



Kenya National Highways Authority

Quality Highways, Better Connections

TENDER NO. KeNHA/2861/2025

**THE CAPACITY ENHANCEMENT OF GOT
RABUOR-HOMA BAY PIER-CORNER KODOYO
(B2) ROAD – PHASE II**

[ALL]

APRIL 2025

**DIRECTOR MAINTENANCE
KENYA NATIONAL HIGHWAYS
AUTHORITY
P.O. BOX 49712 - 00100
NAIROBI**

**DIRECTOR GENERAL
KENYA NATIONAL HIGHWAYS
AUTHORITY
P.O. BOX 49712 - 00100
NAIROBI**

[This page has intentionally been left blank]

Section I - Invitation to Tender

Procuring Entity: Kenya National Highways Authority (KeNHA)

Tender title: The Capacity Enhancement of Got Rabuor-Homa Bay Pier-Corner Kodoyo (B2) Road – Phase II

Tender No: KeNHA/2861/2025

Issued on: April 08, 2025

1. The Kenya National Highways Authority (KeNHA) is a State Corporation established under the Kenya Roads Act, 2007, with the responsibility for the management, development, rehabilitation and maintenance of national roads.
2. The Authority invites sealed Tenders from eligible firms registered with the National Construction Authority (NCA) in Category 1 for the **CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO ROAD (B2) ROAD – PHASE II**; to be funded through Road Maintenance Levy Fund (RMLF) and GoK votes.
3. Tendering will be conducted through national competitive procurement using the Standard Tender Documents as issued by the Public Procurement Regulatory Authority (PPRA) and is open to all eligible Tenderers as defined in the PPAD Act 2015 and the Procurement Regulations 2020.

SCOPE OF WORK:

4. The scope of works shall be as described in the tender document.

QUALIFICATION FOR TENDERING:

Mandatory Requirements

5. A Tenderer **MUST** submit the following together with the Bid.
 - (a) **Copy of Certificate of Incorporation.**
 - (b) **Copy of Valid Annual Practicing Licence** with the National Construction Authority in the class specified above.
 - (c) **Copy of Valid Tax Compliance Certificate.**
 - (d) **Copy of a recent CR12 form** issued by the Registrar of Companies, showing the list of directors and ownership structure. *The CR12 form must be dated not earlier than six (6) months from the bid submission deadline.*
 - (e) **Bidders must sequentially serialize all pages** for each bid document submitted.
 - (f) **The Tender Security** shall be required: **Kenya Shillings Two Million Only (KShs. 2,000,000.00)** in form of unconditional Bank Guarantee from a reputable Bank in Kenya and should be valid for at least 30 days beyond the Tender Validity Period.

Other Requirements

6. A Tenderer is **required to** submit the Bid together with the documentation specified in the tender documents including but not limited to the following: -
 - (a) **Similar previous experience.**
 - (b) **Equipment holding** as per **Appendix 1.**
 - (c) **Professional and Technical Personnel.**
 - (d) **Current Workload and Litigation history**
 - (e) **Eligibility**
 - (i) Only those bidders registered in the **NCA 1 category** (as indicated in the tender document) shall bid as a Single Domestic bidder or its equivalent in the case of Foreign Contractors.
 - (ii) Bidders shall comply with Section 157 of the Public Procurement and Asset Disposal Act, 2015 (PPADA, 2015) on participation of candidates in preference and reservations.
 - (iii) Bidders with history of Non-performance (e.g., failure to complete the projects in the last three (3) Financial Years, notice of termination or termination of contracts in the last three (3) Financial Years shall be disqualified.
7. Procurement shall be based on the **post qualification method**, and interested eligible Tenderers must submit the above details together with the priced bid.
8. The Bidders to ensure that their rates in the Bills of Quantities are within the known prevailing market rates pursuant to Section 70(6) (b) of the PPAD Act 2015 read together with Regulation 43(40) of the Public Procurement and Asset Disposal, 2020.
9. KeNHA reserves the right to verify all submitted documents. All submitted documents may be verified with the issuing agencies to confirm their authenticity.
10. Any form of canvassing will lead to **disqualification**.
11. There shall be **a mandatory Pre-Tender Site Visit** as specified in the tender notice published in *My.Gov* and as uploaded onto the KeNHA website.
12. Every Bidder shall be represented by one Technical Person with a Minimum qualification of a **BSc/BTech in Civil/Highway Engineering**. The Individual SHALL bring along the following in hard copies:
 - (a) **Original ID/Passport** and a **CERTIFIED Copy**.
 - (b) **CERTIFIED copy of Degree Certificate.**
 - (c) **CERTIFIED Copy of Registration Certificate and proof of Current Subscription** to Engineers Board of Kenya (EBK) / Institute of Engineers of Kenya (IEK).

- (d) **Original Introductory Letter** bearing the Company letterhead and an Official Stamp authorizing them to represent them in the specific pre-tender site visit/Pre-Tender Conference. The letter shall be duly signed. Photocopies or any other media shall not be accepted.
- (i) The copies of ID/Passport, Academic Certificates, Professional Registration Certificate, proof of current subscription **SHALL** be certified by Commissioner of Oaths or Notaries Public.
 - (ii) All the above documents shall be retained by the Procuring Entity's and may be verified later for their authenticity.
 - (iii) **One (1) person** shall only represent **one (1) company** per Tender.
13. The detailed Tender Notice is available on the KeNHA website and Public Procurement Information Portal (PIIP). All the Clarifications and Questions may be sent to procurement@kenha.co.ke as indicated in the Tender Notice.
- (a) **Every bidder shall make their own arrangements to familiarize themselves with the site conditions and the Road and its features.**
 - (b) **Clarity on Serialization of Tender Documents by Prospective Bidders: Please note that all pages of the tender documents submitted by bidders shall be sequentially serialized numerically that is; 1,2,3,4,5...etc. The serialization shall be undertaken by the bidder, by doing fresh numbering on its documents. The pagination of the tender documents as downloaded from the KeNHA website should not be used as a means of Serialization. The bidder's serialization should follow the same logical sequence from the first page to the end.**
14. Interested eligible Tenderers may obtain further information from **Kenya National Highways Authority Headquarters, Barabara Plaza** and inspect the Tendering document during normal office hours at the address given below.
15. The Tender Document may be obtained by interested eligible Tenderers from the Kenya National Highways Authority website: www.kenha.co.ke or PIIP portal: www.tenders.go.ke free of charge. Tenderers are encouraged to download tender documents to minimize physical visits to **KeNHA Headquarters, Barabara Plaza**.
16. All interested bidders are required to continually check the Kenya National Highways Authority website: www.kenha.co.ke for any tender addendum/addenda or clarifications that may arise before submission date.
17. The completed Tender Document is to be enclosed in plain sealed envelope clearly marked with tender name, reference number and submitted to: -

**The Deputy Director, Supply Chain Management
Kenya National Highways Authority
P.O. Box 49712 – 00100, Nairobi
Barabara Plaza,
Jomo Kenyatta International Airport (JKIA), Nairobi, Off Mazao Road,
Block C - 2nd Floor, Board Room**

or

Deposited in the Tender Box at the reception area, **KeNHA - Block C - 2nd Floor Board Room**; to be received on or before **the date and time indicated in the Tender Notice**.

18. Electronic Tendering will NOT be permitted. Late Tenders will be rejected.
19. Tenders will be publicly opened in the presence of the Tenderers' designated representatives and anyone who chooses to attend at the **Kenya National Highways Authority Headquarters, Barabara Plaza, Jomo Kenyatta International Airport (JKIA), Nairobi, Off Mazao Road, Block C - 2nd Floor Board Room** on *the time and date stipulated in the Tender Notice*.

**Deputy Director, Supply Chain Management
For: DIRECTOR GENERAL**

Tender Document

Table of Contents

Section I - Invitation to Tender	i
PART 1 – Tendering Procedures.....	2
Section II - Instructions to Tenderers.....	5
Section III - Tender Data Sheet (TDS)	33
Section IV - Evaluation and Qualification Criteria.....	39
Section V - Tendering Forms.....	67
PART 2 –Works’ Requirements.....	147
Section VI- Specifications	149
Section V – Bills of Quantities	254
Section VIII - Drawings.....	297
PART 3 – Conditions of Contract and Contract Forms	307
Section IX - General Conditions (GC).....	308
Section X - Particular Conditions	412
Section X - Contract Forms	439

PART 1 – Tendering Procedures

Section II - Instructions to Tenderers

Contents

A.	General Provisions	5
1.	Scope of Tender	5
2.	Fraud and Corruption	5
3.	Eligible Tenderers	5
4.	Eligible Materials, Equipment, and Services	9
5.	Tenderer's Responsibilities	9
B.	Contents of Tendering Document.....	10
6.	Sections of Tendering Document.....	10
7.	Clarification of Tender Documents, Site Visit, Pre-Tender Meeting	11
8.	Amendment of Tendering Document	12
C.	Preparation of Tenders.....	12
9.	Cost of Tendering	12
10.	Language of Tender	12
11.	Documents Comprising the Tender	13
12.	Form of Tender and Schedules	13
13.	Alternative Tenders.....	13
14.	Tender Prices and Discounts.....	14
15.	Currencies of Tender and Payment.....	15
16.	Documents Comprising the Technical Proposal.....	15
17.	Documents Establishing the Eligibility and Qualifications of the Tenderers..	16
18.	Period of Validity of Tenders	17
19.	Tender Security	18
20.	Format and Signing of Tender	19
D.	Submission and Opening of Tenders.....	20
21.	Sealing and Marking of Tenders.....	20
22.	Deadline for Submission of Tenders.....	21
23.	Late Tenders.....	21
24.	Withdrawal, Substitution, and Modification of Tenders	21

25.	Tender Opening	21
E.	Evaluation and Comparison of Tenders	23
26.	Confidentiality	23
27.	Clarification of Tenders	23
28.	Deviations, Reservations, and Omissions	24
29.	Determination of Responsiveness	24
30.	Nonmaterial Nonconformities	24
31.	Correction of Arithmetical Errors	25
32.	Conversion to Single Currency	25
33.	Margin of Preference and Reservations	25
34.	Nominated Subcontractors	26
35.	Evaluation of Tenders	26
36.	Comparison of Tenders	27
37.	Abnormally Low Tenders	27
38.	Abnormally High Tenders	27
39.	Unbalanced or Front-Loaded Tenders	28
40.	Qualifications of the Tenderers	29
41.	Best Evaluated Tender	29
42.	Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders	29
F.	Award of Contract	29
43.	Award Criteria	29
44.	Notice of Intention to Enter into a Contract	29
45.	Standstill Period	30
46.	Debriefing by the Employer	30
47.	Letter of Award	30
48.	Signing of Contract	30
49.	Performance Security	31
50.	Publication of Procurement Contract	31
51.	Procurement Related Complaint	32

Section II - Instructions to Tenderers

A. General Provisions

- 1. Scope of Tender**
 - 1.1 The Procuring Entity, as specified **in the Tender Data Sheet (TDS)**, issues this Tendering document for the provision of Works as specified in Part 2-Works' Requirements of the Tender Document. The name, identification, and number of lots (contracts) of this tender Document are specified **in the TDS**.
- 2. Fraud and Corruption**
 - 2.1 The Procuring Entity 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 The Procuring Entity 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), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, Tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity
 - 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, the Procuring Entity shall indicate **in the TDS** 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. Eligible Tenderers**
 - 3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 4.6 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 subcontractor 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 the Procuring Entity, 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 with such relatives are also not allowed to participate in any procurement proceedings.
- 3.3 A Tenderer shall not have a conflict of interest. Any Tenderers found to have a conflict of interest shall be disqualified. A Tenderers may be considered to have a conflict of interest for the purpose of this Tendering process, if the Tenderers:
- (a) directly or indirectly controls, is controlled by or is under common control with another Tenderers; or
 - (b) receives or has received any direct or indirect subsidy from another Tenderers; or
 - (c) has the same legal representative as another Tenderers; or
 - (d) has a relationship with another Tenderers, directly or through common third parties, that puts it in a position to influence the Tender of another Tenderers, or influence the decisions of the Employer regarding this Tendering process; or
 - (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Tender; or
 - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Procuring Entity as Engineer for the Contract implementation; or
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the TDS ITT 2.1 that it provided or were provided by any affiliate

that directly or indirectly controls, is controlled by, or is under common control with that firm; or

- (h) has a close business or family relationship with a professional staff of the Procuring Entity (or of the project implementing agency, or of a recipient of a part of the loan) who:
 - (i) are directly or indirectly involved in the preparation of the Tendering document or specifications of the Contract, and/or the Tender evaluation process of such Contract; or
 - (ii) would 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 the Procuring Entity throughout the Tendering process and execution of the Contract.

- 3.4 A Tenderer shall not be involved in corrupt, 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 subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a Tenderer or a JV member may participate as a subcontractor in more than one Tender.
- 3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderers is constituted, incorporated or registered in and operates in conformity 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 subcontractors or subconsultants 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 be prequalified for, initially selected for, Tender for, propose for, or be awarded a contract or benefit from a contract, financially or otherwise, during such period of time as the Procuring Entity shall have determined. The list of debarred firms and individuals is available the website of PPRA www.ppra.go.keoremailcomplaints@ppra.go.ke.
- 3.8 Tenderers that are state-owned enterprises or public institutions in the Kenya may be eligible to compete and be awarded a Contract(s) only

if they can establish, in a manner acceptable to the Procuring Entity, that they:

- (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 to compete with firms in the private sector on an equal basis.

- 3.9 Firms and individuals may be ineligible if their countries of origin are: (a) as a matter of law or official regulations, if Kenya prohibits commercial relations with that country, or (b) 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 the Procuring Entity, as the Procuring Entity shall reasonably request.

- 3.10 Foreign tenderers are required to source **at least forty (40%) percent** of their contract inputs (in supplies, subcontracts and labor) from national 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 the Procuring Entity to determine if this condition is met shall be provided in for this purpose is be provided in “SECTION IV - EVALUATION AND QUALIFICATION CRITERIA, Item 9”.

- 3.11 Pursuant to the eligibility requirements of ITT 4.10, 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 fifty-one (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 fifty-one (51%) percent ownership** by Kenyan citizens. The JV shall not subcontract with foreign firms more than **ten (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 for foreign contractors 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.

3.14 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. Eligible Materials, Equipment, and Services

4.1 The goods, equipment and services to be supplied under the Contract and financed by the Procuring Entity may have their origin in any country that is not ineligible under ITT 3.9. At the Procuring Entity'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.

4.3 For purposes of ITT 4.1 above, “origin” means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially different in its basic characteristics or in purpose or utility from its components.

5. Tenderer's Responsibilities

5.1 The Tenderer shall bear all costs associated with the preparation and submission of his/her tender, and the Procuring Entity 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 the Procuring Entity to enter up on its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity 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 Tendering Document

6. Sections of Tendering Document

- 6.1 The Tendering 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 ITT 10.

PART 1 Tendering Procedures

- Section II- Instructions to Tenderers (ITT)
- Section III - Tender Data Sheet (TDS)
- Section IV - Evaluation and Qualification Criteria
- Section V - Tendering Forms

PART 2 Works Requirements

- Section VI - Specifications
- Section VII – Bills of Quantities (BoQ)
- Section VIII – Drawings

PART 3 Conditions of Contract and Contract Forms

- Section IX - General Conditions (GC)
- Section X - Particular Conditions (PC)
- Section XI - Contract Forms

- 6.2 The Invitation to Tender issued by the Procuring Entity is not part of the Tendering document.
- 6.3 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tendering

document, responses to requests for clarification, the minutes of the pre-Tender meeting (if any), or Addenda to the Tendering document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Employer shall prevail.

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

**7. Clarification of
Tender
Documents, Site
Visit, Pre-
Tender Meeting**

- 7.1 A Tenderer requiring any clarification of the Tendering document shall contact the Employer in writing at the Procuring Entity's address specified **in the TDS** or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 7.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified **in the TDS** prior to the deadline for submission of Tenders. The Procuring Entity shall forward copies of its response to all Tenderers who have acquired the Tendering document in accordance with ITT 7.4, including a description of the inquiry but without identifying its source.

If so specified **in the TDS**, the Procuring Entity 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, the Procuring Entity shall amend the Tender Documents following the procedure under ITT 8 and ITT 22.2.

- 7.2 The Tenderer is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility 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.

The Procuring Entity shall specify **in the TDS** if a pre-tender conference will be held, when and where. The Procuring Entity shall also specify in the TDS if a pre-arranged pretender visit of the site of the works will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the 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 the Procuring Entity not later than the period specified **in the TDS** before the meeting.
- 7.4 Minutes of the pre-arranged Site Visit and pre-Tender meeting, if applicable, including the text of the questions asked by Tenderers, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted

promptly to all Tenderers who have acquired the Tendering document in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.

- 7.5 The Procuring Entity shall also promptly publish anonymized (no names) Minutes of the pre-Tender meeting, and the pre-arranged pretender visit of the site of the works at the web page identified **in the TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-Tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for the disqualification of a Tenderer.

8. Amendment of Tendering Document

- 8.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.
- 8.2 Any addendum issued shall be part of the Tendering document and shall be communicated in writing to all who have obtained the Tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 7.5.
- 8.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the deadline for the submission of Tenders, pursuant to ITT 22.2.

C. Preparation of Tenders

9. Cost of Tendering

- 9.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

10. Language of Tender

- 10.1 The Tender, as well as all correspondence and documents relating to the Tender exchanged by the Tenderers and the Procuring Entity, 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 translation of the relevant passages in the English language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

11. 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 Tenderers, 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 Agreement. Change of membership and conditions of the JV prior to contract signature will render the tender liable for disqualification.

12. 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.

13. Alternative Tenders

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

13.2 When alternative Times for Completion (or attaining required Service Levels) 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 IV, Evaluation and Qualification Criteria.

13.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tendering document

must first price the Procuring Entity's design as described in the Tendering document and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, 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 Tenderers with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

- 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' and Services' Requirements.

14. Tender Prices and Discounts

- 14.1 The prices and discounts (including any price reduction) quoted by the Tenderers 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 Tenderers shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. 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 12.1, shall be the total price of the Tender, excluding any discounts offered.
- 14.4 The Tenderers shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.
- 14.5 Unless otherwise specified **in the TDS** and the Conditions of Contract, the rates and prices quoted by the Tenderers are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. In such a case, the Tenderers shall furnish the indices and weightings for the price adjustment formulae in the Table of Adjustment Data and the Procuring Entity may require the Tenderers to justify its proposed indices and weightings.

14.6 If so specified in ITT 1.1, 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 Tenderers.

15. Currencies of Tender and Payment

15.1 The currency (ies) of the Tender and the currency (ies) of payments shall be the same and shall be as specified **in the TDS**.

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.

(a) 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.

(b) 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 the Procuring Entity to justify, to the Procuring Entity’s satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Table 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. Documents Comprising the Technical Proposal

16.1 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, Tendering Forms, in sufficient detail to demonstrate the adequacy of the Tenderer’s proposal to meet the work’s requirements and the completion time.

**17. Documents
Establishing the
Eligibility and
Qualifications
of the
Tenderers**

- 17.1 To establish Tenderer's eligibility in accordance with ITT 3, Tenderers shall complete the Form of Tender, included in Section V, Tendering Forms.
- 17.2 In accordance with Section IV, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderers shall provide the information requested in the corresponding information sheets included in Section V, Tendering Forms.
- 17.3 If a margin of preference applies as specified in accordance with ITT 33.1, domestic Tenderers, individually or in joint ventures, applying for eligibility for domestic 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 the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity 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 thereby 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 17.4 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 the Procuring Entity 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 the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 17.4. 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 the Procuring Entity. 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 the Procuring Entity.

17.8 If a tenderer fails to submit the information required by these requirements, its tenderer will be rejected. Similarly, if the Procuring Entity 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 the Procuring Entity (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 ongoing, 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 19.9 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity 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 tenderer.

18. 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 the Procuring Entity in accordance with ITT 22). A Tender valid for a shorter period shall be rejected by the Procuring Entity as nonresponsive.

18.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Employer may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If 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 the request shall not be required or permitted to modify its Tender, except as provided in ITT 24.3.

- 19. 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 V, Tendering Forms.

- 19.2 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

- (a) Cash;
- (b) Unconditional Bank Guarantee;
- (c) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;
or
- (d) 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 guarantee is issued by financial institution located outside the Republic of Kenya, the issuing non-Procuring Entity financial institution shall have a correspondent financial institution located in the Republic of Kenya to make it enforceable. In the case of a local Bank/Insurance guarantee, the Tender Security shall be submitted either using the Tender Security Form included in Section V, Tendering Forms. 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 the Employer 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**. The Procuring Entity 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 Tenderers shall be returned as promptly as possible once the successful Tenderers 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 Tenderers withdraws its Tender during the period of Tender validity specified by the Tenderers on the Letter of Tender, or any extension thereto provided by the Tenderers; or
- (b) if the successful Tenderers fails to:
 - (i) sign the Contract in accordance with ITT 47; or
 - (ii) furnish a Performance Security, **and any other documents required in the TDS.**

19.8 In a case where the Tender Securing Declaration is executed, the Procuring Entity shall recommend to the Public Procurement Regulatory Authority (PPRA) that the Tenderer be debarred from participating in public procurement in accordance with the PPAD Act.

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. 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 each 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. Sealing and Marking of Tenders

21.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer (in one-envelope Tendering process) 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 the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container the Tenderers shall place the following separate, sealed envelopes:

- (a) in an envelope marked “ORIGINAL”, all documents comprising the Tender, as described in ITT 11; and
- (b) in an envelope 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 marked “ORIGINAL –ALTERNATIVE TENDER”, the alternative Tender; and
 - (ii) in the envelope marked “COPIES- ALTERNATIVE TENDER”, all required copies of the alternative Tender.

21.2 The inner and outer envelopes or packages or containers shall:

- (a) bear the name and address of the Tenderer;
- (b) be addressed to the Procuring Entity at the address specified in the TDS;
- (c) bear the Reference Number of this Tendering process specified in the TDS; and
- (d) bear a warning not to open before the time and date for Tender opening.

- 21.3 If all envelopes are not sealed and marked as required, the Procuring Entity will assume no responsibility for the misplacement or premature opening of the Tender.
- 22. Deadline for Submission of Tenders**
- 22.1 Tenders must be received by the Procuring Entity at the address and no later than the date and time 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 The Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders by amending the Tendering document in accordance with ITT 8, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Tenders**
- 23.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of Tenders, in accordance with ITT 22. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderers.
- 24. Withdrawal, Substitution, and Modification of Tenders**
- 24.1 A Tenderers 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 the Procuring Entity 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 Tenderers on the Form of Tender or any extension thereof.
- 25. Tender Opening**
- 25.1 Except in the cases specified in ITT 23 and ITT 24.2, the Employer shall publicly open and read out in accordance with this ITT 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 envelope 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 at Tender 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 the Procuring Entity 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 Letter of Tender and the Bill of Quantities are to be initialed by representatives of the Procuring Entity attending Tender opening in the manner specified **in the TDS**.
- 25.7 The Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 25.8 The Procuring Entity shall prepare a record 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.

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

E. Evaluation and Comparison of Tenders

26. Confidentiality 26.1 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 Tendering process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.

26.2 Any effort by a Tenderers to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its Tender.

26.3 Notwithstanding ITT 26.2, from the time of Tender opening to the time of Contract award, if a Tenderer wishes to contact the Procuring Entity on any matter related to the Tendering process, it shall do so in writing.

27. Clarification of Tenders 27.1 To assist in the examination, evaluation, and comparison of the Tenders, and qualification of the Tenderers, the Procuring Entity 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 the Employer shall not be considered. The Employer'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 the Procuring Entity 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 the Employer's request for clarification, its Tender may be rejected.

28. 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 Tendering document;
- (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tendering document; and
- (c) “Omission” is the failure to submit part or all of the information or documentation required in the Tendering document.

