(s) of the defect's liability period will be allowed for the execution of this Work.
Provisional Sums	13.1	The Contractor shall also be liable for all payments or compensation, if any, that are levied in connection with the dumping of part or all of any such material." If the Engineer desires to secure final payment to any nominated sub-Contractor before final payment is due to the Contractor and if such sub-Contractor has satisfactorily indemnified the Contractor against any latent defects, the Engineer may, in an interim certificate, include an amount to cover the said final payment, and thereupon the Contractor shall pay to such nominated sub-Contractor the amount so certified. Upon such final payment, the amount named in the Appendix to Form of Tender as Limit of Retention Money shall be reduced by the sum which bears the same ratio to the amount as does the subcontract and sub-Contractor shall be discharged from all liability for the Work, materials or goods executed or supplied by such Sub-contractor under the Contract to which the payment relates
Advance payment	13.2	In the event that an advance payment is granted, the following shall apply: - a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of

		expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money. b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or of a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance. c) Reimbursement of the advance shall be affected by deductions from monthly interim payments. d) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached. The amount to be repaid by way of successive deductions shall be calculated by means of the formula: R = A (x1 – x11) 80 – 20 Where: R = the amount to be reimbursed A = the amount of the advance which has been granted X1 =the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%. X11 = The amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80% but not less than 20%. (e) With each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly

SECTION X: CONTRACT FORMS

FORM No. 1 -	NOTIFICATION OF INTENTION TO AWARD
FORM NO. 2 –	REQUEST FOR REVIEW
FORM No. 3-	LETTER OF AWARD
FORM No. 4 -	CONTRACT AGREEMENT
FORM No. 5 -	PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]
FORM No. 6-	PERFORMANCE SECURITY [Option 2– Performance Bond]
FORM No. 7 –	ADVANCE PAYMENT SECURITY
FORM No. 8 -	RETENTION MONEY SECURITY
FORM NO. 9-	BENEFICIAL OWNERSHIP DISCLOSURE FORM

FORM No 1: NOTIFICATION OF INTENTION TO AWARD FORMAT

For the attention of Tenderer's Authorized Representative

Name…… **MANAGING DIRECTOR/CEO** Address: **KENYA AIRPORTS AUTHORITY, P.O. BOX 19001 – 00501** NAIROBI Telephones: ***+254-020-822111/6611000/6612000*** Email Address: ***tenders@kaa.go.ke***

Date of Transmission: This Notification is sent by: **tenders@kaa.go.ke** on **20TH FEBRUARY 2024 at 11:00 AM.**

KENYA AIRPORTS AUTHORITY

Contract title: **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS**

Country: Kenya, County NAIROBI

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

a) Request a debriefing in relation the evaluation of your Tender, and/or

b) Submit a Procurement-related Complaint in relation to the decision to award the contract.

The successful Tenderer

Name:_____ Address: _____

Contract price: _____

Other Tenderers: *insert names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.]*—***N/A---***

1. How to request a debriefing

a) DEADLINE: The deadline to request a debriefing expires at midnight on **[*insert date*] (*local time*).**

b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within five (5) Business Days of receipt of this Notification of Intention to Award.

c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

i) Attention: **N/A**

ii) Title/position: **GENERAL MANAGER (P & L)**

ii) Agency: **KENYA AIRPORTS AUTHORITY**

iii) Email address: **tenders@kaa.go.ke**

d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

2. How to make a complaint

a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight,

b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

i) Attention: **N/A**

ii) Title/position: **GENERAL MANAGER (P & L)**

iii) Agency: **KENYA AIRPORTS AUTHORITY**

iv) Email address: **tenders@kaa.go.ke**

c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

d) Further information: For more information refer to the Public Procurement and

Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

e) There are four essential requirements:

i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.

ii) The complaint can only challenge the decision to award the contract.

iii) You must submit the complaint within the period stated above.

iv) You must include, in your complaint, all of the information required to support your complaint.

3. Standstill Period

i) DEADLINE: The Standstill Period is due to end at midnight on **…**

ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.

iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of Kenya Airports Authority:

Signature:_____

Name: _____

Title/position:_____

Telephone:_____

Email:_____

FORM NO. 2 - REQUEST FOR REVIEW

FORM FOR REVIEW (r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO……. OF……20……...

BETWEEN

……..…….. APPLICANT

AND

……RESPONDENT (Procuring Entity)

Request for review of the decision of Kenya Airports Authority dated the…day of ……..20…….in the matter of Tender No……..…of ……..20…. for **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS**

REQUEST FOR REVIEW

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

1.

2.

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

SIGNED ……. (Applicant) Dated on……. day of ……/…20……

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on……day of ……....20…..……

SIGNED

Board **Secretary**

FORM NO 3: LETTER OF AWARD

To:

This is to notify you that your Tender dated _____ for execution of the **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE** for the Accepted Contract Amount_____ _____, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by **KENYA AIRPORTS AUTHORITY.**

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature: .....