29. Determination of Responsiveness

29.1 The Procuring Entity’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 Tendering document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

(a) if accepted, would:

(i) affect in any substantial way the scope, quality, or performance of the Works or Services specified in the Contract; or

(ii) limit in any substantial way, inconsistent with the Tendering document, the Procuring Entity’s rights or the Tenderer’s obligations under the proposed Contract; or

(b) if rectified, would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

29.3 The Procuring Entity shall examine the technical aspects of the Tender submitted in accordance with ITT 16, in particular, to confirm that all requirements of Section VIII, 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 Tendering document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Nonmaterial Nonconformities

30.1 Provided that a Tender is substantially responsive, the Procuring Entity may waive any nonconformities in the Tender.

30.2 Provided that a Tender is substantially responsive, the Procuring Entity may request that the Tenderer submit the necessary

information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Tender related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Tender. Failure of the Tenderers to comply with the request may result in the rejection of its Tender.

30.3 Provided that a Tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial nonconformities 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. Correction of 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, the Procuring Entity shall handle arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the error shall be deemed as a major deviation that affects the substance of the Tender and result in the rejection of its Tender;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the error shall be deemed as a major deviation that affects the substance of the Tender and result in the rejection of its Tender; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.3 Tenderers shall be notified of any arithmetical errors in their Tender during the Notification of Award.

32. 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. 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 procuring entity 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. Nominated Subcontractors

34.1 Unless otherwise stated **in the TDS**, the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected/nominated by the Procuring Entity. In case the Procuring Entity nominates a subcontractor, the subcontract agreement shall be signed by the Subcontractor and the Procuring Entity. The main contract shall specify the working arrangements between the main contractor and the nominated subcontractor.

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**. Subcontractors proposed by the Tenderer shall be fully qualified for their parts of the Works.

34.3 The Subcontractor'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 the Procuring Entity **in the TDS** as can be met by Subcontractors referred to here after as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

35. Evaluation of Tenders

35.1 The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section IV, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Employer shall determine the Best Evaluated Tender in accordance with ITT 41.

35.2 To evaluate a Tender, the Procuring Entity shall consider the following:

- (a) the Tender price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of

Quantities, but including Daywork 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) to (c) above, if relevant, to a single currency in accordance with ITT 32;
- (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITT 30.3; and
- (e) the additional evaluation factors specified **in the TDS** and Section IV, 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 taken into account in Tender evaluation.

35.4 In the case of multiple contracts or lots, Tenderers are allowed to tender for one or more lots and the methodology to determine the lowest evaluated cost of the lot (contract) and for combinations, including any discounts offered in the Form of Tender, is specified in Section IV, Evaluation and Qualification Criteria.

36. Comparison of Tenders

36.1 The Procuring Entity 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. 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.

37.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderers, 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 Tendering document.

37.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderers has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity **shall reject** the Tender.

38. Abnormally High Tenders

38.1 An abnormally high price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) 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 tender price, the Procuring Entity 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. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

- (i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity **may accept or not accept** the tender depending on the Procuring Entity's budget considerations.
- (ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity 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 the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is **compromised** (often due to collusion, corruption or other manipulations), the Procuring Entity **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. Unbalanced or Front-Loaded Tenders

39.1 If the Tender that is evaluated as the lowest evaluated cost is, in the Procuring Entity's opinion, seriously unbalanced or front loaded, the Procuring Entity 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 Tendering document.

39.2 After the evaluation of the information and detailed price analyses presented by the Tenderers, the Procuring Entity 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 20% of the Contract Price; or
- (c) reject the Tender.

- 40. Qualifications of the Tenderers**
- 40.1 The Procuring Entity 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 IV, Evaluation and Qualification Criteria or if prequalification has taken place, continues to be eligible and continues to meet the qualifying 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, subcontractors (other than Specialized Subcontractors if permitted in the Tendering 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 Tenderers. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated cost to make a similar determination of that Tenderer's qualifications to perform satisfactorily.
- 41. Best Evaluated Tender**
- 41.1 Having compared the evaluated costs of Tenders, the Procuring Entity shall determine the Best Evaluated Tender. The Best Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:
- (a) Most substantially responsive to the Tendering document; and
 - (b) the lowest evaluated cost.
- 42. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders**
- 42.1 The Procuring Entity reserves the right to accept or reject any Tender and to annul the Tendering process and reject all Tenders at any time prior to Contract Award, without thereby 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

- 43. Award Criteria**
- 43.1 Subject to ITT 41, the Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Best Evaluated Tender.
- 44. Notice of Intention to**
- 44.1 Upon award of the contract and prior to the expiry of the Tender Validity Period, the Procuring Entity shall issue to each Tenderers the Notification of Intention to enter into the Contract/Notification of

- | | |
|---------------------------------------|--|
| Enter into a Contract | <p>Award to all Tenderers. The Notification shall contain, at a minimum, the following information:</p> <ul style="list-style-type: none"> (a) the name and address of the Tenderers submitting the successful Tender; (b) the Contract price of the successful Tender; (c) a statement of the reason(s) the Tender (of the unsuccessful Tenderers to whom the notification is addressed) was unsuccessful, unless the price information in c) above already reveals the reason; (d) the expiry date of the Standstill Period; and <p>44.2 instructions on how to request a debriefing and/or submit a complaint during the standstill period;</p> |
| 45. Standstill Period | <p>45.1 The Contract shall not be signed earlier than the expiry of the Standstill Period. The Standstill Period shall be fourteen (14) Days unless extended in accordance with ITT 46. Where only one Tender is submitted, or if this contract is in response to an emergency situation recognized by the Procuring Entity, the Standstill Period shall not apply.</p> <p>45.2 The Standstill Period commences the day after the date the Procuring Entity has transmitted to each Tenderers the Notification of Intention to Award the Contract with the successful Tenderer.</p> |
| 46. Debriefing by the Employer | <p>46.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 44, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.</p> <p>46.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.</p> |
| 47. Letter of Award | <p>47.1 Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 45.1, upon addressing a complaint that has been filed within the Standstill Period, the Procuring Entity 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.</p> |
| 48. Signing of Contract | <p>48.1 Upon the expiry of the fourteen (14) days of the Notification of Intention to enter into contract and upon the parties meeting their</p> |

respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

48.2 Within **fourteen (14) days** of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.

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

49. Performance Security

49.1 Within **twenty-one (21) days** of the receipt of the Letter of Award from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and if required **in the TDS**, using for that purpose the Performance Security Forms included in Section VIII, Contract Forms, or another form acceptable to the Procuring Entity. If the Performance Security furnished by the successful Tenderer is in the form of a bond, it shall be issued by a bonding or insurance company that has been verified by the successful Tenderer to be acceptable to the Procuring Entity. A foreign institution providing a bond shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent financial institution is not required.

49.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.

50. Publication of Procurement Contract

50.1 Within **fourteen (14) days** after signing the contract, the Procuring Entity 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 the Procuring Entity;
- (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.

**51. Procurement
Related
Complaint**

51.1 The procedures for making a Procurement-related Complaint are as specified **in the TDS**.

Section III - Tender Data Sheet (TDS)

The following specific data for the Works to be procured 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.

A. General	
ITT 1.1	The reference number of the Invitation to Tender is: <i>KeNHA/2861/2025</i> The Procuring Entity is: <i>Kenya National Highways Authority (KeNHA)</i> The name of the Tender is: <i>The Capacity Enhancement of Got Rabuor – Homa Bay Pier – Corner Kodooyo (B2) Road – Phase II</i> The number and identification of lots (contracts) comprising this Tender is: <i>Not Applicable.</i>
ITT 2.3	The information made available to competing firms is as follows: <i>NONE</i>
ITT 2.4	The firms that provided consultancy services for the contract being tendered for are: <i>NONE</i>
ITT 3.1	Maximum number of members in the JV shall be: <i>Not Applicable</i>
ITT 3.10	Citizen contractors are encouraged to source locally manufactured items/materials and locally assembled machines, equipment, vehicles, labour etc.
ITT 3.12	The Tenderer will require to register with whose contact addressed are: <i>www.nca.go.ke</i>
B. Contents of Tendering Document	
ITT 7.1	i) The Tenderer will submit any request for clarification in writing at the address specified <i>in the detailed Tender Notice</i> . The request should reach the Procuring Entity not later than <i>5 days before</i> the bid submission deadline specified in the Tender Notice. ii) The Procuring Entity will publish the response at the Website: <i><u>www.kenha.co.ke</u></i>
ITT 7.2	There shall be <i>mandatory pre-tender site visit</i> at a date, venue, time as specified <i>in the Tender Notice</i> .
ITT 7.3	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than <i>5 days before</i> the bid submission deadline specified <i>in the Tender Notice</i> .
ITT 7.5	The Procuring Entity's website where Minutes of the pre-Tender meeting

	and the pre-arranged pretender will be published is www.kenha.co.ke
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderers shall submit the following additional documents in its Tender: <i>As indicated in the Qualification Criteria</i>
ITT 13.1	Alternative Tenders SHALL NOT BE considered.
ITT 13.2	Alternative times for completion SHALL NOT BE permitted.
ITT 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: NOT APPLICABLE
ITT 14.5	The prices quoted by the Tenderers shall be: FIXED
ITT 15.1	The currency(ies) of the Tender and the payment currency(ies) shall be in entirety in Kenya Shillings :
ITT 15.2	Foreign currency requirements: NOT ALLOWED
ITT 18.1	The Tender validity period shall be: <u>140days from the specified date of opening as indicated in the invitation to Tender.</u>
ITT 19.1	A Tender Security SHALL BE required. A Tender-Securing Declaration SHALL NOT BE required. The amount and currency of the Tender Security shall be <u>Kenya Shillings Two Million (KES 2,000,000.00)</u>
ITT 19.2 (d)	Other types of acceptable securities: <i>Not Applicable</i>
ITT 19.5	Any other documents: <i>Contract Agreement</i>
ITT 19.9	If the Tenderers performs any of the actions prescribed in ITT 21.8 (a) or (b), the Procuring Entity will declare the Tenderers ineligible to be awarded contracts by the Employer for a period of <u>two (2)</u> years.
ITT 20.1	In addition to the original of the Tender, the number of copies is: NONE
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderers shall consist of: <u>Certificate of Independent Tender Determination Part B of Form of Tender</u>
D. Submission and Opening of Tenders	
ITT 22.1	For <u>Tender submission purposes</u> only, the Procuring Entity's address is: Attention: <i>Deputy Director, Supply Chain Management</i> Street Address: <i>Kenya National Highways Authority</i> <i>P.O. Box 49712 – 00100, Nairobi</i>

	<p><i>Barabara Plaza,</i> <i>Jomo Kenyatta International Airport (JKIA), Nairobi, Off Mazao Road</i> Floor/ Room number: <i>Block C - 2nd Floor, Board Room</i> City: <i>Nairobi</i> Country: <i>KENYA</i> The deadline for Tender submission is: Date: <i>As specified in the tender notice</i> Time: <i>11:00am (EAT)</i> Tenderers <i>SHALL NOT</i> have the option of submitting their Tenders electronically. The electronic Tendering submission procedures shall be: <i>Not applicable</i></p>
ITT 25.1	<p>The Tender opening shall take place at: Street Address: <i>Barabara Plaza, Jomo Kenyatta International Airport (JKIA), Nairobi, Off Mazao Road</i> Floor/ Room number: <i>Block C - 2nd Floor, Board Room</i> City: <i>Nairobi</i> Country: <i>KENYA</i> Date: <i>As specified in the tender notice</i> Time: <i>11:00am (EAT)</i></p>
ITT 25.1	The electronic Tender opening procedures shall be: <i>Not applicable</i>
ITT 25.6	The Form of Tender and priced Bill of Quantities shall be initialed by representatives of the Employer conducting Tender opening and it shall be conducted as per the requirements of the Section 78 of the PPADA, 2015.
E. Evaluation, and Comparison of Tenders	
ITT 30.3	The adjustment shall be based on the <i>average</i> price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.

ITT 32.1	<p>The currency that shall be used for Tender evaluation and comparison purposes to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is: <i>Kenya Shillings</i></p> <p>The source of exchange rate shall be: <i>Central Bank of Kenya</i></p> <p>The date for the exchange rate shall be: <i>Twenty-Eight (28) days prior to the deadline for submission of the Tenders, nor later than the original date for the expiry of Tender validity period.</i></p> <p>The currency(ies) of the Tender shall be converted into a single currency in accordance with the procedure under Alternative A that follows:</p> <p><i>Alternative A: Tenderers quote entirely in local currency</i></p> <p>For comparison of Tenders, the Tender Price, corrected pursuant to ITT 31, shall first be broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Tenderers in accordance with ITT 15.1.</p> <p>In the second step, the Procuring Entity will convert the amounts in various currencies in which the Tender Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.</p>
ITT 33.2	<p>A margin of domestic preference <i>SHALL</i> apply.</p> <p><i>The application methodology shall be defined in Section IV – Evaluation and Qualification Criteria.</i></p>
ITT 33.4	Registration for AGPO: <i>Not Applicable</i>
ITT 34.1	At this time the Procuring Entity <i>does not intend</i> to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 34.2	Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: <i>NOT APPLICABLE</i>
ITT 34.3	<p><i>Not applicable. The Subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works.</i></p> <p>Where prequalification has not taken place, the Procuring Entity <i>shall not</i> permit that specific experience for parts of the Works and Service may be met by Specialized Subcontractors.</p>
ITT 35.2 (a)	The Tender price shall be adjusted by the following factor(s): <i>Not Applicable</i>
ITT 35.2 (d)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 35.4	<i>Not Applicable</i>

ITT 37	Abnormally low Tenders shall be treated as per the procedure outlined in Section IV, Evaluation and Qualification Criteria.
ITT 38	Abnormally high Tenders shall be treated as per the procedure outlined in Section IV, Evaluation and Qualification Criteria.
ITT 39	Unbalanced or Front-loaded Tenders shall be treated as per the procedure outlined in Section IV, Evaluation and Qualification Criteria
F. Award of Contract	
ITT 49.1	The successful Tenderers <i>SHALL</i> submit the Beneficial Ownership Disclosure Form.
ITT 51.1	<p>The procedures for making a Procurement-related Complaint are available from the PPRA website info@ppra.go.ke or complaints@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:</p> <p>For the attention: <i>Director General</i></p> <p>Procuring Entity: <i>Kenya National Highways Authority (KeNHA)</i></p> <p>Email address: <i>dg@kenha.co.ke</i></p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ul style="list-style-type: none"> (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract.

Section IV - Evaluation and Qualification Criteria

This section contains all the criteria that the Procuring Entity shall use to evaluate Tenders and qualify Tenderers. No other factors, methods or criteria shall be used other than specified in this Tendering document. The Tenderers shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity shall use **the Standard Tender Evaluation Document for Goods and Works** for evaluating Tenders.

[The Procuring Entity shall select the criteria deemed appropriate for the Tendering process, insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

1. General Provisions

- 1.1. Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the USD 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.
 - c) Exchange rates shall be taken from the publicly available source identified in the ITT 32.1. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.
- 1.2 The Procuring Entity 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.

2. Preliminary examination for Determination of Responsiveness

The Procuring Entity 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 and meets all the requirements of “Part 2 – Works and Services '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 Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination as specified under **Sub-factor 1** of the *Section IV: Evaluation and Qualification Criteria* will be considered unresponsive and will not be considered further.

3 Assessment of adequacy of Technical Proposal with Requirements

The Procuring Entity will evaluate the Technical Proposals of all unresponsive tenders using the following criteria, sub-criteria, and point system for the evaluation of the Technical Proposals:

- (i) History of non-performance
- (ii) Financial capability
- (iii) General and specific experience
- (iv) Key personnel
- (v) Contractors Plant and Equipment
- (vi) Adequacy and quality of the proposed methodology, and work plan in responding to the schedule of Requirements:

Total points for the five criteria: **100 points**. The minimum technical score (St) required to pass is: **75 points**.

Tenderers who score less than the required pass will be automatically disqualified. Tenderers who pass the technical evaluation will be evaluated further.

4. Tender Evaluation (ITT 35)

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

4.1 Alternative Completion Times

If permitted under ITT 13.2, will be evaluated as follows:

.....N/A.....
.....

4.2 Alternative Technical Solutions for specified parts of the Works

If permitted under ITT 13.4, will be evaluated as follows:

.....N/A.....
.....

4.3 Other Criteria

If permitted under ITT 35.2(e):

..... N/A.....

5 Multiple Contracts (*Not Applicable*)

If permitted under ITT 35.4, will be evaluated as follows:

Award Criteria for Multiple Contracts [ITT 35.4]:

Lots

Tenderers have the option to Tender for any one or more lots. Tenders will be evaluated lot-wise, taking into account discounts offered, if any, after considering all possible combinations of lots, the contract(s) will be awarded to the Tenderers or Tenderers offering the lowest evaluated cost to the Employer for combined lots, subject to the selected Tenderers(s) meeting the required qualification criteria for lot or combination of lots as the case may be.

Packages

Tenderers have the option to Tender for any one or more packages and for any one or more lots within a package. Tenders will be evaluated package-wise, taking into account discounts offered, if any, for combined packages and/or lots within a package. The contract(s) will be awarded to the Tenderers or Tenderers offering the lowest evaluated cost to the Employer for combined packages, subject to the selected Tenderers(s) meeting the required qualification criteria for combination of packages and or lots as the case may be.

Qualification Criteria for Multiple Contracts

The criteria for qualification is aggregate minimum requirement for respective lots as specified under items 3.1, 3.2, 4.2(a) and 4.2(b). However, with respect to the specific experience under item 4.2 (a) of Section III, the Employer will select any one or more of the options as identified below:

N is the minimum number of contracts

V is the minimum value of a single contract

(a) For one Contract:

Option 1:

(i) N contracts, each of minimum value V;

Or

Option 2:

(i) N contracts, each of minimum value V; or

(ii) Less than or equal to N contracts, each of minimum value V, but with total value of all contracts equal or more than $N \times V$.

(b) For multiple Contracts

Option 1:

(i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the Tenderers has submitted Tenders as follows, and N1, N2, N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc.

Or

Option 2:

(i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the Tenderers has submitted Tenders as follows, and N1, N2, N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc., **or**

(ii) Lot 1: N1 contracts, each of minimum value V1; or number of contracts less than or equal to N1, each of minimum value V1, but with total value of all contracts equal or more than $N1 \times V1$.

(iii) Lot 2: N2 contracts, each of minimum value V2; or number of contracts less than or equal to N2, each of minimum value V2, but with total value of all contracts equal or more than $N2 \times V2$.

(iv) Lot 3: N3 contracts, each of minimum value V3; or number of contracts less than or equal to N3, each of minimum value V3, but with total value of all contracts equal or more than $N3 \times V3$.

----etc.

Or

Option 3:

(i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the Tenderers has Tender for as follows, and N1, N2, N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc., **or**

- (ii) Lot 1: N1 contracts, each of minimum value V1; or number of contracts less than or equal to N1, each of minimum value V1, but with total value of all contracts equal or more than $N1 \times V1$.

Lot 2: N2 contracts, each of minimum value V2; or number of contracts less than or equal to N2, each of minimum value V2, but with total value of all contracts equal or more than $N2 \times V2$.

Lot 3: N3 contracts, each of minimum value V3; or number of contracts less than or equal to N3, each of minimum value V3, but with total value of all contracts equal or more than $N3 \times V3$.

---etc., **or**

- (iii) Subject to compliance as per (ii) above with respect to minimum value of single contract for each lot, total number of contracts is equal or less than $N1 + N2 + N3$ ---but the total value of all such contracts is equal or more than $N1 \times V1 + N2 \times V2 + N3 \times V3$ ---.

6. **Alternative Tenders (ITT 13.1) – *Not Applicable***

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– Works and Services' 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.

7. **Margin of Preference**

- 7.1 **If the TDS so specifies**, the Procuring Entity will grant a margin of preference of **15% (fifteen percent)** to be loaded on evaluated price of the foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than **fifty-one percent (51%)**:
- 7.2 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 and accepted by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference. The Tendering document shall clearly indicate the preference and the method that will be followed in the evaluation and comparison of Tenders to give effect to such preference.
- 7.3 After Tenders have been received and reviewed by the Employer, 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%).

- 7.4 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 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.

8 Post qualification and Contract Award (ITT 41), more specifically

- a) In case the tender **was subject to post-qualification**, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of prequalification 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

9. Qualification

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
1. Eligibility (PRELIMINARY EVALUATION)							
1.1	Nationality	Nationality in accordance with ITT 3.6	Must meet requirement	Not Applicable	Not Applicable	Forms ELI – 1.1 and 1.2, with attachments	Pass/Fail
1.2	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	Must meet requirement	Not Applicable	Not Applicable	Forms ELI – 1.4	Pass/Fail
1.3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Must meet requirement	Not Applicable	Not Applicable	Form of Tender	Pass/Fail
1.4	PPRA Eligibility	Not having been declared ineligible by the PPRA, as described in ITT 3.7.	Must meet requirement	Not Applicable	Not Applicable	Form of Tender – Form SD 1	Pass/Fail
1.5	State- owned Enterprise or Institution of the Procuring Entity country	Meets conditions of ITT 3.8	Must meet requirement	Not Applicable	Not Applicable	Forms ELI – 1.1 and 1.2, with attachments	Pass/Fail
1.6	Appendix to Form of Bid	Form properly filled & signed	Must meet requirement	Not Applicable	Not Applicable	Appendix to Form of Bid in the Prescribed Format	Pass/Fail
1.7	Suspension Based on Execution of	Not under suspension based on-execution of a Tender/Proposal	Must meet requirement	Not Applicable	Not Applicable	Letter of Tender	Pass/Fail

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
	Tender/Proposal Securing Declaration by the Procuring Entity	Securing Declaration pursuant to ITT 19.8					
1.8	Tender Security	Tender Security Dully Filled and Signed	Must meet requirement	Not Applicable	Not Applicable	a) Form in the Prescribed Format b) Digital Tender Securities will be accepted	Pass/Fail
1.9	Priced Bill of Quantities (BoQ)	(a) Fill all rates, and amounts, (b) NO Alterations of the Quantities accepted, (c) All bidders own Corrections must be Countersigned (d) NO Errors noted in the Bills of Quantities	Must meet requirement	Not Applicable	Not Applicable	Bills of Quantity (BoQ) in the Prescribed Format	Pass/Fail
1.10	Annual Practicing License with the National Construction Authority	Proof of registration with the National Construction Authority in Category-NCA 1 Roads/Bridges Contractor.	Must meet requirement	Not Applicable	Not Applicable	Copy of Current NCA Practicing License	Pass/Fail
1.11	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority in accordance with ITT 3.14.	Must meet requirement	Not Applicable	Not Applicable	N/A	Pass/Fail

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
1.12	Serialization of the Bid	Bidders shall sequentially serialize all pages of each tender submitted. Any written Pages or document attached or inserted Documents MUST be sequentially serialized.	Must meet requirement	Not Applicable	Not Applicable	Provide Valid Tax Compliance Certificate	Pass/Fail
1.13	Completeness of Tender Document	(a) The person or persons signing the bid shall initial all pages of the bid where entries have been made. (b) Bidders shall own all alterations made to the tender document. (c) Bidders shall duly fill all relevant forms/schedules provided for in the document that requires entries	Must meet requirement	Not Applicable	Not Applicable	The Serialization MUST be numerically sequential starting from Numeric 1.	Pass/Fail
1.14	Proposed Price Adjustment Weightings	Dully filled and Signed Schedule H (Table A)	Must meet requirement	Not Applicable	Not Applicable	All pages with entries (Typed or handwritten) must be initialed. Any alterations made in the tender document must be countersigned. All relevant Forms/ Schedules shall be duly filled	Pass/Fail

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
1.15	Unit Rates derivation	Dully filled Schedule G Part I & II and rates correctly carried to the BoQ. Bidders shall provide current (at least 30 days before tender opening) proof of cost of materials e.g. Proforma Invoices/quotation (Cement, Bitumen etc)	Must meet requirement	Not Applicable	Not Applicable	Schedule G: Part I. <i>Schedule of Materials; -Basic Prices</i> Part II. <i>Schedule of rates derivation</i> <i>Schedule H - Table of Adjustment Data</i>	Pass/Fail
1.16	Pending Litigation	Tenderer's financial position and prospective long-term profitability still sound according to criteria established in 3.1 below and assuming that all pending litigation will NOT be resolved against the Tenderers.	Must meet requirement	Not Applicable	Not Applicable	Form CON – 1	Pass/Fail
1.17	Litigation History	No consistent history of court/arbitral award decisions against the Tenderers ¹ for last three (3) years.	Must meet requirement	Not Applicable	Not Applicable	Form CON – 1	Pass/Fail
1.18	Declaration of Fair employment	Bidders shall declare they are not guilty of any serious violation of fair employment laws and practices and will be	Must meet requirement	Not Applicable	Not Applicable	Form CON – 2	Pass/Fail

¹ The Tenderers shall provide accurate information on the related Tender Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Tenderers or any member of a joint venture may result in failure of the Tender.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
	laws and practices	bound to abide by the industry CBA at minimum.					
1.19	Declaration of Knowledge of Pre-Tender Site Visit /Pre-Bid Conference	(a) Attend Pre-Tender Site Visits as per TDS, ITT 7.1; (b) Bidders to sign attendance register; (c) Certificate must be signed by the Employer's representative; Bidders to send Technical Persons for the Site Visit – Min Qualifications – Diploma in Civil Engineering.	Must meet requirement	Not Applicable	Not Applicable	Form CON – 3	Pass/Fail
2. Historical Contract Non-Performance (TECHNICAL EVALUATION)							
2.1	History of Non-Performing Contracts	Non-performance of a contract ² did not occur as a result of contractor default for last three (3) years . Non-performance shall be deemed to have occurred by evidence of: (a) Termination Letter (b) Liquidated Damages	Must meet requirement	Not Applicable	Not Applicable	Form CON-2 If a bidder fails to disclose, shall be disqualified Reference will be made to Procuring Entity's records. A bidder with any history of non-	5 Marks

² Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Tenderers have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						performance earns zero(0) marks.	
3. Financial Situation and Performance (TECHNICAL EVALUATION)							
3.1	Financial Capabilities	(i) The Tenderers 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 KES 500,000,000.00 for the subject contract(s) net of the Tenderer's other commitments.	Must meet requirement	N/A	N/A	Form FIN – 3.1, with attachments. 1) Audited accounts All pages must be initialed and stamped by both a practicing Auditor registered with ICPAK and one of the Directors. Auditor's practicing membership number from ICPAK must be indicated and a valid practicing license shall be provided.	3 Marks
		(ii) Tenderers shall provide audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last 5 years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability (as demonstrated by Financial Evaluation ratios).	Must meet requirement	N/A	N/A		
			Must meet requirement	N/A	N/A	2) The Financial ratio Form to be signed by the Auditor registered with ICPAK and	4 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
		(iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last 5 years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability. In case of a JV, both partners are required to submit their financial statements.				one of the Directors. Financial Ratios Computation shall be made for the following Ratios and marks awarded to each of the ratios: (a) Working Capital (b) Debt to Equity Ratio (c) Current ratio (d) Operating Cash Flow ratio 3) Line of Credit 4) Bank statements Etc.	5 Marks
3.2	Average Annual Construction Turnover	The Tenderer shall have a minimum average annual construction turnover of Kshs 750,000,000.00 , calculated as the total gross certified payments received for contracts in progress and/or completed within the last five (5) years, divided by five (5)	Must meet requirement	Not Applicable	Not Applicable	Form FIN – 3.2 Attachments include Financial Statements	3 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
3.3	Ongoing Works	The total value of outstanding works on the on-going contracts should not exceed the average annual turnover for the last five years. In case of a JVs, the above requirement shall apply.	Must meet requirement	Not Applicable	Not Applicable	Form FIN – 3.3 <i>If the value of the outstanding Works and the new commitment is more than the operating cash flow (based on the last audited financial statement) of the bidder, the bidder loses two marks</i>	3 Marks
4. Experience (TECHNICAL EVALUATION)							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, sub-contractor, or management contractor for at least the last 5 years. Grading shall be based on general projects handled. Five projects and above earns maximum points and prorated downwards. In case of JVs, the above requirement shall be co-owned.	Must meet requirement	Not Applicable	Not Applicable	Form EXP – 4.1 Attach Letters of Award and Completion Certificates	5 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
4.2 (a)	Specific Construction & Contract Management Experience	The Tenderer shall have executed at least two (2) contracts of a similar nature, each with a minimum value of Kshs 750,000,000.00 , within the last five (5) years. At least one (1) contract shall have been satisfactorily and substantially completed (Eighty per cent) as a prime contractor or joint venture member within Kenya or the East African Community. In case of JVs, the combined parties will be required to attain the above requirement.	Must meet requirement	Not Applicable	Not Applicable	Form EXP 4.2(a) Provide Letters of Award & Completion Certificates For subcontracted works, the bidder should provide the following; (a) Award letter of the main contractor (b) Award letter of the subcontract. (c) Completion letter of the subcontract. (d) Subcontract approval from the Engineer/supervision Authority.	7 Marks
4.2 (b)		For the above and any other contracts [substantially completed and under implementation] as prime contractor, joint venture	Must meet requirements <i>[Specify activities that may be met]</i>	Not Applicable	Not Applicable	Form EXP – 4.2 (b)	5 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
		member, or Subcontractor in the last five (5) years and Application submission deadline, a minimum construction experience in the following key activities successfully completed ³ : (i) Drainage Works [Concrete Lined Drain]: 5,000m²/month (ii) Cement/Lime Treated Sub-Base/Base: 4,000m³/month (iii) Asphalt Concrete ‘Superpave’: 2,800m³/month (iv) Concrete Road Kerbs: 5,000m/month	<i>through a specialized subcontractor , if permitted in accordance with ITT 34.3]</i>				
5	Key Personnel						
5.1	Contractor's Representative and Key Personnel	Tenderers must demonstrate that it will have a suitably qualified Contractor’s Representative and suitably qualified (and in adequate numbers) Key Personnel, as listed in Section 5 hereafter.	Must meet requirement	Not Applicable	Not Applicable	Form PER. 1 and PER. 2 Curriculum Vitae (CVs) of the Proposed Key Staff must be presented in the provided format	15 Marks

³ Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						and duly signed by the proposed individual. Copies of certificates and Annual Practicing Licenses (for Engineers) and Academic Certificates for all staff is mandatory.	
6	Key Equipment						
6.1	Contractors key equipment	The Tenderers must demonstrate that it has access to the key equipment listed in Section 6 hereafter.	Must meet requirement	Not Applicable	Not Applicable	Form EQU. Bidders shall declare they have possession/Ownership of various equipment as proposed to be used in the Project by providing Logbooks that demonstrate proof of ownership <i>For Bidders planning to hire, they shall provide an Active Lease Agreement in</i>	35 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						<i>Place that can be used during the Project Life. The copy of logbooks of the lessor(s) shall also be provided</i>	
7	Technical Proposal						
7.1	Technical approach and methodology	Tenderers shall demonstrate adequacy and quality of the proposed methodology.	Must meet requirement	Not Applicable	Not Applicable	Schedule B: Work Methodology: a) Procedure on execution of activities as outlined in the BoQs b) Allocation of machinery/labour in execution the activities c) Procedures in quality control of the activities described in BoQs	3 Marks
			Must meet requirement	Not Applicable	Not Applicable	Provide Methodology on safety during the	2 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						construction period: a) Personal protective equipment b) Signages c) Delineation of construction and passage of traffic d) Passage of traffic at night	
			Must meet requirement	Not Applicable	Not Applicable	Provide a specific Quality Management Plan that covers the following: 1. Scope Management 2. Time Management 3. Material Quality Management 4. Financial Management 5. Risk Management	2 Marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						6. Health & Safety Management 7. Environmental Management 8. Communication Management 9. Procurement Management 10. Human Resource Management 11. Stakeholder Management	
7.2	Work plan/Program of Works (PoW)		Must meet requirement	Not Applicable	Not Applicable	PoW Resourced with Equipment- Min. allocation pursuant to the Schedule E of Technical Proposal - -- To be submitted in A3 Size Paper well legible Font	4marks

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	Marks
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)		Submission Requirements	
				All Members Combined	Each Member		
						PoW captures Monthly outputs for each activity	2marks
						PoW details BoQ Quantities, Units and Rates	2 marks
						PoW is superimposed with Cashflow Projections as detailed in Schedule F of the technical proposal	2 marks
7.3	Site Organization and staffing		Must meet requirement	Not Applicable	Not Applicable	Schedule A of Technical proposal	3 marks
8	Environmental and social impact requirements		Must meet requirement	Not Applicable	Not Applicable	Form CON-4	3 marks
9	Knowledge Transfer	Transfer of knowledge (training) program (relevance of approach and methodology)	Must meet requirement	Not Applicable	Not Applicable	a) Relevance of training program b) Training approach and methodology	2 marks

5. Contractor's Representative and Key Personnel

The Tenderers shall provide details of the Contractor's Representative and Key Personnel and such other Key Personnel that the Tenderers considers appropriate to perform the Contract, together with their academic qualifications and work experience. The Tenderers shall complete the relevant Forms in Section V, Tendering Forms.

	KEY PERSONNEL			Max 15
1.	Site Agent (Max 4marks)	Registration & Qualification	Professional Engineer & Degree (BSc. Civil) holder	2
		Relevant experience	15 years and above	2
			7-14years	1
			Less than 7yrs	0
2.	Materials Engineer & (Max 3 marks)	Registration & Qualification	Registered Engineer	1
			Degree	1
		Relevant experience	10 years and above	1
			6-9years	0.5
			Less than 6yrs	0
3	Surveyor (Max 2marks)	Qualification	Degree	1
			HND	0.5
		Relevant experience	10 years and above	1.0
			5-9years	0.5
			Less than 5 years	0
4	Foreman (Max 2marks)	Qualification	HND	1
			Diploma	0.8
		Relevant experience	12 years and above	1.0
			7-11years	0.5
			3-6 years	0.25
5	Environmental Specialist & Social Specialist (Max 2marks for each personnel)	Qualification	Degree	1
		Relevant experience	10 years and above	1.0
			5-9 years	0.5
			Below 5 years	0

6 Equipment

The Tenderers must demonstrate that it has access to the key equipment listed hereafter. The Tenderers shall provide further details of proposed items of equipment using Form EQU in Section V, Tendering Forms.

Main Scope of Works of Tender	Main Equipment	Quantity (No) (Minimum)	Marks (Score)		No. of Equipment to be made available for the Contract by the Bidder
			No. of Equipment Owned by the Bidder	No. of Equipment to be hired/ purchased by the Bidder	
	a) Bituminous Plants				
	Bitumen Pressure distributor	1	4	1.5	
	Asphalt concrete paver	1			
	b) Compactors				
	Vibrating compaction plate 300 mm wide	1	1	0.5	
	Vibrating compaction plate 600 mm wide	1			
	c) Mobile Compressors				
	Two tool (2.8 – 7.3 m3/min)	1	1	0.5	
	Four tool (11.3 – 25.3 m3/min)	1			
	d) Concrete Equipment				
	Mobile concrete mixers	3	4	1.5	
	Truck mounted mixers	2			
	Concrete vibrators	5			
	f) Transport (Tippers, dumpers, water tankers)				
	6X4 tippers payload 16 – 20 tonnes	10	12	5.5	
	Articulated trailers	2			
	Flatbed lorries	1			
	Water tankers (18,000 – 20,000 lts. capacity)	2			
	g) Diesel Generators				
	Diesel generators (15 – 200Kva)	2	1	0.5	

h) Excavators				
Hydraulic crawler mounted (7 – 10 tonnes) – 0.25 – 0.4 m3 SAE bucket.	1	4	1.5	
Hydraulic crawler mounted (10 – 16 tonnes) – 0.40 – 0.60 m3 SAE bucket.	1			
i) Rollers				
Self-propelled single drum vibrating (various types)	2	4	1.5	
Pneumatic rubber tyre (1-2 tonnes/wheel)	2			
Sheep's foot roller	2			
Double drum vibrating roller	2			
pedestrian rollers	2			
Pulvymixer	2	2	1	
Motor graders	2	2	1	
Total		35	15	
Note: Score for Construction Equipment = $(X/35)*20$ ~~~~Owned = $(Y/35)*20$Hired				

APPENDIX TO THE QUALIFICATION CRITERIA

ITEM	DESCRIPTION		POINT SCORE SCALE
1	HISTORY OF NON-PERFORMANCE		Max 5
	History of Non-Performance		0 -5
2	FINANCIAL CAPACITY		Max 15
	Audited Statements		0-3
	Computation of Financial Ratios		0-4
	Working capital to be at least 10% of the Bid Price		0-5
	Turnover		0-3
3	EXPERIENCE		Max 20
	General Experience		0-5
	Specific experience in related works		0-12
	Workload Analysis		0-3
4	KEY PERSONNEL		Max 15
5	PLANT AND EQUIPMENT		Max 20
	Relevant Equipment (As Detailed in Schedule D)	Owned (Max 20marks)	0-20
		100% Leased (Max 8 marks)	0-8
6	PROGRAM OF WORKS AND WORK METHODOLOGY		Max 20
6a	Work Methodology	Provided a detailed Work Methodology	0-3
		Provided a Methodology on safety during the construction period	0-2
		Provided a specific Quality management plan	0-2
6b	Program of Works	PoW Resourced with Equipment-Min. allocation pursuant to the Schedule E of Technical Proposal - – To be submitted in A3 Size Paper well legible Fonts	0-4
		PoW captures Monthly outputs for each activity	0-2
		PoW details BoQ Quantities, Units and Rates	0-2
		PoW is superimposed with Cash flow Projections as detailed in Schedule A of the technical proposal	0-2
7	Organization and staffing (Schedule B of Technical proposal) Equivalent of Site Base facilities		0-3
8	Environmental and social impact requirements		Max 3
9	Participation by Kenyan Citizens among proposed key experts		Max 2
	TOTAL		MAX 100

Section V - Tendering Forms

Table of Forms

Form of Tender	70
Confidential Business Questionnaire	73
Certificate of Independent Tender Determination	77
Self-Declaration Forms – FORM SD 1	79
Self-Declaration Forms – FORM SD 2	80
Self-Declaration Forms – FORM SD 3	81
Appendix to Form of Tender	85
Schedule of Cost Indexation	89
Table A. Local Currency.....	90
Table B. Foreign Currency (FC) – <i>Not Applicable</i>	91
Table C. Summary of Payment Currencies.....	92
Table: Alternative B - – <i>Not Applicable</i>	93
Tenderers Qualification (without prequalification)	94
Form ELI -1.1	95
Form ELI -1.2	96
Form ELI -1.3	97
Form ELI -1.4	99
Form CON – 1	100
Form CON – 2	102
Form CON – 3	103
Form CON – 4	104
Form FIN – 3.1:	105
Form FIN – 3.2:	109
Form FIN – 3.3:	110
Form EXP - 4.1	111
Form EXP - 4.2(a).....	112

Form EXP - 4.2(b)	113
Form EXP - 4.2(c).....	115
Technical Proposal.....	116
Schedule A: Site Organization.....	117
Schedule B: Sub-Contractors/Partners.....	118
Schedule C: Method Statement.....	119
Schedule D: Mobilization Schedule.....	120
Schedule E: Construction Schedule	121
Schedule F: Cash Flow Projections	122
Schedule G (Part I) - Schedule of Materials Basic Prices	123
Schedule G (Part II) - Schedule of Rates Derivation.....	124
Quality Management Plan.....	133
Form EQU: Contractor's Equipment.....	134
Form PER -1	135
Form PER-2:	137
ES Management Strategies and Implementation Plans	139
Code of Conduct for Contractor's Personnel (ES) Form.....	140
Form of Tender Security - Demand Guarantee.....	143
Form of Tender-Securing Declaration	145
Grand Summary	257
Bill No. 1: General Items	258
Bill No. 4: Site Clearance	260
Bill No. 5: Earthworks	262
Bill No. 7: Excavation and Filling of Structures.....	264
Bill No. 8: Culverts and Drainage Works.....	265
Bill No. 9: Passage of Traffic	267
Bill No. 12: Natural Material for Sub-Base and Base	268
Bill No. 14: Cement and Lime Treated Sub-Base and Base.....	269
Bill No. 15: Bituminous Surface Treatment and Surface Dressing	270
Bill 16: Bituminous Mixes.....	271
Bill 20: Road Furniture	273
Bill 22: Day Works	277
Bill 23: Paved Surfaces	280

Bill 24: Street Lighting	281
Bill 25: HIV/AIDS Awareness and Education	282
Bill 26: Road Safety Awareness and Education	283
Bill 27: Environmental and Social Mitigation Measures.....	284

Form of Tender

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

- (i) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.
- (ii) All italicized text is to help Tenderer in preparing this form.
- (iii) Tenderer must complete and sign and TENDERER'S ELIGIBILITY-CONFIDENTIAL BUSINESS QUESTIONNAIRE, CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS, all attached to this Form of Tender.
- (iv) The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.
 - (a) Tenderer's Eligibility- Confidential Business Questionnaire
 - (b) Certificate of Independent Tender Determination
 - (c) Self-Declaration of the Tenderer

Date of this Tender submission: *[insert date (as day, month and year) of Tender submission]*

Invitation to Tender No.: *[insert identification]*

To: *[insert complete name of Procuring Entity]*

We, the undersigned, declare that:

- (a) **No reservations:** We have examined and have no reservations to the Tendering document, including Addenda issued in accordance with ITT 8;
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITT 4;
- (c) **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 the Procuring Entity's Country in accordance with ITT 4.8;
- (d) **Conformity:** We offer to execute in conformity with the Tendering document and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a Tender Number and Name]*;

_____;

- (e) **Tender Price:** The total price of our Tender is: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]*;
- (f) **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;
- (g) **Performance Security** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
- (h) **One Tender Per Tenderers:** We are not submitting any other Tender(s) as an individual Tenderers, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 4.4, other than alternative Tenders submitted in accordance with ITT 13;
- (i) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, 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 Procuring Entity. Further, we are not ineligible under the Republic of Kenya laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **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 4.7];
- (k) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering 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.”)

- (l) **Binding Contract:** We understand that this Tender, together with your written acceptance thereof included in your Form of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (m) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Best Evaluated Tender or any other Tender that you may receive;

- (n) **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;
- (o) **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 herein these Forms below:
- (p) **Code of Ethics:** We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from www.ppra.go.ke during the procurement process and the execution of any resulting contract.
- (q) We, the Tenderer, confirm that we have duly filled and signed the following Forms as part of our Tender:
- (i) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
 - (ii) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
 - (iii) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - (iv) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.
- (r) 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 Tenderers: *[insert complete name of person signing the Tender]

Name of the person duly authorized to sign the Tender on behalf of the Tenderers: **[insert complete name of person duly authorized to sign the Tender]

Title 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 signed [insert date of signing] **day of** [insert month], [insert year]

Date signed _____ day of _____, _____

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

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

Confidential Business Questionnaire

Instruction to Tenderers

The Tender shall 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.

A. Tenderer's details

S/No	ITEM	PARTICULARS
1	Name of Procuring Entity	Kenya National Highways Authority
2	Reference Number of the Tender	KeNHA/2861/2025
3	Date and Time of Tender Opening	As indicated in the Tender Notice
4	Name of 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 8. Telephone Number
6	Current Trade License Registration Number and Expiring date	
	Name, country/county and full address (postal and physical addresses, email, and telephone number) of Registering Body/Agency	
7	Description of Nature of Business	
8	Maximum value of business which the Tenderer handles	
9	State if Tenders Company is listed in stock exchange, give name and full address (<i>postal and physical addresses, email, and telephone number</i>) of state which stock exchange	

B. General and Specific Details

(a) In the case of Sole Proprietor, provide the following details:

Name in full.....Age.....

Nationality.....Country of Origin.....

Citizenship

(b) In the case of Partnership, provide the following details:

	Name of Partners	Nationality	Citizenship	%Shares Owned
1				
2				
3				

(c) In case of 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).....

iii) Give details of Directors as follows.

	Name of Directors	Nationality	Citizenship	%Shares Owned
1				
2				
3				

(d) DISCLOSURE OF INTEREST - Interest of the Firm in the Procuring Entity.

- i) Are there any person/persons in..... (*Name of Procuring Entity*) who has/have an interest or relationship in this firm? Yes/No.....

If yes, provide details as follows.

	Name of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

(e) 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 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.		

	Type of Conflict	Disclosure YES or NO	If YES provide details of the relationship with Tenderer
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity 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 the Procuring Entity who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

(f) 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 or Designation _____

(Signature)

(Date)

Certificate of Independent Tender Determination

I, the undersigned, in submitting the accompanying Letter of Tender to the **KENYA NATIONAL HIGHWAYS AUTHORITY** for: _____ [Name of tender]

_____ [Tender number]

in response to the request for tenders made by: _____ [Name of Tenderer]

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 and Title _____

Date _____

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

Self-Declaration Forms – FORM SD 1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 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.....for.....(*insert tender*

title/description) for..... (*insert name of the Procuring entity*) and duly
authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its Directors and subcontractors 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

Self-Declaration Forms – FORM SD 2

FORM SD 2: SELF DECLARATION THAT THE 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.
..... for (*insert tender title/description*) for
..... (*insert name of the Procuring entity*) and duly authorized and competent
to make this statement.
2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors 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
..... (*insert name of the Procuring entity*) which is the procuring entity.
3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any
inducement to any member of the Board, Management, Staff and/or employees and/or
agents of..... (*name of the procuring entity*).
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.

Self-Declaration Forms – FORM SD 3**FORM SD 3: 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.....

E-mail.....

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)

1. Purpose

- 1.1 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.

2. Requirements

- 1.2 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.
- 1.3 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 the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;

- 5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity 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 subcontractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
 - 6) 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 the procuring entity;
 - 7) 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 director 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.
- 14 In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:
- i) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows: “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii) “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;
 - iii) “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;
 - iv) “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;
 - v) “obstructive practice” is:
 - 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
 - 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.

- b) 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 the procuring entity of the benefits of free and open competition.

- c) Rejects a proposal for award¹ 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;
- d) 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;
- e) 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 inspect² 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
- f) 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.

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 the Procuring Entity 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.