Name and Title of Signatory: .....

Name of Procuring Entity **KENYA AIRPORTS AUTHORITY**

Attachment: *Contract Agreement*.....

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the_____day of_____, 2023, between

KENYA AIRPORTS AUTHORITY (hereinafter "the Procuring Entity"), of the one part,

and_____of_____(hereinafter

"the Contractor"), of the other part:

WHEREAS Procuring Entity desires that the Works known as _____should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein, The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
   a) the Letter of Acceptance
   b) the Letter of Tender
   c) the addenda Nos_____(if any)
   d) the Special Conditions of Contract
   e) the General Conditions of Contract;
   f) the Specifications
   g) the Drawings; and
   h) the completed Schedules and any other documents forming part of the contract.

3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by_____(for Kenya Airports Authority)

Signed and sealed by_____(for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY
[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: KENYA AIRPORTS AUTHORITY *[insert name and Address of* Procuring Entity*]*

Date:_____*[Insert date of issue]*

PERFORMANCE GUARANTEE No.: _____

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____ _____(hereinafter called "the Contractor") has entered into Contract No._____dated_____with **KENYA** _____(hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(*in word* whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the …. Day of ……, 2……[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year],* in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[Name of Authorized Official, signature(s) and seals/stamps].

FORM No. 6 - PERFORMANCE SECURITY

[Option 2– Performance Bond]

[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee instead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: KENYA AIRPORTS AUTHORITY

Date:_____

PERFORMANCE BOND No.:_____

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond_____as Principal (hereinafter called "the Contractor") and_____] as Surety (hereinafter called "the Surety"), are held and firmly bound unto____ **KENYA AIRPORTS AUTHORITY**] as Oblige (hereinafter called "the Procuring Entity") in the amount of_____for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

2. WHEREAS the Contractor has entered into a written Agreement with Kenya Airports Authority dated the _____day of_____, 20, for_____in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1) complete the Contract in accordance with its terms and conditions; or

2) obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or

3) pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named herein or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.

6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this day_____of____20

SIGNED ON_____on behalfof _____

By_____in the capacity of_____

In the presence of

SIGNED ON_____on behalf of_____

By_____in the capacity of_____

In the presence of

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: KENYA AIRPORTS AUTHORITY
Date:_____

ADVANCE PAYMENT GUARANTEE No.:_____*[Insert guarantee reference number]* **Guarantor:**_____**[***Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Contractor") has entered into Contract No._____*dated*_____with the Beneficiary, for the execution of

   _____

   _____
   (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum_____

   (*in words*) is to be made against an advance payment guarantee.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of ….(*in words*_____)*/*

   upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

   a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number_____at_____.

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee

shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of_, 2023 whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year],* in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

FORM NO. 8 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: KENYA AIRPORTS AUTHORITY

Date:_____*[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____*[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____*[insert reference number of the contract]* dated_____with the Beneficiary, for the execution of_____*[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[*insert the second half of the Retention Money] is to be made against a Retention Money guarantee.

3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]*_____(*[insert amount in words*_____*])*[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number_____at_____*[insert name and address of Applicant's bank]*.

5. This guarantee shall expire no later than the …..... Day of ….....……, 2.....…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year],* in response to the Beneficiary's written request for such

extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM
(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

Tender Reference No. **KAA/OT/HQ/0184 /2023-2024** The Name of the Tender Title/Description **FRAMEWORK AGREEMENT FOR PAVEMENT MAINTENANCE AND RELATED SERVICES FOR A PERIOD ENDING OF THREE YEARS FOR KENYA AIRPORTS AUTHORITY.**

to: Kenya Airports Authority

In response to the requirement in your notification of award dated_____*[insert date of notification of award]* to furnish additional information on beneficial ownership:_____*[select one option as applicable and delete the options that are not applicable]*

I) We here by provide the following beneficial ownership information.

Details of beneficial ownership

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
1.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly……. % of voting rights Indirectly----------% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly? Direct……	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…….
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality					
	Date of birth *[did/mm/ivy]*					
	Postal address					

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
	Residential address				Indirect……...	Indirect……
	Telephone number					
	Email address					
	Occupation or profession					
2.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …. % of voting rights Indirectly----------% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly? Direct…… Indirect……...	1. Exercises significant influence or control over the Company body of the Company (tenderer**)** Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct……. Indirect……
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth *[dd/mm/yyyy]*					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

(a) holds at least ten percent of the issued shares in the company either directly or indirectly;

(b) exercises at least ten percent of the voting rights in the company either directly or indirectly;

(c) holds a right, directly or indirectly, to appoint or remove a director of the company; or

(d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer: .....[insert complete name of the Tenderer]*_____

Designation of the person signing the Tender: ..... [insert complete title of the person signing the Tender]

Signature of the person named above: ..... [insert signature of person whose name and capacity are shown above]

Date this ..... [insert date of signing] day of..... [Insert month], [insert year]

Bidder Official Stamp