Appendix to Form of Tender

(This appendix forms part of the bid)

Conditions	Sub-Clause	Data
Employer's name and address	1.1.2.2	Director General, Kenya National Highways Authority, P.O. Box 49712 – 00100, <u>NAIROBI</u>
Engineer's name and address	1.1.2.4	Director – Maintenance, Kenya National Highways Authority, P.O. Box 49712 – 00100, <u>NAIROBI</u>
Time for Completion	1.1.3.3	Twelve (12) Months
Defects Notification Period	1.1.3.7	Six (6) Months
Site	1.1.6.7	The Capacity Enhancement of Got Rabuor-Homa Bay Pier-Corner Kodoyo Road (B2) Road – Phase II
Communications	1.3(b)	<p>The Employer's address is: The Director General, Kenya National Highways Authority (KeNHA), P.O. Box 49712 - 00100 <u>NAIROBI</u></p> <p>The Engineer's address is: The Director, Maintenance, Kenya National Highways Authority (KeNHA), P.O. Box 49712 - 00100 <u>NAIROBI</u></p> <p>The Contractor address is:</p> <p>Name.....</p> <p>P.O Box.....</p> <p>City/Town.....</p> <p>Email.....</p> <p>Telephone:.....</p>
Governing Law	1.4	Laws of the Republic of Kenya

Conditions	Sub-Clause	Data
Ruling and communications language	1.4	English
Contract Agreement	1.6	Within the bid validity period
Assignment	1.7	Not applicable
Care and Supply of documents	1.8	One (1) Contract document to be supplied to the Contractor
Right of access to the Site	2.1	Within Seven (7) days of the Notice of Commencement Date
Performance Security	4.2	The Performance Security shall be in the form of an unconditional Bank Guarantee in the amount(s) of 10% of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount and submitted by the 28 th day from the date of the award letter
Subcontractors	4.4	NONE
Parts of the Works for which subcontracting is not permitted	4.4	N/A
Progress reports	4.21	Softcopies
Penalty for not implementing approved ESMP, OHS and Safety Plan.	4.8	Up to Kshs. 100, 000.00 per day up to limit of 3% of the Accepted Contract Amount.
Normal working hours	6.5	Weekdays: 8am – 5pm (With 1hour break) Saturdays: 8am – 12 Noon
Commencement of Works	8.1	Seven (7) days after order to commence
Programme	8.3	<ul style="list-style-type: none"> • Electronic through the CPM tool • One (1) Hard copy • Within 7 days
Delay damages payable for each day of delay	8.7	0.05% of the Accepted Contract Amount
Maximum amount of delay damages	8.7	5% of the Accepted Contract Amount

Conditions	Sub-Clause	Data
Take Over of Parts of the Works	10.2	<p>The employer shall appoint a committee to inspect and accept works prior to the Engineer issuing the taking over certificate for the following sections:</p> <ul style="list-style-type: none"> I. The Capacity Enhancement of Got Rabuor-Homa Bay Pier-Corner Kodoyo Road (B2) – Phase 2 II. Access to the Homa Bay County Headquarters.
Provisional Sums	13.5 (b)(ii)	As specified in the Schedule of rates
Adjustment to changes in cost	13.8	Not Applicable
Advance payment	14.2	<p>The Employer MAY pay up to a maximum of 10% of Contract Sum (in installments) after signing of contract, issuance of order to commence and submission of advance payment bank guarantee.</p> <p>NB Upon request by the Employer, the Contractor will be required to submit evidence of utilization of the Advance Payment for the project as follows:</p> <ul style="list-style-type: none"> i. Establishment ii. Materials iii. Equipment <p>Any portion of the advance payment not utilized in accordance to the conditions of this clause Shall lead to the Employer recalling the advance payment guarantee immediately.</p>
Application for interim payment certificates (Statements)	14.3	1 hard copy and 1 soft copy
Percentage of retention	14.3(c)	5% of the Accepted Contract Amount
Limit of Retention Money	14.3(c)	5% of the Accepted Contract Amount
Schedule of payments	14.4	Monthly

Conditions	Sub-Clause	Data
Minimum amount of interim certificates	14.6	15% of the Accepted Contract Amount
Period of payment of Advance Payment to the Contractor	14.7(a)	Ninety (90) days
Period for the Employer to make interim payments to the Contractor	14.7b	Ninety (90) days
Period for the Employer to make final payment to the Contractor	14.7(c)	Ninety (90) days
Delayed payment	14.8	Simple interest at a rate equal to two percentage points above the mean Base Lending Rate obtained from the Central Bank of Kenya
Number of additional paper copies of draft Final Statement	14.11	One (1) Hard copy and One (1) Soft copy
Currencies of Payment	14.15	Kenya Shillings (KES)
Maximum total liability of the Contractor to the Employer	17.6	The accepted contract amount
Periods for submission of insurance	18.1	a. evidence of insurance – 14days b. relevant policies – 28 days
Maximum number of deductibles for insurance of the Employer's risks	18.2(d)	Not Applicable
Minimum amount of third-party insurance	18.3	Limited to Accepted Contract Amount for each occurrence, with unlimited number of occurrences
Date by which the DB shall be appointed	20.2	As and when required
The DB shall be comprised of	20.2	Three Members (ad hoc)
Appointment (if not agreed) to be made by:	20.3	Chartered Institute of Arbitrators (Kenya)
Place and Seat of arbitration	20.6(a)	Nairobi, Kenya

Signature of Tenderer..... Date

Schedule of Cost Indexation

[The formulae for price adjustment shall be of the following general type:]

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

“P_n” 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 Contract Data;

“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 labour, equipment and materials;

“L_n”, “E_n”, “M_n”, ... 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

“L_o”, “E_o”, “M_o”, ... 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).

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be: Z_0 / Z_1 , where,

Z_0 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

Z_1 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

Schedule H - Table of Adjustment Data

[In Tables A, B, and C, below, the Tenderers shall (a) indicate its amount of local currency payment, (b) indicate its proposed source and base values of indices for the different foreign currency elements of cost, (c) derive its proposed weightings for local and foreign currency payment, and (d) list the exchange rates used in the currency conversion. In the case of very large and/or complex works contracts, it may be necessary to specify several families of price adjustment formulae corresponding to the different works involved.]

Table A. Local Currency

Index Code*	Index Description*	Source Index* of	Base Value and Date*	Tenderer's proposed weighting	Weighting Range
Fixed	Nonadjustable	KNBS 2019 Civil Engineering Cost Indices	28 days before tender opening date		A= 0.4
EQ	Equipment				B= 0.1– 0.25
LL	Labour				C= 0.09 - 0.18
MT	Materials				D= 0.14 – 0.26
TF	Transport & Fuel				E= 0.01 - 0.09
Total				1.0	

Notes:

- (a) The Base year for the indices shall be 2019.
- (b) Variation of Price will be applied on monthly financial statements and will become effective 12 months after commencement of the Works
- (c) Tenderer to insert Bidder's weighting coefficients in column 5, within the range specified in column 6, for each index in the table above.
- (d) Entered coefficients should add up to one for use in the variation of price formula. Refer to FIDIC clause 13.8 on adjustment for price.

Table B. Foreign Currency (FC) – *Not Applicable*

State type: [If the Tenderers is allowed to receive payment in foreign currencies this table shall be used. If Tenderers wishes to quote in more than one foreign currency (up to three currencies permitted) then this table should be repeated for each foreign currency.]

Index code	Index description	Source of index	Base value and date	Tenderer's related source currency in type/amount	Equivalent in FC1	Tenderer's proposed weighting
	Nonadjustable	—	—	—		A: ____* B: ____* C: ____* D: ____* E: ____*
Total						1.00

[* To be entered by the Procuring Entity. Whereas “A” should a fixed percentage, B, C, D and E should specify a range of values and the Tenderers will be required to specify a value within the range such that the total weighting = 1.00]

Table C. Summary of Payment Currencies**Table: Alternative A**

For [insert name of Section of the Works]

Name of payment currency	A Amount of currency	B Rate of exchange (local currency per unit of foreign)	C Local currency equivalent $C = A \times B$	D Percentage of Total Tender Price (TBP) $\frac{100 \times C}{TBP}$
Local currency _____		1.00		
Foreign currency #1 _____				
Foreign currency #2 _____				
Foreign currency # _____				
Total Tender Price				100.00
Provisional sums expressed in local currency	45,100,000.00	1.00	45,100,000.00	
TOTAL TENDER PRICE (including provisional sum)				

Table: Alternative B - – *Not Applicable*

To be used only with Alternative B Prices directly quoted in the currencies of payment. (ITT 15.1)

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

<i>Name of currency</i>	<i>Amounts payable</i>
Local currency: _____	
Foreign currency #1: _____	
Foreign currency #2: _____	
Foreign currency #3: _____	
Provisional sums expressed in local currency _____	<i>[To be entered by the Employer]</i>

Tenderers Qualification (without prequalification)

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

Form ELI -1.1

Tenderers Information Form

Date: _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: <i>[indicate country of Constitution]</i>
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 <input type="checkbox"/> <i>Certificate of Incorporation</i> and <i>CR12</i> of the legal entity named above, in accordance with ITT 4.4 <input type="checkbox"/> Copies of <i>National Identification Documents</i> for Directors. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 4.1 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 4.6, documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderers is not under the supervision of the Procuring Entity
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[Applicable.]</i>

Form ELI -1.2

Tenderer's JV Information Form

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

Date: _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

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 <input type="checkbox"/> <i>Certificate of Incorporation</i> and <i>CR12</i> of the legal entity named above, in accordance with ITT 4.4 <input type="checkbox"/> Copies of <i>National Identification Documents</i> for Directors. <input type="checkbox"/> 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 the Procuring Entity, in accordance with ITT 4.6. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[If required under TDS ITT 47.1, the successful Tenderers shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]</i>

Form ELI -1.3

Qualification of Foreign Tenderers

Pursuant to ITT 3.10, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition (the 40% Rule).

ITEM	Description of Work Item	Describe location of source	COST in K. shillings	Comments, if any
A	Local Labour			
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				
7				
	TOTAL COST LOCAL CONTENT		xx	
	PERCENTAGE OF CONTRACT PRICE		xx	

Form ELI -1.4**Declaration of Materials, Equipment and Labour Sources**

Pursuant to ITT 5.1, tenderers must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of Work Item	Describe location of source	Comments, if any
A	Materials		
1	10/14mm precoated Chippings		
2	Asphalt Concrete		
3	Cement		
4	Coarse aggregates		
5	Gravel		
6	Road Marking Paints		
B	Equipment		
1	Chippings Spreader		
2	Paver		
3	Tipper		
4	Pneumatic Roller		
5	Concrete Mixer		
C	Labour		
1	Skilled		
2	Unskilled		
	TOTAL COST LOCAL CONTENT		
	PERCENTAGE OF CONTRACT PRICE		

Form CON – 1

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria

- ☐ Contract non-performance did not occur since **1st January 2020** specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.
- ☐ Contract(s) not performed since **1st January 2020** specified in Section III, Evaluation and Qualification Criteria, requirement 2.1

Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (KES equivalent)
[insert year]	[insert amount and 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] Reason(s) for nonperformance: [indicate main reason(s)]	[insert amount]

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

- ☐ 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.

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (KES equivalent)
		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 <input type="checkbox"/> No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. <input type="checkbox"/> 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 (KES equivalent)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate “Employer” or “Contractor”]</i> Reason(s) for Litigation and award decision <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Form CON – 2
Declaration of Fair Employment Law and
Practices

Date _____

To
The Director General,
Kenya National Highways Authority (KeNHA),
P.O. Box 49712-00100
NAIROBI

We (name and address) _____

_____ declare the following:

1. Have not been involved in and will not be involved in violation of fair employment laws and practices.
2. THAT what is declared hereinabove is true to the best of my knowledge, information and belief

Name of Bidder's authorized Representative
(To be signed by authorized representative and officially stamped)

.....
Signature

Date

Form CON – 3
Certificate of Bidder's Visit to Site

This is to certify that

[Name/s].....

Being the authorized representative/Agent of [Name of bidder]

.....
.....

participated in the organized inspection visit of the site of the works for the

**THE CAPACITY ENHANCEMENT OF GOT RABUOR-HOMA BAY PIER-CORNER KODOYO
(B2) ROAD – PHASE II**

held on.....day of.....20.....

Signed.....
(Employer's Representative)

.....

.....
(Name of Employer's Representative)

.....
(Designation)

NOTE: This form is to be completed at the time of the organized site visit.

Form CON – 4

Environmental and Social Performance Declaration

[The following table shall be filled in for the Tenderers, each member of a Joint Venture and each Specialized Subcontractor]

Tenderer's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Specialized Subcontractor's Name: *[insert full name]*

Tender No. and title: *[insert Tender number and title]*

Page *[insert page number]* of *[insert total number]* pages

Environmental and Social Performance Declaration in accordance with Section III, Qualification Criteria, and Requirements			
<input type="checkbox"/> No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.			
<input type="checkbox"/> Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (KES equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g. gender-based violence; sexual exploitation or assault breaches]</i>	<i>[insert amount]</i>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...

Form FIN – 3.1:

Financial Situation and Performance

PART 1

Tenderer's Name: _____

Date: _____

JV Member's Name _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

1. Financial data

Type of Financial information in (Kenya Shillings)	Historic information for previous five (5) years, _____				
	(amount in Kenya Shillings 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					

2. 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 (KES equivalent)
1	<i>Letter of line of Credit from a recognized Financial Institution</i>	
2	<i>Bank account balance (demonstrated by bank statements)</i>	
3		

2. Financial documents

The Tenderers and its parties shall provide copies of financial statements for **five (5) years** pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

- (a) reflect the financial situation of the Tenderers 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 statements³ for the **five (5) years** required above; and complying with the requirements

³ If the most recent set of financial statements is for a period earlier than 12 months from the date of Tender, the reason for this should be justified.

Financial Situation and Performance

PART 2 (Detailed Financial Situation Evaluation)

No.	Description	Auditors Assessment 2020	Auditors Assessment 2021	Auditors Assessment 2022	Auditors Assessment 2023	Auditors Assessment 2024	Evaluation Score Award Criteria
1.	Financial Ratios						Max score=4 Marks
a.	Current Ratio= <u>Current Assets</u> Current Liabilities						Current Ratio more than 1 = 1 marks
b.	Debt to Equity Ratio = <u>Total Liabilities</u> Total Equity						Equity Capital Ratio less than 1 = 1 Marks
c.	Working Capital = Current Assets- Current Liabilities						Positive Working Capital = 1 marks
d.	Operating Cash Flow Ratio = Cash Flow from <u>Operations</u> Current Liabilities						Operating Cash-flow more than 1 = 1 marks
2.	Working Capital in KShs.						Working Capital is equal or more than 10% of the bid price = 5 Marks

The above Financial Ratios should be derived from first Principles from the Audit Statements. The Auditor who has undertaken the analysis shall demonstrate the financial ratios and append his signature and stamp to the Document as below:

The Auditor shall be required to provide his/her workings and demonstrate the source of the workings from the various Audited statements by including the Page Numbers and references of the source of the figures used in the computation of the assigned values.

The Auditor undertaking the above Financial Analysis MUST duly fill the Contact Sheet below in all aspects and attach current annual practising license.

Financial ratios Computed by a Certified Public Accountant:

CPA: Name	
ICPAK Number	
Telephone Number	
Email Address	
Postal Address	
Physical Address	
Contact Person	
Mobile Contact of the Contact Person	
Signature	
Date	
Personal/Corporate	
Stamp	

Ratios attested by the Company Director:

Director's Name	
ID/Passport Number	
Telephone Number	
Email Address	
Postal Address	
Physical Address	
Signature	
Date	
Personal/Corporate	
Stamp	

Form FIN – 3.2:**Average Annual Construction Turnover**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate	KES equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

* See Section IV, Evaluation and Qualification Criteria, Sub-Factor 3.2.

If the most recent set of financial statements is for a period earlier than 12 months from the date of Bid, the reason for this should be justified.

Form FIN – 3.3:**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.

Current Contract Commitments					
No.	Name of Contract	Procuring Entity's Contact Address, Tel, Fax	Value of Outstanding Work [Current KES Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [KES/month]
1					
2					
3					
4					
5					

Form EXP - 4.1**General Construction Experience**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

Starting Year	Ending Year	Contract Identification	Role of Tenderer [<i>Main Contractor/ Subcontractor/ Management Contractor</i>]
		Contract name: _____ Brief Description of the Works performed by the Tenderers: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderers: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderers: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	

Form EXP - 4.2(a)**Specific Construction and Contract Management Experience**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount	Kenya Shilling			
If member in a JV or Subcontractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address:				
Telephone/fax number				
E-mail:				
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				

Form EXP - 4.2(b)**Construction Experience in Key Activities**

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

Subcontractor's Name⁴ (as per ITT 34): _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

All Subcontractors 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.

1. Key Activity No One: _____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount			US\$	
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				

⁴ If applicable

	Information
Employer'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:	

2. Activity No. Two

3.

Form EXP - 4.2(c)**Specific Experience in Managing ES aspects**

[The following table shall be filled in for contracts performed by the Tenderers, and each member of a Joint Venture]

Tenderer's Name: _____

Date: _____

JV Member's Name _____

Tender No.: _____

Tender Title: _____

Page _____ of _____ pages

1. Key Requirement no 1 in accordance with 4.2 (c): _____

Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount			US\$	
Details of relevant experience				

2. Key Requirement no 2 in accordance with 4.2 (c): _____

3. Key Requirement no 3 in accordance with 4.2 (c): _____

4. ...

Technical Proposal

- **Schedule A: Site Organization**
- **Schedule B: Sub-Contractors/Partners**
- **Schedule C: Method Statement**
- **Schedule D: Mobilization Schedule**
- **Schedule E: Construction Schedule [Program of Works]**
- **Schedule F: Cash Flow Projections**
- **Schedule G (Part I): Schedule of Materials Basic Prices**
- **Schedule G (Part II): Schedule of Rates Derivation**
- **Quality Management Plan**
- **Form EQU: Contractor's Equipment**
- **Form PER-1: Contractor's Key Personnel Schedule**
- **Form PER-2: Contractor's Key Personnel Resume and Declaration**
- **ES Management Strategies and Implementation Plans**
- **Code of Conduct for Contractor's Personnel (ES)**

Schedule A: Site Organization

[Tenderers shall give below full particulars of the organization they propose to establish, direct, and administer the performance of the Contract. In particular, Tenderers shall indicate the location of site camps and the resources they intend to allocate to Self-Control Units for planning and monitoring purposes.]

- 1) SITE ORGANIZATION CHART
 - (i) Organogram
 - (ii) Site Organization Layouts
 - (iii) Site Location Map
- 2) NARRATIVE DESCRIPTION OF SITE ORGANIZATION CHART

Schedule B: Sub-Contractors/Partners

[Tenderers shall list below those parts of the Works and Services which they propose to subcontract and state the approximate value of those parts and the names and addresses of the proposed subcontractors, if those are known at Tendering stage. Tenderers shall also list other business partners involved in the execution of the contract and their respective roles and responsibilities]

Part of Works / Services:

Approximate value (KES):

Name and address of proposed subcontractor / partner:

Part of Works / Services:

Approximate value (KES):

Name and address of proposed subcontractor / partner:

Part of Works / Services:

Approximate value (KES):

Name and address of proposed subcontractor / partner:

Part of Works / Services:

Approximate value (KES):

Name and address of proposed subcontractor / partner:

Schedule C: Method Statement

[insert Method Statement]

[Tenderers are required to submit a Method Statement which outlines the approach, procedures, and sequence of activities that will be adopted for the construction of the highway project. It is expected to serve as a guide to ensure that all works are executed in accordance with the project specifications, approved drawings, relevant standards, and statutory requirements.]

The Method Statement should provide details on the construction methodology, materials, equipment, safety measures, environmental considerations, and quality control procedures to be implemented throughout the project. It is intended to ensure efficiency, safety, and compliance with contractual and regulatory obligations.

The Contractor shall adhere strictly to the approved Method Statement. Any deviations, modifications, or alternative approaches must be submitted for review and approval by the Engineer before implementation. The Contractor will also be required to continuously review and update the Method Statement to incorporate improvements, unforeseen conditions, or changes directed by the Employer.

This document shall be read in conjunction with the contract specifications, drawings, and all other relevant project documents.]

Schedule D: Mobilization Schedule

[insert Mobilization Schedule]

[Tenderers are required to submit a Mobilization Schedule that outlines the planned sequence and timeline for the deployment of resources necessary for the successful execution of the highway construction project. It should provide a structured plan for the mobilization of personnel, equipment, materials, site facilities, and other essential resources in alignment with the project's requirements and commencement timeline.]

The Contractor shall ensure that mobilization activities are carried out efficiently, adhering to the specified timelines and contractual obligations. Any delays or deviations from the approved schedule must be communicated to the Engineer in advance, with appropriate justifications and proposed mitigation measures.

This schedule shall be read in conjunction with the project work program, method statement, and other relevant contract documents. The Employer reserves the right to review and request adjustments to the mobilization plan to ensure optimal project execution.]

Schedule E: Construction Schedule

[insert Construction Schedule]

Indicative Program of Works

To demonstrate a clear understanding of the requirements of the Contract, Tenderers shall provide the following:

- (i) A bar chart sub-divided into sections for each road showing the major activities to be carried out for Maintenance Services, Rehabilitation Works and Improvement Works, if any. The activities shall be shown against time, with linkages shown between related/sequential activities as far as possible and appropriate.*
- (ii) A bar chart or schedule showing the usage of major plant, including those listed in Schedule D (Contractor's Equipment).*

Schedule F: Cash Flow Projections

Projected Cash Flow

- 1) Tenderers shall tabulate below estimates, based on their preliminary work programme, of:
 - a) On the expenditure side, the value of the work which will be carried out;
 - b) On the revenue side, the net payments to which they will become entitled with due allowance for the advance payment and repayment, materials prepayments, and retention money, but excluding price adjustments for rise and fall and provisional sums for emergency works.
 - c) The projected net cash flow during the contract period.
- 2) The prospective successful Tenderer may be required to submit full details to substantiate his estimates.

Period (Months)	Cost of Rehabilitation and Improvement Works (KES)	Net Payment to be received (KES)	Net Cash flow (KES)
1-6			
7-12			
13-18			
ETC			

Schedule G (Part I) - Schedule of Materials Basic Prices

SCHEDULE OF MATERIALS BASIC PRICES

ITEM NO.	DESCRIPTION	NAME OF SUPPLIER	COUNTRY OF ORIGIN	UNIT	BASE PRICE	
					KSHS	CTS
1.	Cut-back Bitumen MC 30 in bulk			Litre		
2.	Cut-back Bitumen MC 30 in drums			Litre		
3.	Bitumen 80/100 in bulk			Kg		
4..	Bitumen 80/100 in drums			Kg		
5..	Bitumen Emulsion K1-60 in bulk			Litre		
6.	Bitumen Emulsion K1-60 in drums			Litre		
7.	Petrol, Regular Grade			Litre		
8.	Petrol, Premium/ super Grade			Litre		
9.	Automotive Diesel Fuel			Litre		
10.	Industrial Diesel Oil			Litre		
11.	Industrial Fuel Oil			Litre		
12.	Kerosene Fuel			Litre		
13.	Cement			Tonne		
14.	Flex beam Guardrail			Metre		
15.	Gabion Mesh			M ²		
16.	Reinforcing Steel			Tonne		
17.	Lime			Tonne		

I certify that the above information is correct

.....
(Title)

.....
(Signature)

.....
(Date)

Notes:

- Prices of imported materials to be quoted CIF Mombasa or Nairobi as appropriate depending on whether materials are imported by the tenderer directly or through a local agent.
- The prices inserted above shall be those prevailing 30 days before the submission of Tenders and shall be quoted in Kenya Shillings using the prevailing exchange rates by Central Bank Kenya.

Schedule G (Part II) - Schedule of Rates Derivation

PART II. SCHEDULE OF RATES DERIVATION

(Sample Copy for Guidance)

Form for Detailed Breakdown of Cost Comparison

Bill item No.

16-80-001

Description

Provide, lay and compact Asphalt Concrete Type 1 wearing course to carriageway

Units

M³

Quantity

654.00

(Assumed production is 160m³ per day)

Rate build up

a) Direct cost (DC) i) Unit work Price

1) Material Cost

Description	Units	Quantity	Market Price	Amount
AC Type 1	M ³	1	20,900.00	20,900.00
Sub Total For Material				20,900.00

2) Labour Price

Personnel	No. Required	Rate /day	Amount
Skilled Labour overseer	2	1,800.00	22.50
Skilled Labour - Operator	6	2,045.00	76.69
Artisans Grade II	12	1,612.00	120.90
Unskilled labour	15	873.00	81.84
Sub Total for Labor			301.93
Productivity ratio			

3) Machinery

Machinery type	No. Required	Rate /day	Amount	Hired/Owned
Drum Roller	1	38,720.00	242.00	Hired
Pneumatic Roller	1	29,200.00	182.00	Hired
Air Compressor	1	9,625.00	60.16	Hired
Bitumen Sprayer Hand operated	1	4,400.00	27.50	Hired
AC Paver	1	50,504.00	315.65	Hired
Sub Total for Machinery			827.81	
Productivity ratio				

Sub-total of unit price

Sum (1+2+3) 22,029.74

ii) Haulage Cost

1,104.49

Sub-totals of DC

23,131.22

b) Indirect Cost

2,313.12

c) Overheads and Profits

6,939.37

Total Cost

Sum (a+b+c)

Carried forward to the BoQ

32,383.71

PART II. SCHEDULE OF RATES DERIVATION

Tenders are required to complete the Form for Detailed Breakdown of Cost Comparison for the each of the key work activities and transfer the buildup rate to the relevant items of the Bills of Quantities.

(For use during Tender Evaluation)

Form for Detailed Breakdown of Cost Comparison

Bill item No.	8.12					
Description	In-situ lining with class 20/20 on drainage channels to be instructed by the Engineer as per the specifications, drawings and as directed by the Engineer.					
Units	M ²					
Quantity	15,000					
Rate build up						
a) <i>Direct cost (DC)</i>	i) Unit work Price	1) Material Cost				
		Description	Units	Quantity	Market Price	Amount
		Sub Total For Material				
		2) Labour Price				
		Personnel	No. Required	Rate /day	Amount	
		Sub Total For Labor				
		Productivity ratio				
		3) Machinery				
		Machinery type	No. Required	Rate /day	Amount	Hired/Owned
		Sub Total for Machinery				
		Productivity ratio				
		Sub-total of unit price				

Sum (1+2+3)	
ii) Haulage Cost	
Sub-totals of DC	
<i>b) Indirect Cost</i>	
<i>c) Overheads and Profits</i>	
Total Cost Sum (a+b+c) Carried forward to the BoQ	

Notes:

- Attach current (atleast 30 days before tender opening date) proof of cost of materials e.g. Proforma invoices/quotations.
- This form has been based on the principles of Cost Estimation Manual. The Cost Estimation Manual can be downloaded from the following website:
<https://krb.go.ke/downloads>

I certify that the above information is correct

.....
(Title)
Stamp)

.....
(Signature)

.....
(Date & Official

Form for Detailed Breakdown of Cost Comparison

Bill item No.	14.01/14.02				
Description	Provide and spread cement stabilizer to natural gravel base and sub base; all in accordance with the specifications and in conformity with the Engineer's instructions.				
Units	Ton				
Quantity	625				
Rate build up					
<i>a) Direct cost (DC)</i>	i) Unit work Price	1) Material Cost			
	Description	Units	Quantity	Market Price	Amount
	Sub Total For Material				
	2) Labour Price				
	Personnel	No. Required	Rate /day	Amount	
	Sub Total For Labor				
	Productivity ratio				
	3) Machinery				
	Machinery type	No. Required	Rate /day	Amount	Hired/Owned
	Sub Total for Machinery				
	Productivity ratio				
	Sub-total of unit price				
	Sum (1+2+3)				

ii) Haulage Cost	
Sub-totals of DC	
<i>b) Indirect Cost</i>	
<i>c) Overheads and Profits</i>	
Total Cost Sum (a+b+c) Carried forward to the BoQ	

Notes:

- Attach current (atleast 30 days before tender opening date) proof of cost of materials e.g. Proforma invoices/quotations.
- This form has been based on the principles of Cost Estimation Manual. The Cost Estimation Manual can be downloaded from the following website:
<https://krb.go.ke/downloads>

I certify that the above information is correct

.....
(Title)
Stamp)

.....
(Signature)

.....
(Date & Official

(For use during Tender Evaluation)

Form for Detailed Breakdown of Cost Comparison

Bill item No.	16.01
Description	Provide, lay and compact SUPERPAVE Asphalt Concrete for aggregate nominal size 19mm to carriageway.
Units	M ³
Quantity	2,800

Rate build up

a) *Direct cost (DC)* i) Unit work Price 1) Material Cost

Description	Units	Quantity	Market Price	Amount
<i>Sub Total For Material</i>				

2) Labour Price

Personnel	No. Required	Rate /day	Amount
<i>Sub Total For Labor</i>			
Productivity ratio			

3) Machinery

Machinery type	No. Required	Rate /day	Amount	Hired/Owned
<i>Sub Total for Machinery</i>				
Productivity ratio				

Sub-total of unit price	
Sum (1+2+3)	

ii) Haulage Cost	
Sub-totals of DC	
<i>b) Indirect Cost</i>	
<i>c) Overheads and Profits</i>	
Total Cost Sum (a+b+c) Carried forward to the BoQ	

Notes:

- Attach current (atleast 30 days before tender opening date) proof of cost of materials e.g. Proforma invoices/quotations.
- This form has been based on the principles of Cost Estimation Manual. The Cost Estimation Manual can be downloaded from the following website: <https://krb.go.ke/downloads>

I certify that the above information is correct

.....
(Title)
Stamp)

.....
(Signature)

.....
(Date & Official

(For use during Tender Evaluation)

Form for Detailed Breakdown of Cost Comparison

Bill item No.	20.09
Description	Provide material, transport, handle, mix and place raised precast road kerbs as specified in the drawings and as directed by the Engineer.
Units	MT
Quantity	15,000

Rate build up

a) *Direct cost (DC)* i) Unit work Price 1) Material Cost

Description	Units	Quantity	Market Price	Amount
Sub Total For Material				

2) Labour Price

Personnel	No. Required	Rate /day	Amount
Sub Total For Labor			
Productivity ratio			

3) Machinery

Machinery type	No. Required	Rate /day	Amount	Hired/Owned
Sub Total for Machinery				
Productivity ratio				

Sub-total of unit price	
Sum (1+2+3)	

ii) Haulage Cost	
Sub-totals of DC	
<i>b) Indirect Cost</i>	
<i>c) Overheads and Profits</i>	
Total Cost Sum (a+b+c) Carried forward to the BoQ	

Notes:

- Attach current (atleast 30 days before tender opening date) proof of cost of materials e.g. Proforma invoices/quotations.
- This form has been based on the principles of Cost Estimation Manual. The Cost Estimation Manual can be downloaded from the following website: <https://krb.go.ke/downloads>

I certify that the above information is correct

.....
(Title)
Stamp)

.....
(Signature)

.....
(Date & Official

Quality Management Plan

[insert Quality Assurance Plan]

[Tenderers are required to submit the Quality Assurance Plan (QAP) that outlines the systematic procedures, standards, and controls that will be implemented to ensure that all aspects of the highway construction project meet the specified quality requirements. This plan serves as a framework for maintaining compliance with contract specifications, industry standards, statutory regulations, and best practices throughout the project lifecycle.

The QAP defines the responsibilities of key personnel, inspection and testing protocols, material acceptance criteria, non-conformance management, and continuous improvement measures. It also establishes documentation and reporting procedures to ensure transparency, traceability, and accountability in quality management.

The Contractor shall adhere strictly to the approved Quality Assurance Plan. Any proposed modifications or deviations must be reviewed and approved by the Engineer prior to implementation. Regular quality audits, inspections, and corrective actions shall be undertaken to ensure that project deliverables align with the specified performance criteria.

This document shall be read in conjunction with the project specifications, method statement, and all other relevant contract documents. The Employer reserves the right to review, audit, and enforce compliance with the Quality Assurance Plan to guarantee the successful delivery of a high-quality infrastructure project.]

Form EQU: Contractor's Equipment

The Tenderers 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 Tenderers.

[Note: Equipment Information and current status for equipment leased from Government Agencies may be omitted]

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 <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Tenderers.

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	

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:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position: [Environmental Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position: [Health and Safety Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position: [Social Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>

	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
5.	Title of position: Gender Based Violence Expert <i>[Where a Project SEA risks are assessed to be high, Key Personnel shall include a gender-based violence expert with relevant experience in addressing sexual exploitation, and assault cases]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
6.	Title of position: [insert title]	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

**Form PER-2:
Resume and Declaration
Contractor's Representative and Key Personnel**

Name of Tenderers

Position [#1]: <i>[title of position from Form PER-1]</i>
--

Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
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
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned *[insert either “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:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>
Time commitment:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>

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

1. be taken into consideration during Tender evaluation;
2. result in my disqualification from participating in the Tender
3. 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 Tenderers:

Signature: _____

Date: (day month year): _____

ES Management Strategies and Implementation Plans

(ES-MSIP)

[The Tenderers shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITT 11.1 (h) of the Tender Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Tenderers shall have regard to the ES provisions of the contract including those as may be more fully described in the Works Requirements in Section VII.]

Code of Conduct for Contractor’s Personnel (ES) Form

CODE OF CONDUCT FOR CONTRACTOR’S PERSONNEL

We are the Contractor, *[enter name of Contractor]*. We have signed a contract with *[enter name of Employer]* for *[enter description of the Works]*. These Works will be carried out at *[enter the Site and other locations where the Works will be carried out]*. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and assault and gender-based violence.

Note to the Tenderers:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Tenderers may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Tenderers shall initial and submit the Code of Conduct form as part of its Tender.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as “**Contractor’s Personnel**” and are subject to this Code of Conduct.

This Code of Conduct identifies the behavior that we require from all Contractor’s Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor’s Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor’s Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person’s control are safe and without risk to health;
 - b. wearing required personal protective equipment;

- c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
- 4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
- 5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
- 6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
- 7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Procuring Entity financed projects, sexual exploitation occurs when access to or benefit from Procuring Entity financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;
- 8. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
- 9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
- 10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Assault (SEA);
- 11. report violations of this Code of Conduct; and
- 12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Project Grievance [Redress] Mechanism].

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Contractor's hotline (*if any*) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person with relevant experience in handling gender-based violence*] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

Form of Tender Security - Demand Guarantee

Beneficiary: _____

Request for Tenders No: _____

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

We have been informed that _____ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (hereinafter called "the Tender") for the execution of _____ under Request for Tenders No. _____ ("the RFB").

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

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 thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance Security and, if required, the Environmental and Social (ES) Performance Security, in accordance with the Instructions to Tenderers ("ITT") of the Beneficiary's Tendering document.

This guarantee will expire: (a) if the Applicant is the successful Tenderers, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, if required, the Environmental and Social (ES) Performance Security, issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful Tenderers, 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.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[signature(s)]

Form of Tender-Securing Declaration

Date: _____

RFB No.: _____

Alternative No.: _____

To:

We, the undersigned, declare that:

We understand that, according to your conditions, Tenders must be supported by a Tender-Securing Declaration.

We accept that we will automatically be suspended from being eligible for Tendering, or submitting Proposals in any contract with the Employer for the period of time of _____ starting on _____, if we are in breach of our obligation(s) under the Tender conditions, because we:

- (a) have withdrawn our Tender during the period of Tender validity specified in the Letter of Tender; or
- (b) having been notified of the acceptance of our Tender by the Employer during the period of Tender validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security and, if required, the Environmental and Social (ES) Performance Security, in accordance with the ITT 48.

We understand this Tender-Securing Declaration shall expire if we are not the successful Tenderers, upon the earlier of (i) our receipt of your notification to us of the name of the successful Tenderers; or (ii) twenty-eight days after the expiration of our Tender.

Name of the Tenderers* _____

Name of the person duly authorized to sign the Tender on behalf of the Tenderers**

Title of the person signing the Tender _____

Signature of the person named above _____

Date signed _____ day of _____, _____

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

** : Person signing the Tender shall have the power of attorney given by the Tenderers attached to the Tender

[Note: In case of a Joint Venture, the Tender-Securing Declaration must be in the name of all members to the Joint Venture that submits the Tender.]

PART 2 –Works' Requirements

Section VI- Specifications

Contents

Scope of Works.....150

Specifications151

Supplementary Information253

Scope of Works

The scope of works to be executed under the Contract involve mainly dualling of Phase II of the Got Rabuor – Homa Bay Pier – Corner Kodoyo Section of Kendubay – Homabay (B2) Road and upgrading of Access to Homa County Government Headquarters. The activities comprise but not limited to the following as shall be directed by the Engineer;

- (a) Provision of supervisory services
- (b) Removal and Reinstatement of Services
- (c) Setting out of the Works and construction control
- (d) Construction and Maintenance of deviation roads, improvement and maintenance of the existing road, passage of traffic through the works and rendering all possible assistance to the public when passing through the deviations or main works.
- (e) Site Clearance and Topsoil stripping of the working area within the road reserve
- (f) Scarification and in-situ compaction of suitable alignment soils.
- (g) Earthworks comprised mainly of medium height embankment construction, excavation and backfilling for unsuitable material.
- (h) Embankment protection works and provision of longitudinal drainage ditches (lined and unlined)
- (i) Extension of existing and Provision of pipe culverts and box culvert with appropriate inlet and outlet features and scour protection works
- (j) Construction of 300mm Improved Subgrade on sections with unsuitable alignment soils.
- (k) Construction of 175mm Thick Cement Improved Gravel Subbase
- (l) Construction of 150mm Thick Cement Improved Gravel Base.
- (m) Laying of 50mm thick Asphalt Concrete on Carriageway
- (n) Construction of (2.5x2.0) Box Culvert
- (o) Provision and erection of road furniture and road markings, and other miscellaneous works.
- (p) Construction of paved walkways
- (q) Carrying out HIV/AIDs and Road Safety Campaign
- (r) Supply and Installation of Solar Powered Street Lighting
- (s) Rectification of defects affecting the completed road for a period of six (6) months
- (t) Any other works as may be instructed by the Engineer

The Works detailed above are only indicative of the Scope of Works associated with this contract and the Engineer may, where necessary, substitute some of the Works with others within the project areas without substantially altering the overall Scope of the Works. Work shall be measured and paid using the relevant rates and prices in the Bill of Quantities.

The works will also include for any operations necessary for the safe and convenient passage of through and local traffic at all times.

Specifications

A. Standard Specifications

The Standard Specifications refers to the Kenya *Standard Specifications for Road and Bridge Construction, Ministry of Transport and Communications, 1986 Edition*.

B. Special Specifications

[The Special Specifications contained in this document provide project-specific requirements that supplement or modify the Standard Specifications for Highway Construction. These specifications address unique aspects of the project, including specialized materials, construction methods, performance criteria, and site-specific conditions that require particular attention.]

The Contractor shall ensure full compliance with these Special Specifications, in conjunction with the Standard Specifications, drawings, and other contract documents. In the event of any conflict between these Special Specifications and the Standard Specifications, the provisions of the Special Specifications shall take precedence.

Any clarifications or deviations from these requirements must be formally submitted to the Engineer for review and approval before implementation. The Employer reserves the right to amend or issue additional Special Specifications as necessary to ensure the successful execution of the project.]

SECTION 1 – GENERAL

100 GENERAL

Special Specification is supplementary to the Standard Specification and the two must be read in conjunction. In any case where there appears to be conflict between the two then the Special Specifications will take precedence.

In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of Design Manual for Roads and Bridges of the Ministry of Transport and communication of the Republic of Kenya, Kenya Bureau of Standards (KeBS), BS, ASTM, AASHTO and in that order. Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer shall be final and binding on the Contractor.

Where reference is made in the Contract to specific standards codes to be met by the materials, plant, and other supplies to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards as on the date of the bid and codes/design manual in effect shall apply, unless otherwise expressly stated in the contract. Where such standards and codes/design manual are national, or relate to a particular country or region, other internationally recognized standards which ensure a substantially equal or higher performance than the standards and codes/design manual specified will be accepted subject to the Engineer's prior review and written approval. The difference between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Engineer at least 28 days prior to the date when the Contractor desires the Engineer's approval. In the event that the Engineer determines that such proposed deviations do not ensure substantially equal performance, the Contractor shall comply with the standards specified in the documents.

101 LOCATION AND EXTENT OF SITE

The works comprise of construction and development of a section of the Kendubay – Homabay (B2) Road from Got Rabuor traverses Homabay Pier to terminate at Corner Kodoyo including Access to the Homabay County Government Headquarters. The project is being implemented in two phases. In phase II, the project length is approximately 3 Km from Got Rabuor to the B2/Homabay Pier Junction while the Access to HCG Headquarters is approximately 1.5 km.

It starts at Got Rabuor (36M, 663870.65 mE, 9941860.58 mS) and takes a westerly direction to end at the B2/ Homabay Pier Junction (36M, 661998.51mE, 9941890.74 mS) The Access Road starts at New County Government Headquarters (36M, 662848.11m E, 9937213.13mS) and takes westerly direction to terminate at the Olodo (36M, 6624417m E, 993717.86m S)

The site of the works shall be the area within the road reserve and any other places as may be designated in the contract.

102 EXTENT OF CONTRACT

General

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.

Scope of Works

The scope of works to be executed under the Contract involve mainly of dualling of the Got Rabuor – Homa Bay Pier – Corner Kodoyo Section of Road (B2) and upgrading of Access to Homa County Government Headquarters. The activities comprise but not limited to the following as shall be directed by the Engineer;

- (a) Provision of supervisory services
- (b) Removal and Reinstatement of Services
- (c) Setting out of the Works and construction control
- (d) Construction and Maintenance of deviation roads, improvement and maintenance of the existing road, passage of traffic through the works and rendering all possible assistance to the public when passing through the deviations or main works.
- (e) Site Clearance and Topsoil stripping of the working area within the road reserve
- (f) Scarification and in-situ compaction of suitable alignment soils.
- (g) Earthworks comprised mainly of medium height embankment construction, excavation and backfilling for unsuitable material.
- (h) Embankment protection works and provision of longitudinal drainage ditches (lined and unlined)
- (i) Extension of existing and Provision of pipe culverts and box culvert with appropriate inlet and outlet features and scour protection works
- (j) Construction of 300mm Improved Subgrade on sections with unsuitable alignment soils.
- (k) Construction of 175mm Thick Cement Improved Gravel Subbase
- (l) Construction of 150mm Thick Cement Improved Gravel Base.
- (m) Laying of 50mm thick Asphalt Concrete on Carriageway
- (n) Construction of (2.5X2.0) box culverth
- (o) Provision and erection of road furniture and road markings, and other miscellaneous works.
- (p) Construction of paved walkways
- (q) Carrying out HIV/AIDs and Road Safety Campaign
- (r) Supply and Installation of Solar Powered Street Lighting
- (s) Rectification of defects affecting the completed road for a period of six (6) months
- (t) Any other works as may be instructed by the Engineer

The Works detailed above are only indicative of the Scope of Works associated with this contract and the Engineer may, where necessary, substitute some of the Works with others

within the project areas without substantially altering the overall Scope of the Works. Work shall be measured and paid using the relevant rates and prices in the Bill of Quantities.

The works will also include for any operations necessary for the safe and convenient passage of through and local traffic at all times.

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.

104 PROGRAMME OF EXECUTION OF THE WORKS

The Contractor shall provide the works programme required under Clause 8.3 of the Conditions of Contract within **seven (7) days** of receipt of the Engineer's order to commence work. The programme shall be in the form of a computerised critical path method and shall be updated every month to reflect all the circumstances affecting the progress of the works at that time.

The programme 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 programme agreed with the Engineer, but he shall in no manner be relieved by the Engineer's approval of the programme, 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.

The Contractor shall make allowance in his works program for the requirements of Clause 1506A of the Special Specifications, and any associated additional costs shall be included in his rates and prices generally

105 ORDER OF EXECUTION 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 road is provided.

107 CERTIFICATE OF SUBSTANTIAL COMPLETION

The minimum length of road for which a certificate will be issued is three (3) kilometres of continuous road when substantially completed.

The restoration of borrow pits and quarries is subject to the restoration requirements of Section 6 of these Specifications.

108 METHOD OF CONSTRUCTION

The Engineer's normal working hours shall be 8 hours from Monday to Friday and 5 hours on Saturday with Sunday set aside for rest.

If the Contractor wishes to execute permanent works outside these hours, he shall meet any extra costs arising thereof in addition to giving a day's notice in writing.

109 NOTICE OF OPERATIONS

Add the following Sub- Clauses:

109.1 Notification Terms

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

117 HEALTH, SAFETY AND ACCIDENTS

The Contractor shall prepare a specific Occupational Health and Safety Management Plan for the project, which shall be submitted to the Engineer not later than 4 weeks after the notice to commence the Works. This Management Plan shall incorporate but not be limited to, the requirements of Clause 117, and identify the risks and mitigation measures, and specify monitoring indicators and reporting requirements.

As part of the occupational health and safety program the Contractor shall provide training for all employees on how to ensure their own personal safety, and on ways to reduce the accident risk on site. The Safety Officer shall provide training in safe work practices and general awareness of potential danger situations to avoid injuries. In addition, all employees handling dangerous/toxic materials shall be trained on how to handle such substances.

All the Contractor's personnel shall, before commencing work, have an induction course on safety and health at the site. The information and training shall be on site and have duration of at least two (2) hours. It shall be conducted in a language which is appropriate for the personnel, to ensure that all personnel can understand the information and instruction. Follow-up training sessions shall be carried out during the course of the project.

There is no separate payment for these requirements and the costs should be included in the Contractor's rates and prices generally.

Penalty for failure to comply with requirements of Clause 117 of the Specifications

Failure by the Contractor to employ a suitably qualified Safety Officer and institute health and safety measures on site as per clause 117 will lead to a penalty of Kshs 100,000.00 (Four Hundred Thousand Kenya Shillings) per day until such a time that the Engineer is satisfied that adequate health and safety measures are in place. This penalty will be effected after elapse of 14 days notice given in writing to the Contractor. Any penalty deducted on elapse of this notice will not be recoverable.

120 PROTECTION OF EXISTING WORKS AND SERVICES

a) 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 or for the making good of damage caused thereby to the existing services.

b) 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).

121 DIVERSION OF SERVICES

a) The Contractor shall be responsible for arranging for the moving of services, subject to the approval of the Engineer, where necessitated by the Works and shall pay any charges arising from the moving of the services or alteration to services such as power lines, telephone lines, water pipes and the like. Prime Cost sums for this work have been included in the Bill of Quantities No.1. Subject to the approval of the Engineer and upon production of payment receipts from the service authorities, the Contractor shall be reimbursed in interim payment certificates the net cost of such moving or alteration, plus the percentage inserted in the Bill of Quantities for the Contractor's overheads and profits in making the payment, which includes for the liaison and arranging of the moving of services.

b) Immediately after the Engineer's order to commence work, the Contractor shall identify all services along the project road, and following approval from the Engineer, shall arrange for their prompt relocation where necessitated by the Works. The Contractor's work programme shall allow adequate time for the identification and relocation of services.

124 PROVISION OF LAND

The Employer will only provide land to accommodate the road reserve and roadside amenities, and all other land required by the Contractor for the execution of the contract is subject to the prior approval of the Engineer, but is the total responsibility of the Contractor.

The Contractor will make all necessary arrangements with the property owners concerned and pay all charges arising there from, on or before the 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.

The Contractor shall notify the Engineer of any encroachment into the road reserve at the earliest opportunity.

126 MATERIALS AND MANUFACTURED GOODS

Notwithstanding the provisions of Clause 126 of the Standard Specification, the Contractor's attention is drawn to his obligations with regard to quality and delivery schedule of materials and goods obtained from suppliers. Should the Engineer at any time be dissatisfied with any goods and materials intended for use by the Contractor upon the Works, he shall be empowered to reject the goods and materials and shall order that others of acceptable quality replace them. Any more work that may consequently have to be redone and the costs of the new supplies shall be borne by the Contractor.

127 INFORMATION FROM EXPLANATORY BORING AND TEST PITS

Omit the content of Clause 127 and substitute the following Sub-Clauses: -

127.1 Factual Materials Report

The Factual Materials Report for this Contract does not form part of the Contract Documents. However, the Report will be made available for the Contractor's information only and any conclusions on issues such as suitability of materials, location of borrow pits, material quantities etc., made by the Contractor on the basis of the Factual Materials Report, will be at his own risk.

127.2 Trial Sections

The Contractor shall allow in his programme for constructing 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 changes of materials, method, or equipment deem 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 tests on them.

At **least fourteen days** before the work of laying any pavement layer is commenced, the contractor shall construct trial sections of at least 100 m in length and to the full construction width and the specified pavement layer thickness. For each trial section, the Contractor shall use the materials, mix proportions, mixing, laying, compaction equipment 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.

No variation in the construction procedure, mix proportions, size, grading or source of any of the constituents shall be made without the agreement of the Engineer who may first require new trial sections to be carried out.

Trial sections, if found satisfactory, will be paid for under the rates in the Bill of Quantities for the appropriate items, as if the trial sections were part of the normal work. No separate payment will be made for trial sections and testing.

The Contractor shall make good, at his own expense; any trial sections that fail to meet the specified standards. The standards shall include, but not be limited to, material quality, layer thickness, levels and compaction.

The Contractor shall make allowance in his works program for the requirements of Clause 1506A of the Special Specifications, and any associated additional costs shall be included in his rates and prices generally.

131 SIGNBOARDS

The Contractor shall provide and erect two (2) 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 KeNHA'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 colours, 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 transported to RD's Yard at the end of Defects liability Period.

132.7 ENGINEER'S LABORATORY AND SURVEY EQUIPMENT

The Contractor shall provide Engineer's laboratory as shown in the Book of Drawings and provide all the laboratory equipment, reagents and survey equipment as required by the Engineer. The Contractor shall be paid under appropriate bill items in the Bills of Quantities or on provision of receipts as required by the Engineer.

The Contractor may be directed to pay for stationery, equipment or reagents that are foresaid and also pay for servicing and repair of the laboratory equipment being used on the project.

The Contractor shall provide, install and maintain in a good state of repair, such laboratory, survey and other equipment as listed for the duration of the contract.

Such equipment shall be of approved manufacture, and shall be made available to the

Engineer for the Engineer's exclusive use throughout the Contract, not later than three (3) weeks after the Engineer's order to supply. All equipment shall be ready to use and complete to perform the tests. The equipment shall revert to the Employer on completion of the Contract

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 Contractor's own actions, and any consequences of such delays shall be interpreted as such.

The payment to comply with this requirement is provided in the Bill of Quantities and ownership of all equipment shall revert to the Employer after the completion of the Works.

Failure by the Contractor to provide or maintain the equipment shall make him responsible to bear all costs that may be incurred as a result of the Engineer's staff using alternative means of communication, including delays in supervision and approval of Works by the Engineer. List of Laboratory and Survey Equipment shall revert to the Employer at the end of the Contract.

The laboratory equipment shall be purpose-made for use in highways materials testing laboratories and shall comply with the relevant British (BS) or American (AASHTO) Standards.

Resident Engineer's Laboratory Furniture and Equipment

As listed in Appendix to Item 1.02 of the bills of quantities.

Resident Engineer's Survey Equipment

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

132.1 ENGINEER'S REPRESENTATIVE OFFICE

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, furniture and equipment, 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 Contractor will, on provision of receipts, be paid under appropriate bill items in the BOQ.

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

137 ATTENDANCE UPON THE ENGINEER AND HIS STAFF

The Contractor shall pay wages (including all overtime) attendant staff to fulfil the requirements of Clause 137 of the Standard Specification., shall be as specified in the attached table:-

<u>Designation</u>	<u>Number</u>
Resident Engineer	1
Assistant Resident Engineer	1
Engineer (<i>Projects</i>)	1
Assistant Engineer	1
Graduate Engineer	1
Trainee Engineer	1
Roads Inspector	1
Assistant Inspector	2
Trainee Inspector	1
Assistant Surveyor	1
Lab Technician	1
Lab Attendant	1
Leveller	1
Chainman	2
Assistant ICT	1
Office attendant	1
Sociologist	1
Environmentalist	1

and shall be paid for under Item 1.02 of the Bill of Quantities.

138 PROVISION OF VEHICLES

The vehicles to be supplied will be brand new, right hand drive, diesel powered and fitted with air-conditioner and power steering as described below:

•Two (2) new 4WD Deluxe Double cabin Pick Up vehicles of minimum 2.8 litre diesel engine, or equivalent approved, fitted with mobile telephone hands-free headset and 2-way radio, with full options (fully loaded).

The Contractor shall insure comprehensively the vehicles for any licensed drivers 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 immediately provide an acceptable equivalent replacement vehicle until such time as the original vehicle is repaired to the satisfaction of the Engineer and returned to use.

Payment for the vehicles shall be by a rate per vehicle month for the provision of vehicles and inclusive of the first 4000 Km for the running cost per vehicle month and a rate per kilometre for the running costs, above the 4000 Km per month which shall include for all fuels, lubricants, servicing insurance, maintenance, driver and repairs. The km rate shall include for any overtime the driver might be due or any other allowances in addition to the normal working hours.

Ownership of all the vehicles mentioned above shall revert to the Contractor at the end of the contract.

In addition, the monthly rate for running costs of vehicles shall also include:

- (i) Cost of any repairs necessary as shall be required to meet roadworthiness and compliance with registration requirements
- (ii) Any other repairs as shall be instructed by the Engineer

139 MISCELLANEOUS ACCOUNTS

The Contractor may be instructed by the Engineer to make payments of general receipted accounts for such items as stationery, stores, furniture and equipment, 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 Contractor will, on provision of receipts, be paid under Bill No. 1; Preliminaries and General

140 PAYMENT OF OVERTIME FOR ENGINEER'S JUNIOR STAFF

Delete in the last line the words "shall be at the Contractor's own expense" and substitute with "including the specified percentage for administrative overheads shall be paid by the Contractor to the Engineer".

Add the following:

- (i) If the Contractor wishes to execute permanent work outside the Engineer's normal working hours, as stated in Clause 108 of this Specification, then the payment for the overtime for Engineer's support staff shall be reimbursed in full by the Contractor, at

- the rate specified by the Engineer for his staff, to the Engineer plus a 20 percent additional amount to cover for the Engineer's administrative overheads.
- (ii) If the Contractor wishes to execute permanent works on a regular basis outside the Engineer's normal working hour, (Clause 108 of this Specifications) over a prolonged period, the Engineer may, if he deems necessary, employ additional supervisory staff for which the required salaries, plus 20 percent (20%) additional amount to cover for the Engineer's administrative overheads shall be reimbursed in full by the Contractor to the Engineer. In addition, the Contractor shall provide the required accommodation facilities for such staff at his own cost. The Contractor shall not be reimbursed for any of these costs.

141 MEASUREMENT AND PAYMENT

Delete Sub-Clause 141 (a) entirely and substitute with:

- a) No Preliminary item has been included in this Contract. All Contractor's mobilisation and general costs shall therefore be included in relevant rates in the Bill of Quantities.

142 ENVIRONMENTAL PROTECTION

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 two (2) 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.

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

(i) 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 instalments over the period of the Contract excluding the Period of Maintenance. The total sum of the instalments 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.

Penalty for failure to comply with requirements of Clause 142 of the Specifications

Failure by the Contractor to fully comply with the requirements of Clause 142 will lead to a penalty of Kshs 100,000.00 (Four Hundred Thousand Kenya Shillings) per day in addition to the forfeiture of monthly instalment due until such a time that the Engineer is satisfied that the Contractor has fully complied with the requirements of this clause. This penalty will be effected after elapse of 14 days notice given in writing to the Contractor. Any penalty deducted plus the forfeiture of monthly instalment on elapse of this notice will not be recoverable.

143 EXTENSION OF TIME ARISING FROM ABNORMAL RAINFALL

Extension of time as provided in the General Conditions of Contract arising from abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the formula given below. It shall be calculated for the whole period for completion of the Contract including any extensions thereof:

If V is negative and its absolute value exceeds N_n the V shall be taken as equal to minus N_n .

The symbols shall have the following meanings:

V = Extension of time in calendar days in respect of the calendar month under consideration.

N_w = Actual number of days during the calendar month which a rainfall of Y mm or above has been recorded.

R_w = Actual rainfall in mm for the calendar month under consideration obtained from the Meteorological Department of the Ministry of Water, Lands and Environment, or from a source agreed to in writing by the Engineer.

N_n = Average number of days, as derived from the existing rainfall records of the Department of Meteorology provided in the Special Specifications, or as agreed to, in writing by the Engineer, on which a rainfall of Y mm or more has been recorded for the calendar month.

R_n = Average rainfall in mm for the calendar month, as derived from the rainfall records of the Department of Meteorology provided in the Special Specifications, or as agreed to, in writing, by the Engineer.

x = 20mm per day unless otherwise provided in the Special Specifications.

Y = 10 unless otherwise provided in the Special Specifications.

The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. Extensions of time for part of a month shall be calculated using pro rata values of N_n and R_n .

The factor $(N_w - N_n)$ shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm.

The factor $(R_w - R_n)/x$ shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall does not exceed Y mm but wet conditions prevented or disrupted work.

Information regarding existing rainfall records, if available from a suitable rainfall station near the Site, will be supplied in the Special Specifications together with calculations of extensions of the time for previous years in accordance with the above formula.

If no suitable rainfall records are available, the above formula will not apply, and rain gauges shall be installed by the Meteorological Department at locations approved by the Engineer. These shall include all sections where the Contractor is working including Borrow Pits. All readings shall be taken by the Meteorological Department and agreed jointly with the Engineer on a daily basis.

As soon as is practicable after the end of each month, the Contractor shall collect daily records for that month and shall calculate V for that month, as specified. The records and calculations shall be submitted to the Engineer without undue delay.

No separate payment shall be made to the Contractor in respect of, the requirements of this Clause, and the resultant extension of time, and the Contractor shall allow for any related costs elsewhere in his/her.

SECTION 2 - MATERIALS AND TESTING OF MATERIALS

202 TESTING BY THE CONTRACTOR

Add the following:

202.1 Contractor's Testing

The provision of the Engineer's laboratory and testing equipment, as specified in Section 1 of this Special Specification, does not relieve the Contractor of his obligation to provide laboratory and testing equipment and execute his own testing, in conformity with the specified requirements in the Standard Specification.

204 SIEVES

In the standard sieve series, delete the size of the greater sieve “75”mm and replace by a “100” mm size.

205 SOILS AND GRAVEL

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

- a) After four days soaking in the case of neat materials and,
- b) After seven days curing plus seven days soaking in the case of cement/lime improved materials.

207 CEMENT

In addition to the requirements of clause 207 of the standard specifications, Ordinary and Rapid setting Portland cement shall be sampled and tested in accordance with, and shall comply with the latest equivalent revised standards.

211 BITUMINOUS BINDERS

a) Requirements

Straight run bitumen in addition to the requirements of the Standard Specification the ash content of penetration grade bitumen shall not exceed 0.5% by weight.

b) Types of Bitumen

Prime coat shall be type MC30 unless otherwise stated. Tack coat shall be K1-70 emulsion. For surface dressing the binder shall be 80/100 bitumen.

224 TRIAL SECTIONS

The Contractor shall allow in his programme for the construction of trial sections and carrying out tests upon them as directed by the Engineer. The time of completion of the contract shall not be extended because of the time taken to carry out tests and evaluate trial sections.

No variation in the construction procedure, mix proportions, spray or spread rates, size, grading or source of any constituents shall be made without the approval of the Engineer.

226 FREQUENCY OF TESTING

Add the following:

226.1 General Acceptance Criteria for Test Results

Conventional statistical techniques shall be used alongside the above said criteria (where applicable).

227 MEASUREMENT AND PAYMENT

No additional measurement and payment will be made for testing of materials, trials, etc, in conformity with the standard specification.

228 WORKMANSHIP AND QUALITY CONTROL

The Contractor shall, not later than 4 weeks after the notice to commence the Works, submit a project specific Quality Management System, including the Work Method Statements and Quality Audit for major items of work, showing how all the Contractor's systems will ensure that all the works will conform to the Contract documents. The onus rests with the Contractor to produce work which conforms in quality and accuracy of detail to all the requirements of the Specifications and Drawings, and the Contractor shall, at his own expense, institute a quality control system and provide experienced engineers, foremen, surveyors, materials technicians, other technicians and other technical staff, together with all transport, instruments and equipment, to ensure adequate supervision and positive control of the Works at all times. The Contractor shall provide chainmen and labourers as necessary for the Engineer to carry out checks on the Works.

The Contractor shall conduct tests or have them conducted continually on a regular basis, to check the properties of natural materials and processed natural materials and of products manufactured on the site, such as concrete and asphalt. The Contractor shall remain fully responsible for any defective material or equipment provided by him. Similarly, the quality of all elements of the Works shall be checked on a regular basis so as to ensure compliance with the specified requirements.

The intensity of control and of tests to be conducted by the Contractor in terms of these obligations shall be adequate to ensure that proper control is being exercised.

Where any natural materials or products made from natural materials are supplied, and upon completion of each element of the construction work, the Contractor shall test and check such materials, products and/or elements for compliance with the specified

requirements and shall submit his results to the Engineer for approval. Such submission shall include all his measurements and test results and shall furnish adequate proof of compliance with the specified requirements.

No specific pay items are provided as compensation for the above obligations, including the provision of all samples delivered to the Engineer, the repair of places from which samples were taken, and the provision of the necessary personnel and testing apparatus and facilities, for which compensation shall be included in the bid rates of the Contractor for the various items of work to which these obligations apply.

The Contractor shall submit to the Engineer for examination, the results of all relevant tests, measurements and levels indicating compliance with the Specifications on completion of every part of the Work.

SECTION 3 - SETTING OUT AND TOLERANCES

301 SETTING OUT

Add the following to (a) General

If the traverse points to be used for the setting out are close to the existing carriageway and interfere with construction works then the Contractor shall relocate them to a location where they will not be disturbed. The co-ordinates and heights of all traverse points so located shall be listed and provided to the Engineer for checking and/or approval. The Contractor shall also monument the new centreline every 200m along straight and all salient points along curves by a pin in the concrete beacon before commencement of any works.

The reference points to define the road reserve shall have 12 mm diameter steel pins embedded in concrete, 200 mm long with 25 mm exposed to the air, sticking out from its top surface. This pin shall be co-ordinated and heighted and the result of the same shall be provided to the Engineer for approval. The cost of these works shall be included in the Contractor's unit rates for other items, as no separate payment item has been provided in the Bill of Quantities.

Commencement of the Works shall not be permitted until this basic survey data has been provided and approved by the Engineer for at least 5 km of the road.

Add the following to (b) Detailed Setting Out

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

After cutting of benches and prior to commencement of earthworks or subgrade works, the Contractor shall take cross-sections again and submit the copy of the same to the Engineer for agreement. These cross-sections shall when agreed be used as the basis of measurement for all subsequent layers, unless otherwise stated.

302 TOLERANCES

Add the following:

Pavement Widths

For Pavement widths for subbase, base and binder course, the allowable tolerances shall be -0 to +50 mm.

(k) Pipe Culverts

The maximum deviation from the specified line of a drainage pipe shall be: -

Horizontal -20 mm in 3.0 m

Vertical -30 mm in 10.0 m

305 AS BUILT DRAWINGS AND MAINTENANCE MANUALS

Prior to the issue of a Taking Over Certificate the Contractor shall provide three (3) electronic copies of as built drawings, and where appropriate, maintenance manuals showing the Works as constructed, and details of the correct operation and maintenance of ancillary Works. No separate payment shall be made for this requirement, and costs for compliance shall be deemed to be included in the Contractor's general rates and prices.

SECTION 4 - SITE CLEARANCE AND TOP SOIL STRIPPING

401 SITE CLEARANCE

The Contractor's attention is drawn to the requirements of Clause 142 regarding preservation of existing trees and native shrubbery and vegetation, and environmental requirements generally.

Site clearance is to be confined within the road reserve, and site clearance is not required over the existing road. The remaining area required for construction purposes, including sides of existing embankments and cuttings shall be cleared as instructed by the Engineer. Generally, light clearance shall be done on areas covered by grass and light thickets while heavy clearance shall cover sections in dense bush.

Site clearance of areas necessary for the execution of the contract, outside the road reserve, and for quarries, borrow pits, stockpiles, spoil tips, haul roads and deviation roads, will be subject to the approval of the Engineer, but shall be the responsibility of the Contractor, and no separate payment will be made.

402 REMOVAL OF TOPSOIL

Topsoil shall include removal of up to 200mm depth of any unsuitable material as directed by the Engineer.

403 REMOVAL OF STRUCTURES, FENCES AND OBSTRUCTIONS

Items have been included in the Bill of Quantities for the removal of existing pipes, inlet and outlet structures for pipe and box culverts and existing concrete structures.

When instructed by the Engineer, the Contractor shall demolish or remove other additional structures or obstructions.

Measurement and payment for removal of obstructions and structures shall be made against the quantities provided in Bill No.4 of the Bill of Quantities.

SECTION 5 –EARTHWORKS

500 SCOPE OF SECTION

The scope of this section includes all earthworks associated with the Contract.

503 CLASSIFICATION OF MATERIAL

Add the following to (a) Hard material:

Hard materials include materials which require drilling and blasting to enable removal.

Add the following to (b) Soft material:

Unsuitable materials include:

- (i) All material containing more than 5% by weight of 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%.
- (iii) All clay of plasticity index exceeding 45 or of liquid limit exceeding 70.
- (iv) All material having moisture content greater than 105% of optimum moisture content (AASHTO T99)

504 PREPARATION PRIOR TO FORMING EMBANKMENT

Add the following at the end:

Where benching is required to 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.

505 CONSTRUCTION OF EMBANKMENTS

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

- *Material containing more than 5% by weight of organic matter, such as topsoil, humus, material from swamps, mud, log stumps and perishable material.*
- *Material with a swell of more than 3%*
- *Clay with a liquid limit exceeding 50%*
- *Material having a moisture content greater than 105% of optimum moisture content (standard compaction) in its naturally occurring state.*

Fill material shall comply with the following requirements:

- *Organic matter less than 5% by weight*
- *Swell less than 2%*
- *Plasticity Index less than 45%*
- *CBR : minimum 6% (at 100% AASHTO T99 – 4 days soak)*

Removal and replacement of expansive material

The requirements for the backfill material shall be as follows:

Permeability: Coefficient of saturated permeability (k) not to exceed 5×10^{-7} cm/sec at 95% AASHTO T99 or the anticipated or actual field density, when tested according to AASHTO T 215 or another approved method using a similar grading to that achieved on the road after compaction. The permeability shall also be checked on the road using a suitable field test at least at each change of material.

Atterberg limits and grading (after compaction):

- *Maximum Size: 75mm or 0.4 of compacted layer thickness, whichever is the greater*
- *Liquid limit: 25-45*
- *Plasticity Index: 10 (12 preferred) – 25 (20 preferred)*
- *Weighted Plasticity PI: 500-2000%*
- *Casagrande plot: above the A-line*
- *Material passing the 75 μ m: 8-15 minimum, depending on grading*

- *CBR at 100% AASHTO T99: >6%*
- *CBR swell at 100% AASHTO T99: <2%*

Compaction shall be in 150 or 200 mm lifts of compacted thickness to at least 95% (AASHTO T 99) in general and at least 100% in the upper 150-200mm. The maximum compacted thickness shall additionally be limited to two-thirds of the length of the feet of any tamping roller used.

Stockpiling of expansive material

All expansive material excavated from the road prism and from beneath embankment positions shall, insofar as practicable, be used for the flattening of slopes to embankments as shown on the drawings or as directed by the Engineer.

The Contractor shall not dispose of any excavated material from the road prism without the approval of the Engineer. Excavated material, which is unsuitable for use in any part of the works, shall be disposed of at points approved by the Engineer and in a manner satisfactory to him.

Expansive material to be reserved for later use in flattening the slopes of the embankment shall be loaded, transported and temporary stockpiled longitudinally and on both sides of the proposed road in approximate equal quantities, as shown on the drawings and as ordered by the Engineer.

The Engineer will, in ordering the locations for temporary stockpiling of unsuitable materials, ensure that full and free access to the works area will be maintained at all times.

Improved Subgrade Material

Improved subgrade layer is defined on the Drawings and shall comply with the following requirements:

- *CBR of not less than 15% measured after 4 day soak on a laboratory mix compacted to a dry density of 100% (AASHTO T99)*
- *Plasticity Index less than 30%*
- *Swell less than 1% on the laboratory mix sample.*
- *Maximum Dry Density (MDD) not less than 1500kg/m³*
- *Where Native Subgrade Class is S1, S2 or S3, the subgrade shall be improved as per the table below to ensure a new class S4(min CBR 15%) or as directed by the Engineer..*

IMPROVED SUBGRADE			
Native Subgrade Class		S1	S2
Improved Subgrade	First layer material	G8	G15
	Thickness(mm)	275	150
	Second layer material	G15	-
	Thickness(mm)	150	-
New Class		S4	S4

Subgrade shall mean the upper 350mm of earthworks, either in-situ or in fill and subgrade shall be provided as part of the earthwork operation, and payment shall be made as fill.

G8 is a natural fill material with a minimum 4 days soaked CBR of 8%

G15 is a natural fill material with a minimum 4 days soaked CBR of 15%

The first layer underlies the second layer

508 COMPACTION OF EARTHWORKS

Fill above ground level around pipe culverts shall be compacted to a field density of 100%MDD (AASHTO T99) 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.

Adjacent to structures, all fill above ground level up to the underside of the subgrade shall be compacted to density of 105% MDD (AASHTO T99). 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.

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. Clauses in the Specifications applying to normal subgrade shall also apply.

509 MASS-HAUL DIAGRAM

Replace the first sentence of the last paragraph by the following:

The mass haul diagram is drawn in “cut” on the basis that 1m³ of material obtained from cuttings will produce an equal volume of material when compacted in fill.

510 SPOIL MATERIAL

The Contractor's attention is drawn to the requirements of Section 6 of this Specification.

Where possible, spoil material is to be utilised in the backfill and restoration of borrow pits and quarry areas.

511 BORROW PITS

Replace the first two paragraphs by the following:

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 and approved by the Engineer.

514 TOPSOILING AND GRASSING

Top soiling and grassing shall be to all areas instructed by the Engineer. Top soiling and grassing of spoil, borrow, stockpile and quarry areas, including payment thereof, shall be in accordance with Section 6 of these Specifications.

517 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 this Special Specification and no extra payment shall be made for compaction around pipe culverts.

(e) Re-place this sub-clause with the following:

No separate payment whatsoever shall be made for haulage or overhaul of materials, and the Contractor shall ensure that he has included in his unit rates for each and every item, as appropriate, for all necessary haulage and associated costs. The Contractor's unit rates shall be deemed to adequately cover for all materials handling and haulage necessary from/to borrow areas, spoil areas, and/or stockpiles, as appropriate.

The rate for cut to spoil shall also allow for cutting to spoil in any waterlogged areas.

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

603 GENERAL

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for, nor has identified any specific areas for, quarries, borrow pits, stockpiles and spoil areas, and for access thereto.

The Contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, winning, 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.

Quarries, borrow pits, stockpile and spoil areas shall be progressively restored as the works progress once their use is no longer required.

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

605 SAFETY AND PUBLIC HEALTH REQUIREMENT

Add the following to Clause 605:

When working the material sites, the Contractor shall time and arrange his works in such a way that at no time is the public safety endangered in any way.

607 SITE CLEARANCE AND REMOVAL OF TOPSOIL AND OVERBURDEN

Add the following to Clause 607:

Faces of quarries being higher than 4 meters shall be shaped to 1:10 out of the face. All quarries and borrow pits shall be permanently fenced with 5 strand barbed wire which shall be located 5 meters off the edge of the face. After reinstatement, the bottom of a quarry shall be covered with 0.20 m of soil and 0.15 m of topsoil.

611 OBTAINING OF BORROW MATERIALS

(a) Borrow Pit Locations

Borrow materials shall be located and obtained by the Contractor. Borrow materials shall comply with the requirements of the appropriate Specifications according to the use for which the material is intended.

The Contractor shall search for and test all possible sources of borrow material including any possible sources so designated by the Engineer, within an economic distance of the location where the borrow material is to be utilized.

The Contractor shall excavate the necessary trial holes, take such samples and perform such tests as are deemed necessary by the Engineer. The Contractor shall submit all the results to the Engineer in sufficient detail to satisfy him that the quality and quantity of material available in the proposed borrow area are acceptable for the intended use, all at the Contractor's expense. The Contractor shall propose the use of those borrow pits which will be most economic to the Employer.

Approval of borrow pits or borrow areas shall apply only to those portions of the pit or area from which acceptable materials can be obtained or produced. The Contractor shall conduct his operations in any approved pit or borrow area or portions thereof so as to produce acceptable material.

Any approval given by the Engineer shall not relieve the Contractor of the responsibility of ensuring that material obtained from a borrow pit or area complies in all respects with the specification for the material.

The Contractor shall plan his exploitation of borrow pits in such a manner that the various materials excavated can be selected and either loaded directly for use or pushed to stockpile in a borrow area for later loading. When this is not feasible for reasons beyond the Contractor's control, material to be reserved for later use shall be loaded, transported and temporarily stockpiled as ordered by the Engineer at locations outside the borrow area indicated by him and such temporary stockpiling shall be measured and paid for as Day works. No material reserved for a specific purpose shall be used for other purposes without the written approval of the Engineer.

612 OPENING AND WORKING OF BORROW PITS

(a) Clearing and Grubbing, Topsoil and Overburden

The Contractor's rate for borrowed material must include for clearing and grubbing and the removal of topsoil and overburden. No separate payment will be made for this work.

(b) Excavation of Borrow Material

Where any borrow pit contains different types of materials, in separate layers which require to be mixed in order to produce a suitable product, the materials shall be excavated over the full depth of approved face in one operation without separation of the different types of material.

The Contractor shall exercise all reasonable care so as to avoid contamination of approved borrow material by the inclusion of clayey or otherwise unsuitable material from the floor of the borrow pit, from overburden, from unsuitable layers or from areas beyond the

approved limits of the borrow area. During loading hard oversize material which will not break down during processing on the road shall be excluded as far as is practicable.

During the course of borrow operations and especially when excavating near the floor and outer boundaries of borrow areas, the Contractor shall plan his operations so as to reduce as far as possible the amount of earthmoving that will be necessary for the reinstating of borrow pits. Indiscriminate excavation without due regard for the desired final shape of the borrow pit will not be permitted.

The material in borrow pits shall be blasted or ripped and/or excavated in a manner that will ensure the effective breaking down of the material in the borrow pit before it is loaded. Rippable material which tends to break into large blocks shall be cross ripped.

(c) Quality Control at Borrow Pit

The Contractor shall be responsible for controlling his operations at every borrow pit where material is being excavated, to ensure compliance with the requirements of Sub-section (b) above.

He shall carry out sufficient tests on the material being excavated from the borrow pit in order to satisfy himself that the quality of the material will comply with the specified requirements for the particular layer for which it will be used.

(d) Protection of Borrow Pit

Borrow pits shall be continuously protected against the ingress of surface water and the Contractor shall construct such temporary banks as may be required to divert surface water and as far as possible his operations shall be planned in such a way that the borrow pit is self-draining. Where this is not possible, borrow pits shall be dewatered by pumping. The Contractor shall be solely responsible for keeping borrow areas dry and ensuring that borrow material is sufficiently dry when required for use.

613 REINSTATEMENT OF BORROW AREAS

On completion of his operations in a borrow area, the Contractor shall reinstate the entire area so as to blend with the surrounding area and to permit the re-establishment of vegetation. For this purpose the borrow area shall be shaped to even contours. All material in and around the borrow area, whether spoil from road building operations, excess stock-piled material, oversize material left in the borrow pit, material resulting from clearing and grubbing operations and excess overburden, shall be used or disposed off as directed by the Engineer. Material not capable of supporting vegetation shall be buried and used in shaping the borrow area and subsequently covered with soft material. All available soft material shall be spread evenly to the thickness directed and where sufficient material is not available for this purpose to cover the entire area, the remaining portions shall be scarified along the contours so as to avoid undue erosion.

All haul roads shall be obliterated and the surface scarified, earth banks constructed to prevent erosion and all damaged fences and other structures reinstated.

The shaping and reinstatement of the borrow pit shall be done in such a way that the borrow pit will be properly drained whenever practicable and where required, the Contractor shall place earth banks to divert any surface water away from the borrow area.

The reinstatement of any borrow pit shall be to the entire satisfaction of the Engineer and the Contractor shall submit to the Engineer a signed certificate from the landowner stating that he is fully satisfied with the reinstatement of any borrow area.

614 DISPOSAL OF BORROW MATERIAL

The Contractor shall not have the right to use material obtained from borrow pits for any purpose other than for the execution of this Contract. He shall not dispose off any borrow material whether processed or not either by sale or donation to any person without the written authority of the Employer.

615 MEASUREMENT AND PAYMENT

Clause 610 of the Standard Specification shall apply

SECTION 7 - EXCAVATION AND FILLING FOR STRUCTURES

703 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 T99) immediately before structures are constructed.

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

707 BACKFILLING FOR STRUCTURES

All backfilling material shall be selected backfill complying with the requirements for a natural subbase material given in Clause 1203. Unless otherwise instructed by the Engineer, all backfilling material shall be compacted to a minimum of 100% MDD (AASHTO T99).

Porous filter material shall be clean, uniform, sand or crushed aggregate with a d50 between 0.4mm and 1.2mm and less than 5% particles finer than 75 micron sieve. The d100 must be lower than 5mm.

709 EXCAVATIONS FOR RIVER TRAINING AND NEW WATER COURSES

Add the following:

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.

710 STONE PITCHING

Stone pitching shall be minimum 150mm thick bedded on 50mm mortar bedding with all joints grouted for the full depth of the joint.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone hand laid, inter locked and bedded into the mortar bedding to give an even finished surface.

The in-situ material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T99).

711 PROTECTION OF EXISTING PIER AND OR ABUTMENTS

Where instructed by the Engineer, the Contractor shall 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.

712 RIP-RAP

Add the following at the end:

Quarry waste or similar approved material shall be used to backfill 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.

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 in-situ material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T99).

713 MEASUREMENT AND PAYMENT

Add the following:

Measurement and payment for gabions boxes and gabion mattresses shall be by the cubic metre of rock fill contained within the boxes and mattresses, and the rate shall include for the cost of providing and fixing the mesh, and the cost of providing, hauling and placing the rock, and all the costs of complying with the requirements of Clause 711 of this Specification.

Item: Drilling of holes (diameter and type of drilling indicated)

Unit: m

The bid rate shall include full compensation for establishment on the site, moving to individual bridge positions and the subsequent removal of all special plant for drilling the holes and additional plant for carrying out operations drilling and clearing the holes as specified, equipment moving and setting up in position, drilling and clearing the holes as specified.

Item: Grouting (type of grout and for which purpose it is required indicated)

Unit: kg

The unit of measurement for grouting shall be the kilogram of cement or proprietary brand of grout mix as may be applicable used in the grouting operation.

The bid rate shall include full compensation for providing the equipment and all the material, and mixing and pumping the grout into the prepared holes in accordance with the instructions of the Engineer, and also for the water-pressure tests

714 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 - CULVERT AND DRAINAGE WORKS

801 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: -

- Replacement of all the existing 600mm cross pipe culverts by 900mm diameter
- Installation of 900mm pipe culverts in new locations
- Provision of access culverts

804 EXCAVATION FOR CULVERTS AND DRAINAGE WORKS

The Standard Specifications are amended as follows:

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 Drainage Structures

Where instructed by the Engineer, the Contractor shall demolish or remove any other structures and payment shall be made against ion day work basis, under a Provisional Sum provided in Bill No 4 in the Bill of Quantities.

Regarding backfill reference is made to Clause 812

(c) 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.

805 EXCAVATION IN HARD MATERIAL

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

In sub-clause 809(a), paragraph 2, 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 T99)".

Hard material is material, which can be excavated only after blasting with explosives 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.

807 CONCRETE PIPES

Precast concrete pipes shall be reinforced, and shall comply with the requirements of AASHTO M170

809 BEDDING AND LAYING OF PIPE CULVERTS

- a). The rates inserted shall allow for compaction of the bottom of excavation to 100%MDD (AASHTO T99). Where concrete beds and surrounds are not required, pipe culverts shall be bedded and haunched using a selected material equivalent to natural subbase gravel complying with the requirements of Clause 1203. Bedding thickness shall be minimum 75mm. The rate in the Bill of Quantities shall allow for this work.
- b). In addition to the requirements of the Standard Specification, where inflatable balloon method of casting culverts in-situ is used, thorough pre-construction trials shall be carried out to ensure, to the satisfaction of the Engineer, that the Contractor provides a suitable alternative to the provision of precast concrete pipe culverts, and that the inner concrete barrel surface will achieve a Class F3 finish. The pipe trench shall be excavated to the exact width required by the drawings and concrete surround and bedding shall extend to this width. Any over-excavation shall be filled with surround or bedding concrete, as appropriate, at the Contractor's expense.

810 JOINTING CONCRETE PIPES

Amend as follows:

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.

Payment shall be included in the relevant item under Bill of Quantity No. 8.

811 CONCRETE BEDS, SURROUNDS AND HAUNCHES

Concrete shall be Class 20/20 for surrounds and haunches for all methods of construction.

812 BACKFILLING OVER PIPE CULVERTS

In the Standard Specifications, Clause 812

- a) delete paragraph 6 " for pipe culverts ...

depth of 150mm", entirely.

- b) Wherever the expression "dry density of 95% MDD (AASHTO T99)" occurs delete and replace with "dry density of 100% MDD (AASHTO T99)".

All material for backfilling shall be a natural gravel subbase material complying with the requirements of Clause 1203.

The rates entered for laying of pipe culverts shall allow for backfilling to pipe culverts and compacting to 100% MDD (AASHTO T99) and these works shall not be measured and paid for separately.

813 PRECAST CONCRETE OPEN CHANNELS

Add the following to the Standard Specification clause 813:

813.1 Half Round Open Channels

These shall be provided as directed by the Engineer and in compliance with sections 813 and 820 of the Standard Specification.

Payment shall be according to Bill of Quantity No.8.

813.2 Invert Block Open Channels

These shall be provided as directed by the Engineer and in compliance with sections 813 and 820 of the Standard Specification.

Where and as directed by the Engineer, the Contractor shall excavate in any material provide and place concrete for the bedding, backfill and remove surplus material to spoil, provide, lay and joint precast concrete invert blocks, side slabs, slotted drains and gulley chambers.

Precast concrete invert block side drains and gulley chambers shall comply with the requirements of BS 338, and shall be laid in accordance with the drawings.

All slabs to be concrete Class 20/20

818 SCOUR CHECKS

In the Standard Specifications, clause 818 paragraph 2, delete "Class 20/20" and insert "Class 25/20".

819 CLEANING AND MAINTENANCE

Add the following:

819.1 De-silting of Pipe Culverts

Where instructed, the Contractor shall desilt the existing pipe culverts by removing all the material from the pipe to make them clean and free flowing.

No separate payment will be made for such work.

821 INVERT BLOCK DRAINS

Where instructed, the Contractor shall excavate, compact the excavated bed to 100% MDD AASHTO (T99), backfill as necessary with selected material compacted to 100% MDD AASHTO (T99) lay and joint invert block drains of 300mm diameter with two side slabs.

Payment for laying invert block drains of 300 mm diameter inclusive of two side slabs shall be by linear metre laid as instructed. The rate shall be inclusive of provision and transport of all materials, excavation, bed compaction and preparation, laying, jointing and disposal of spoil.

822 REPLACING OF 600mm DIAMETER PIPES

Where instructed, Contractor shall remove existing 600mm Ø cross pipe culverts and replace them with 900mm Ø pipes as instructed. The void left after removal of 600mm Ø pipes shall be widened as necessary to accommodate new concrete bedding, pipe and haunching.

The installation of pipe culverts shall be done prior to commencement of any earthworks necessary for road widening.

Payment for the excavation shall be difference between the void left after removal and excavation necessary to accommodate new pipe culverts. If the pipe culverts are laid after the road widening then the widened length shall not be considered for the excavation payment.

823 PEDESTRIAN SLABS OVER OPEN DRAINS

Pedestrian slabs shall be 3.0m long x 1.2m wide x 150mm thick concrete Class 25/20, reinforced on the bottom face with 12mm diameter high yield deformed bars to form a mesh with 200mm centres in both directions. They shall be mortared bedded on a 300mm x 300mm stone masonry plinth extending for the width of the slab. Measurement and payment shall be by the number, which includes all preparation, casting (including supply and placing reinforcement), transporting and placing the slab, and construction of the masonry plinth.

SECTION 9 – PASSAGE OF TRAFFIC

901 SCOPE OF THE SECTION

Add the following paragraphs (f) and (g): -

(f) Traffic Control Plan

Following the award of the contract, the Contractor shall submit to the Engineer a detailed Traffic Control Plan. Such plan shall be approved by the Engineer, and where necessary, by the appropriate statutory authority, before the Contractor commences work. The plan shall cover but shall not be limited to, the method of protection of the public and give details of the duration and hours of operation, location, type and numbers of traffic safety devices, barricades, warning signs, flag men equipped with two way radios and the like. The Traffic Control Plan shall be in accordance with and complimentary to the Programme of Works submitted under Clause 104.

In the preparation of this Traffic Control Plan, the Contractor shall take into consideration the following:

- (i) The Contractor shall conduct his operations in such a manner that no greater length or amount of work is undertaken than he can efficiently carry out having due regard to the rights and conveniences of the public and the requirements of this Section.
- (ii) If the Contractor proposes closure of a road, he shall provide an alternative routing of the traffic, which must be approved by the Engineer.
- (iii) No revisions shall be made to the Traffic Control Plan without the prior written approval of the Engineer and the Contractor shall allow fourteen (14) days for the Engineer to review any request for revision of the Traffic Control Plan.
- (iv) The Traffic Control Plan shall conform in all respects with the requirements of this Specification.

(g) Standard of Works

- (i) The standard of all works carried out under this Section shall comply with the requirements of the appropriate sections of these Specifications.
- (ii) All provisions for traffic and the standard of temporary traffic surfaces shall comply with the requirements of Clause 904, and Section 9 generally, of these Specifications and any damage caused by passing traffic through the works shall be made good at the Contractor's own cost.

903 MAINTENANCE OF EXISTING ROADS

The Contractor shall be responsible for maintenance of the existing road for the duration of the contract and shall regularly inspect the road and carry out repairs and maintenance to the satisfaction of the Engineer and ensure that appropriate resources are continuously available to satisfy the requirements of this Clause.

If at any time the Engineer draws the Contractor's attention to a road section which requires maintenance the contractor shall promptly repair and maintain the section. The Contractor shall be legally liable for any accident or third party damages attributable to his failure to maintain the road in accordance with instructions and provisions of this section.

The cost of maintenance thereof shall be paid for under the relevant item allowed in the Bills of Quantities for maintenance of passage of traffic.

904 CONSTRUCTION OF DEVIATIONS

In addition to requirements of clause 904 of the Standard Specification, the following shall apply:

(a) General

The maximum length of deviation of road shall be restricted to 5 kilometres at any one time unless otherwise instructed. The Contractor shall construct and complete deviations to the satisfaction of the Engineer before commencing any permanent works on the existing road.

The Contractor shall be allowed to open further 5 kilometre section of deviation road only when 80% of permanent works have been completed on the first (or previous section) of the main road, provided further that the contractor will not be allowed to open to traffic deviations corresponding to the subsequent 10 kilometre section of the main road until he has completed permanent works on the previous 10 kilometres of the main road and has it opened to traffic.

Where an old road exists near the main road, Contractor shall use this road as the deviation road, following improvement in accordance with clause 902.

The Contractor shall continually maintain deviations such that a travel speed for all vehicular groups of at least 40km/hr is provided on a surface which is smooth, free from ruts, potholes, loose material, and dust, and which is regularly graded and watered.

(b) Geometry

The carriageway width of the deviations shall be 8m wide and suitable for 2-way lorry traffic unless otherwise specified.

Where in the opinion of the Engineer, it is impracticable to provide a two-lane deviation, a single-lane carriageway not less than 3.5 m wide with traffic control and passing places shall be provided if possible.

The verges of the deviation shall be cleared and maintained clear for a width of at least 1.5 m beyond the edge of the carriageway or such lesser width as the Engineer may agree.

The gradient of deviation shall not be greater than 12% except with the express approval of the Engineer, and any acute intersection of a gradient shall be properly graded to a smooth vertical curve, to the satisfaction of the Engineer.

Temporary ditches and culverts of adequate size and strength shall be provided alongside and under the temporary road to the satisfaction of the Engineer.

(c) Construction

Unless otherwise instructed 50mm Asphalt Concrete wearing course on 200mm gravel base course shall be used for the deviation complying with Section 16 and Section 12 of the Standard Specification which is placed on a sound, prepared, trimmed and compacted subbase base. The Contractor shall allow in his rates and prices for removal and replacement of any unsuitable material before placing of gravel wearing course as this will not be paid for separately.

The Contractor shall take all measures necessary to minimise the effects of dust, consistent with Clause 904(a) of the Standard Specification. The Contractor shall ensure sufficient resources are available at all times to mitigate the effects of dust, including, but not limited to, the sprinkling of water at the rate of 1.4 litres per m² at least four (4) times per day or as instructed by the Engineer, with at least one round of sprinkling done before sunset.

(d) Drifts (Fords)

Where a road is deviated to cross a large watercourse which is impracticable to bridge or culvert, a drift shall be constructed of stones or small boulders with the intersections filled with spalls to make a firm bottom. This pitching shall be carried up the banks of the watercourse above the flood level of the stream. The dimension of the drift shall be such that there is less than 0.20 m of water over the road at all times, except in flood. The edge of the drift shall be defined with posts or other markers and a gauge installed to indicate the maximum depth of water over the road. The minimum width of the drift shall be 3.5 m.

The Contractor shall render to the public all possible assistance, particularly in times of flood, and if necessary shall provide a vehicle, labour and tow rope to extract vehicles immobilized in the drift.

(e) Maintenance of Surface

The maintenance shall aim at providing at all times a smooth, dust free surface safe for use by public and private traffic maintained to the satisfaction of the Engineer.

906 PASSAGE OF TRAFFIC THROUGH THE WORKS

The Contractor shall ensure passage of traffic through the works as shown in the drawings or as instructed by the Engineer. The Contractor shall be deemed to have inspected the site and satisfied himself as to the adequacy of his bid for these works and no additional payment shall be made for any other cost borne by the contractor for traffic control. Should the contractor propose other methods for passage of traffic, e.g. construction of deviations, use of existing roads etc, the contractor shall investigate the alternatives, construct and maintain them to the satisfaction of the Engineer. No traffic shall be diverted without the express authority of the Engineer. The Employer shall not be liable for investigations or costs arising from alternative methods of traffic control proposed by the Contractor. Deviations or other measures for traffic control where proposed by the contractor shall meet requirements of the Specifications and Drawings and shall be subject to approval by the Engineer.

The Contractor shall ensure that the workforce and site supervisory staff at all times wear high visibility garments when work is carried out on or adjacent to a section of the road open to traffic. In addition, the contractor shall provide a full-time traffic safety officer to coordinate all aspects of road safety for the whole site and ensure the continuous availability of appropriate resources to satisfy the requirements of this Clause.

907 SIGNS, BARRIERS AND LIGHTS

Contractor shall install signs, barriers and lights as shown in the Drawings at the locations where the traffic is being carried off the existing road to the deviation and back. The Contractor shall provide ramps and carry out any measures as instructed by the Engineer to safely carry traffic from the road to deviation.

Notwithstanding any indications to the contrary, 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”.

909 ASSISTANCE TO PUBLIC

Add the following:

The Contractor shall be responsible for safely maintaining and directing traffic through or around any part of the Works included in the Contract, with the maximum practical convenience, for the full twenty four hours of each day.

The Contractor shall render to the public all possible assistance when they are passing over roads maintained by him and over minor, private or temporary roads or bridges when used as deviation or when passing through the Works.

Whenever the Contractor's operations create a condition hazardous to traffic or to the public, he shall furnish, erect and maintain such fences, barricades, lights, signs and other services, as are necessary to prevent accidents or damage or injury to the public.

The Contractor shall also furnish such guards and flagmen as are necessary to give adequate warning to traffic or to the public of any dangerous conditions that might be encountered and shall provide prompt assistance to any vehicle experiencing difficulty in passing over the Works under construction, or through any diversions or roads maintained by the Contractor, if necessary by providing a towing vehicle, labour and tow rope to assist such vehicles.'

Should the Contractor appear to be neglectful or negligent in furnishing warning and protective measures, as above provided, the Engineer may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed at the Contractor's expense. Should the Engineer point out the inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety or relieve him of his obligation to furnish and pay for these devices.

910 ACCESS ROADS

Add the following Sub-Clause

910.1 Use of Minor Private Roads as Deviation

Where agreed by the Engineer that the Contractor may use a minor or private road as a deviation, the Contractor shall be entirely responsible for negotiating with and obtaining the prior consent of the Local Authority or owner, respectively. The Contractor shall pay for any additional maintenance costs or shall if necessary, maintain the minor road for the period it is used as a deviation. He shall reinstate the road afterwards to the satisfaction of the Local Authority or owner, and shall compensate the Local Authority or owner for any damage arising out of the use of the road as a deviation.

The standard of such minor or private road when used as a deviation shall at least comply with Clause 904 above for temporary roads and if necessary the Contractor shall, at his own expense improve the road to bring it to this standard before it is used as a deviation, and shall maintain it to that standard while it is used as a deviation. The length of the deviation shall not be excessive and shall be kept as short as practicable.

911 CONTRACTOR'S CONSTRUCTION TRAFFIC

Add the following new Clause 911.1 and 911.2.

911.1 Insurance

The Contractor's attention is particularly drawn to Article 16, "Insurance of the Conditions of Contract, and the Contractor shall indemnify the Employer against and shall insure against all losses and claims for injuries or damage to any person or any property which may occur due to the passing of traffic, whether through the Works, or on specially constructed deviations, or on existing public or private roads used as deviations.

912 MEASUREMENT AND PAYMENT

Insert the following immediately below the heading of this Clause in the Standard Specification: -

The Contractor shall be deemed to have allowed elsewhere in his rates and prices for any differences between the actual cost of carrying out the works and the Lump Sum amounts for the said works priced by the contractor in the Bills of Quantities.

Penalty for failure to comply with requirements of Section 9 of the Specifications

If, in any month, the Engineer is not satisfied that the Contractor has fully complied with any provisions or instructions under Section 9 of the Specifications, the Employer shall withhold the whole of the installment or payment due to the Contractor for the relevant item of work stated in the Bills of Quantities. Failure or refusal by the Contractor to maintain deviations, improve and maintain the existing roads ahead of the works, or failure to take the necessary actions for the safety and convenience of the public traffic within the time instructed or as required by Statutory Authorities shall be sufficient cause for the Employer to apply a deduction of Kshs. **150,000/=** (One Hundred and Fifty Thousand shillings) per day from any monies due to the Contractor, until all provisions and instructions prescribed have been complied with to the satisfaction of the Engineer. Provided further that where notified by the Engineer and the Contractor fails to complete improvement or maintenance of any section of existing road or deviation within 14 days of the Engineer's notice thereof, the Employer shall deduct **KShs 400,000/=** (Four hundred thousand shillings) per day.

Delete paragraph 912 (a) and insert the following:

(a) Item: Improve Existing Road

Unit: Lump Sum

Payment shall be by Lump Sum amount allowed in the Bills of Quantities. On satisfactory completion improvement of the whole road, 60% for the Lump Sum amount shall be paid to the contractor and the balance of 40% shall be paid in equal monthly installments throughout the remaining period of the contract excluding defects liability period and subject to any recoveries and deductions due under this Clause. The total sum of installments paid shall not exceed the Lump Sum amount.

(b) Construct and maintain deviations

Unit: km

Construct and maintain Deviation shall be measured to the nearest 0.1 km along the centerline of the deviation road and paid for from the relevant item in the Bills of Quantities. The Contractor shall be paid 70% of the billed amount when he completes construction of the deviation road to the satisfaction of the Engineer. The balance shall be paid in equal monthly installments during the remaining period of the contract, excluding

the period of defects liability, provided that the contractor has satisfactorily maintained the deviation in accordance with Clauses 904 and 905 of the Specification when the deviation road is in operation.

Payments for this item shall be subject to recoveries and deductions that become due under this Clause as a result of any failure by the contractor to carry out maintenance of the deviation road as required.

If the Contractor fails to construct and / or to maintain diversions at the proper time, or to take the necessary precautions for the safety and convenience of public traffic as required by statutory authorities or as ordered by the Engineer, the Employer may engage other contractors or use the services of others to maintain the diversion. The actual cost of such maintenance shall be deducted from the Contractor's interim payment certificate.

It is the Contractor's responsibility to plan and execute the construction of any diversions deemed necessary during construction work. Prior approval of the diversion routes must be cleared with the landowners concerned and the Engineer before commencing the construction of any diversion.

(d) Item: Maintain the passage of traffic

Unit: Lump Sum

Payment shall be by Lump Sum amount allowed in the Bills of Quantities made in equal monthly installments for satisfactory and continuous maintenance and attendance to passage of traffic throughout the remaining period of the contract, excluding defects liability period and provided that:

- (i) The total sum of installments paid shall not exceed the Lump Sum amount.
- (ii) Payments for this item shall be subject to recoveries and deductions that become due under this Clause as a result of failure by the contractor to maintain passage of traffic as required.

On completion of the Works, the Contractor shall remove all temporary diversions, haul roads, access ramps and signs and barriers, etc. and restore the land to its original condition.

Add the following:

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 12 – NATURAL MATERIAL SUBBASE AND BASE

1203 MATERIAL REQUIREMENTS

Natural materials for base and subbase shall conform to the specifications given in Section 12 of the Standard Specifications for cement or lime improved base and subbase.

The thickness of improved subbase to be applied shall be as shown on the Drawings or as instructed by the Engineer.

1209 MEASUREMENT AND PAYMENT

(a) Item: Natural materials for subbase or base

Unit: m³

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.

The method of measurement shall be “method - A” as in the standard specifications.

No extra payment will be made for haulage of gravel material as the overhaul costs shall be deemed to have been factored in the rates inserted in the Bills of Quantities.

SECTION 14 - CEMENT TREATED MATERIALS

1403 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.

1406A MIX REQUIREMENTS

(ii) Proportions

The ratio of cement to aggregate by weight (including any absorbed moisture but excluding free water in the aggregate) shall be such as to produce average crushing strengths to the requirements of this Section.

The amount of cement to be added shall be confirmed by the Engineer following laboratory trials, and site trials carried out by the Contractor in accordance with Section 2 of the Standard Specification.

The water content of the mixed concrete shall be such as to ensure that the specified degree of compaction can be achieved under all normal working conditions.

(iii) Crushing strength

The essential strength requirement for the material is that the average 28-day strengths of groups of three cubes shall be such that not more than one such average strength in any consecutive five such averages is less than 5.0 N/mm^2 . If, however, the overall average of any consecutive five groups of three cubes (i.e. fifteen cube strengths) falls below 6.0 N/mm^2 at 28 days, or if the average range of five consecutive groups exceeds 7 N/mm^2 the Engineer may require the use of different materials, mix proportions, plant or methods notwithstanding any approval which may have been previously given to such materials, mix proportions, plant or methods. The initial rate of testing shall comply with the requirements of Section 17 of the Standard Specification until the Engineer is satisfied that the specified material is being consistently produced.

Further in order to ensure a high probability that at, an early stage the above requirements will be met, the average 7-day strengths of groups of three cubes shall be not less than 4.0 N/mm^2 and if more than one of the 7-day average strengths of groups of three cubes in any

consecutive five such averages fall below 4.5 N/mm^2 the cement content shall be increased to such a value as may be approved by the Engineer and. the making of cubes shall be continued at the same rate as at the start of the work until the results show that a satisfactory material is being consistently produced.

1406 STATIONARY PLANT METHOD OF CONSTRUCTION

(i) Site trials

The Contractor shall carry out site trials in accordance with Section 2 of the Standard Specification at least one month before he intends commencing full scale construction of any stabilized graded crushed stone subbase layer. Should the trial show that the specified strength and compaction requirements cannot be achieved the Contractor shall amend the mix proportions or the laying and compaction techniques in order to achieve the required result.

(ii) Mixing, transporting and laying

The stabilized graded crushed stone shall be mixed, transported and laid in accordance with the provisions of Section 14 – Clause 1406 and stationary plant method of construction is to be used.

(iii) Compaction

Immediately after laying, the mix shall be compacted by vibratory and smooth wheel rollers to 96% of the target dry density. Compaction shall be completed within 2 hours of the cement being added to the aggregates at the batching plant

The target dry density shall be determined daily as follows:

From three separate batches of the mix, two 150mm test cubes shall be prepared in accordance with BS 1881 except that the cubes shall be compacted to refusal in three layers using a vibrating hammer as described in BS 1377, Test 14, but with a square flat plate head with an area of between 10,000 and 15,000mm². As soon as the cubes can be handled without damage, their density and moisture content shall be determined in accordance with BS 1881. The average dry density of the six cubes shall be at the target dry density.

The density of the compacted base shall be determined for each 500m² laid. The Contractor shall provide a portable coring rig capable of cutting acceptable cores of minimum diameter 150mm and to a depth of at least 250mm. The density and moisture content of each core shall be measured in accordance with BS 1881.

Following the determination of the density each core shall be crushed and the minimum equivalent cube strength shall be crushed and the minimum equivalent cube strength shall be 4.0 N/mm^2 at 7 days calculated in accordance with BS 1881.

The compacted thickness shall not exceed 200mm.

(iv) Finishing

The surface finish after compaction shall be free from ridges compaction planes, laminations, loose and segregated material and other surface irregularities and shall be to line and level and within the tolerances specified in Section 3 of the Standard Specification. If the surface fails to meet the requirements of this Specification, the Contractor shall take the action Set out in the appropriate part of Section 3 of this Specification or such other action as the Engineer may instruct or agree.

(v) Joints

At the end of each day's work, the stabilized graded crushed stone shall be compacted against a securely fixed vertical temporary stop-end and if compaction is being done with a vibratory roller this shall be used transversely close to the stop-end. In addition, the material in the corners adjacent to the stop-end shall be compacted by means of a small power-operated compactor. When the stop-end is removed any poorly compacted material adjacent to it shall be removed and a 1:1 cement:sand grout shall be applied to the exposed face to a thickness of 5 to 10mm before proceeding with the laying of further adjoining stabilized graded crushed stone. Such fresh stabilized graded crushed stone shall be thoroughly compacted against the joint and where a vibratory roller is employed this shall be used transversely close to the joint again using the small power-operated compactor in the corners of the new work. None of the compacting equipment shall be allowed to bear directly on the hardened or partially hardened stabilized graded crushed stone previously laid. Where the full width of the layer cannot be placed by one pass of the paver, work shall be arranged so that at longitudinal joints a free edge of spread material is not exposed for more than one hour after mixing before placing the adjacent layer. Where a free edge is exposed for more than one hour after mixing it shall be cut back to expose fully compacted material before laying the adjacent layer.

1409 PROTECTION AND CURING

Curing of treated material shall be by method (i) or method (iii). Method (ii) is prohibited.

1410 TRAFFIC

Traffic or equipment, other than that actually engaged in the various treatment processes, shall not run over the layer being processed or compacted.

No vehicle with an axle loading greater than 2 tonnes shall run on the stabilized graded crushed stone layer within a period of 14 days after placing this layer. Vehicles with rubber tyres with an axle loading less than 2 tonnes, or wheels or tracks of concreting plant, shall not use any part of a newly constructed pavement within 7 days. The above periods before traffic may run on the pavement shall be increased if the 7 days cube strength is below that required in this Special Specification.

SECTION 15 - BITUMINOUS SURFACE TREATMENTS

PART A – GENERAL

1501A BITUMINOUS SURFACE TREATMENT

Quality control, workmanship and equipment shall be to current international best practice. Bituminous surface treatments shall be carefully designed by the Contractor, taking into account traffic volumes, ALD of the chippings, surface conditions and requirements for specific locations.

Application rates of the bitumen spray and the chippings will be approved by the Engineer prior to any trial sections of the work, but the under listed is anticipated and can be used for guidance purpose:

a) Chippings

10/14mm size pre-coated chippings at a spread rate of 60-100m²/m³

6/10mm size pre-coated chippings at spread rate of 70-120m²/m³

b) Bitumen Spray Rates

- 1.0 - 1.4 l/m² for the single seal to main carriageway
- 0.8 - 1.0 l/m² for the single seal to shoulders and junctions.

1504A HEATING OF BITUMINOUS BINDER

Bitumen 80/100 shall be sprayed in the range of 170°C – 180°C and the maximum heating temperature is 190°C. Bituminous binder shall not be kept within spraying temperature range for periods exceeding 1 hour.

1505A ADHESION AGENT

For all surface dressing, an approved adhesion agent shall be added to the binder, unless otherwise instructed by the Engineer. Adhesion agent shall be added to, and well mixed with, the binder immediately before each spray run.

1506A CONSTRUCTION LIMITATIONS

No bituminous spray shall be applied to a surface with a road temperature of less than 25°C for surface dressing, and 15°C for prime coat, or with adverse weather conditions threatening. A minimum period of 6 weeks shall elapse between the placement of asphalt and the application thereon of bituminous surface dressing.

PART B - PRIME COAT**1502B MATERIALS FOR PRIME COAT AND TACK COAT**

- i) The binder for prime coat shall be MC-30 and shall be applied over the full width of the surface of the course to receive the first layer of bituminous material.
- ii) The binder for the tack coat shall be K1-70. A tack coat shall be applied over the full width of the surface of each bituminous material to receive a further bituminous layer. A tack coat shall also be applied to any prime coat, which has lost its adhesive properties due to contamination or long exposure or weathering before receiving the bituminous layer. Such an application shall be made without additional expense to the Employer unless it is required due to reasons outside the Contractor's control.

1504B SPRAYING OF PRIME COAT AND TACK COAT

Application rates of the bituminous prime coat shall be designed by the Contractor to take into account surface condition of the surface to be primed, expected traffic conditions, blinding, and the time duration before the subsequent bituminous treatment is applied.

The rate of spray of bituminous prime coat refers to the gross volume of the cut-back bitumen, that is to say the volume of the bitumen plus dilutant.

- iii) The rate of application of prime coat shall be 0.8 to 1.2 litres/m². The exact quantity to be applied may be varied within these limits to suit field conditions and will be determined from trials by the Engineer.
- iv) The rate of application of the tack coat on bituminous surfaces shall be 0.2 to 0.8 litres/m². The exact quantity to be applied may be varied within these limits to suit field conditions and will be determined from trials by the Contractor and approved by the Engineer.

1506B TOLERANCES

Tolerance shall be +5% of the rate ordered. Work records are to be kept on a daily basis, with details recorded and calculated at the end of each distributor run. The Contractor shall prepare and use a suitable record sheet, which records details of weather and road temperature conditions, length and width of each run, binder dipping before and after each run of the distributor, calculation of actual application rate, under or overspray, and spray outside tolerance. Actual application rates shall be calculated immediately after each run, so that the operation of the distributor can be adjusted to ensure subsequent application rates are within tolerance.

SECTION 16 - BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

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 Surfacing**
- Part C Dense Bitumen Macadam for Base**

PART A – GENERAL

1601A SCOPE

Part A comprises all the general requirements for bituminous mixes which apply to Part B and C as well. Quality control, workmanship and equipment shall be to current international best practice.

1602A 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

1603A CONSTRUCTION PLANT

c) Laying Plant

The self-propelled spreader finisher shall be fitted with electronic level control devices, and level control shall be from tensioned wire supported at every 5m intervals or levelling beam, as tried on site and subsequently approved by the Engineer.

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 the Standard 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 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:

- (i) The roller is set up to have the optimum amplitude and frequency of vibration for the particular material being laid.
- (ii) That the roller does not cause breakdown of the aggregate particles.
- (iii) That the optimum compaction temperatures are established which allow compaction without causing ripple effects or other distortions of the surfacing.

1605A DESIGN AND WORKING MIXES

The Contractor shall design a job-mix formula and carry out all appropriate laboratory tests and site trials to produce a working mix, which conforms in all respects to the requirements of this Specification, and is approved for use by the Engineer two months prior to commencing work using a bituminous mix,.

The mixes are to be designed in accordance with ORN19: A guide to the design of hot mix asphalt in tropical and sub-tropical countries.

A volumetric design shall be carried out using the Marshall Method as described in Appendix C of ORN19. The mixes must also satisfy the refusal density requirements. This test is to be carried out in accordance with Appendix G of ORN19. The voids in mix (VIM) must be >3% at refusal density at the optimum bitumen content from the Marshall design and also at the optimum plus and optimum minus the margin of tolerance permitted during mixing (bitumen content as percent of total mix + 0.3%).

Natural sand shall not be used in bituminous mixes.

1606A SITE TRIALS

Replace the second paragraph with the following:

The trials shall be carried out to:

- (a) Test materials, designed in the laboratory, so that a workable mix which 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.

1607A 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 170°C for 60/70 bitumen.

The aggregates shall be dried and heated so that they are mixed between 130 - 170°C for 60/70 bitumen.

1608A TRANSPORTING THE MIXTURE

Add the following:

The mix shall be transported from the mixing plant to the paver in trucks having clean, smooth beds, which have been treated to prevent adhesion of the mixture to the truck bodies. Gasoline, kerosene, diesel fuel or other solvents shall not be used for this purpose. Loads shall be covered by waterproof canvas or metal sheets during wet weather. Vehicles shall be insulated when the air temperature and/or length of haul make this necessary to maintain the temperature within the specified limits. Hauling over freshly laid material will not be permitted.

1609A LAYING THE MIXTURE

Mixtures that have a temperature of less than 135°C when dumped into the spreader will be rejected. The spreader shall be adjusted and the speed regulated so that the surface of the course will be smooth and the course of such depth that, when compacted, it will conform to the cross-section shown on the Drawings. Lanes shall be parallel to the road centreline.

All joints shall present the same texture, density and smoothness as other areas of the surfacing. The joints between old and new lanes or sections shall be carefully formed in such manner as to ensure a continuous bond between the old and new pavement. All contact surfaces at cold joints, joints with manholes, pits, etc. shall be coated with a thin, uniform coat of MC70 or other medium curing bitumen.

1610A COMPACTION

Replace the 4th paragraph by the following:

Initial rolling with a pneumatic tyred roller shall follow the laying plant as closely as possible. The rollers shall be operated at a slow and uniform speed (not exceeding 5km/h).

Add the following at the end:

Tests for conformity with the smoothness and levels specified shall be made by the Contractor immediately after initial compaction and any deviations in excess of the specified tolerances shall be corrected by loosening the hot surface with rakes and removing or adding material as necessary before continuing the rolling. The speed of the rollers shall not exceed 5 km/h and shall at all times be slow enough to avoid displacement of the hot mixture. Any displacement of the mixture occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once by loosening the surface with rakes and re-rolling. Rolling of the surfacing shall be continued until all roller marks are eliminated and the required density is obtained.

The rollers shall not be permitted to stand on surfacing which has not been fully compacted. Precautions shall be taken to prevent the dropping of oil, grease, gasoline, or other foreign matter on any layer. The Contractor shall provide competent workmen who are capable of performing all work incidental to the correction of all surfacing irregularities.

After final rolling, no vehicular traffic of any kind shall be permitted for at least 12 hours.

1611A FINISHING, JOINTS AND EDGES

Amend the second paragraph as follows:

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 60/70 penetration grade bitumen just before the additional mixture is placed against it.

Amend the fourth paragraph as follows:

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 60/70 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.

Add the following:

The Contractor shall produce a plan showing the position of all pavement construction joints for approval by the Engineer before pavement construction commences.

Construction joints in the various pavement layers shall be staggered by at least the following distances:

Transverse joints in binder course shall be staggered by at least 500mm. The roller shall pass over the unprotected end of the freshly laid mixture only when laying of the surfacing is to be discontinued for such length of time as to permit the mixture to become cold. Otherwise 500mm at the end of the lane shall be left un-compacted.

Cold transverse joints shall be cut back to expose an even, vertical surface for the full compacted thickness of the course and painted with medium curing cutback bitumen as specified above. The fresh mixture shall be raked uniformly against the joint and carefully compacted to ensure a good bond with the cold material.

The Contractor shall adjust any kerbs, gulley pots and chambers in accordance with final finished road level before laying the final Asphalt Concrete binder material 0/14 and 0/20 surfacing layer.

PART B - ASPHALT CONCRETE FOR SURFACING

1601B. INTRODUCTION

Some modifications, to the Standard Specification, which takes into account aspects of the Super pave Mix Design methods, have been made. This shall be in accordance with the procedures presented in Overseas Road Note 19, ‘‘ A guide to the design of hot mix asphalt in tropical and subtropical countries’’ and detailed in the current manuals produced by the Asphalt Institute. The contractor shall be deemed to possess a copy of these publications and shall provide at least two copies of each on site, one for the Engineer and the other for the Contractor.

1602B MATERIALS FOR ASPHALT CONCRETE

(a) Performance Grade Bitumen

Delete sub-section (a) and replace with:

The bitumen shall be performance grade, and shall meet the requirements of Table NA.1 in EN 12591:2009(E) as summarized below:

Property	Test Method	Unit	Pen 40/60	Pen 50/70	Pen 70/100
Based on original bitumen penetration at	EN1426	0.1mm	40-60	50-70	70-100
Softening point (°C)	EN 1427		48-56	46-54	43-51
Resistance to hardening after heating for 5 hr at 163°C	EN 12607-1				
a) Retained penetration		%	> 50	> 50	> 46
b) Increase in softening point, Severity 1		°C	< 9	< 9	< 9
c) Change of mass ^a (absolute value)		%	< 0.5	< 0.5	< 0.8
Flash point	EN ISO 2592	°C	> 230	> 230	> 230
Solubility	EN 12592	%	> 99.0	> 99.0	> 99.0
Kinematic viscosity at 135°C	EN 12595	mm ^{1 2} /s	> 325	> 295	> 230
^a Change in mass can be either positive or negative.					

The bitumen for asphalt concrete works shall be 60/70 penetration grade.

1 AASHTO T176

2 British Standard 1377: Part 2

(b) Aggregate

(i) In the standard specification rename Table 16B-1 as 16B-1(a)

Add the following:

The coarse aggregate shall be entirely crushed rock, from a source known to give high values of stability (> 9kN) in the Marshall test. Aggregate shall be Class ‘a’ meeting the requirements given in Table 16B-1b below.

Table 16 B-1(b) Requirements of Aggregate

Property	Test	Parameter
Cleanliness	Sand equivalent for 4.75mm fraction ¹	> 40
	Plasticity index for materials passing 0.425mm	<4
	Linear shrinkage for materials passing 0.425mm	<2
Particle shape	Flakiness Index (FI) ³	<25
Strength	Aggregate Crushing Value, (ACV) ⁴	< 25
	Aggregate Impact Value, (AIV) ⁴	<25
	10% FACT (dry) kN⁴	> 160
	Los Angeles Abrasion, (LAA) ⁵	<30
Abrasion	Aggregate Abrasion Value ⁴	< 14
Soundness ⁶	Sodium Sulphate Soundness (SSS) Coarse	<10
	Sodium Sulphate Soundness (SSS) Fine aggregate	<16
	Magnesium Sulphate Soundness (MSS) Coarse	<15
	Magnesium Sulphate Soundness (MSS) Fine	<20
5cycles % loss		
Polishing	Polished Stone Value	>57
Water	Water absorption , % ⁷	<2
Bitumen affinity	Immersion Mechanical Test: Index of retained Marshall stability ,% ⁸	>75
	Static Immersion Test, % coating retained ⁹	>95
	Retained Indirect Tensile Strength % at 7% VIM	>79

Unless otherwise instructed by the Engineer aggregates shall satisfy the following Superpave aggregate consensus properties which requirements are presented in Table 16B-1(c):

- Coarse Aggregate Angularity (CAA) – ASTM D 5821
- Fine Aggregate Angularity (FAA) – AASHTO T 304
- Flat and elongated particles – ASTM D 4791
- Sand equivalent – AASHTO T 176

3 British Standard 812: Part 105

4 British Standard 812: Part 110 to 114

5 ASTM C131 and C 535

6 AASHTO T104

7 British Standard 812: Part 2

8 D Whitecoak (1990)

9 AASHTO T 182

10 AASHTO T 283

11 BS EN 12591: 2009

Table 16B-1(c) Superpave aggregate consensus property requirements

Cumulative Equivalent Standard Axles (CESA)' in Million	Fractured faces, Coarse Aggregate, Percent Minimum		Uncompacted Void Content of Fine Aggregate, Percent Minimum		Sand Equivalent, Percent Minimum	Flat and Elongated, Percent Maximum
	Depth from		Depth from surface			
	<100m	>100mm	<100mm	>100mm		
3 to <10	85/802	60/-	45	40	45	10
10 to <30	95/90	80/75	45	40	45	10

¹The anticipated project traffic level expected over a 20 year design period

²85/80 denotes that 85 percent of the coarse aggregate has one fractured face and 80 percent has two or more fractured faces

³Criterion based upon a 5:1 maximum to minimum ratio

1603B GRADING REQUIREMENTS

The grading mixture of coarse and fine aggregate shall meet the requirements given in Table 16B-1(d) for a 19mm and 12.5mm nominal maximum size aggregate.

A gradation of 19mm and 12.5mm nominal maximum size aggregate shall be used for the works.

Table 16B-1(d) Superpave aggregate grading control point

Nominal Maximum Size (mm) (Note 1 below)	Sieve size (mm)	Control point (%passing)	
		Minimum	Maximum
19.0	25	100	-
	19	90	100
	12.5	-	90
	2.36	23	49
	0.075	2	8
12.5	19	100	-
	12.5	90	100
	9.5	-	90
	2.36	28	58
	0.075	2	10

Note (1) - The definition of Nominal Maximum Size of aggregate is one sieve larger than the first sieve to retain more than ten per cent of the aggregate. It is also recommended that where possible the largest particle size should not be more than 25 mm so that the requirements of the Marshall test can be complied with.

Table 16B-1(e) Superpave Performance Grade Bitumen boundaries of aggregate restricted zone (Note 2 below)

Sieve size within restricted zone (mm)	Percent passing sieve size Nominal maximum size (mm) (Note 1 below)			
	19.0		12.5	
	Minimum	Maximum	Minimum	Maximum
2.36	34.6	34.6	39.1	39.1
1.18	22.3	28.3	25.6	31.6
0.6	16.7	20.7	19.1	23.1
0.3	13.7	13.7	15.5	15.5

Note (1) - The definition of Nominal Maximum Size of aggregate is one sieve larger than the first sieve to retain more than ten per cent of the aggregate. It is also recommended that where possible the largest particle size should not be more than 25 mm so that the requirements of the Marshall test can be complied with.

Note (2) - If gradations that violate the restricted zone perform similarly to or better than the mixes having gradations passing outside the restricted zone; then, the restricted zone requirement is redundant for mixes meeting all Marshall and/or Superpave Performance Grade Bitumen volumetric parameters specified in section 1604B of this specification.

1604B REQUIREMENTS FOR SUPERPAVE ASPHALT CONCRETE

The mix design should be carried out using the Marshall and/or the Superpave test procedures. The Engineer should instruct in writing if either or both of these methods should be applied.

The mix design specifications for the two methods are as follows:

(a) Superpave Method

The mix design, when compacted in accordance with AASHTO T 312 (Preparing and determining the density of Hot Mix Asphalt (HMA) specimens by means of the Superpave gyratory compactor) shall meet the relative density, voids in the mineral aggregate (VMA), Voids filled with Asphalt (VFA) and dust to binder ratio requirements specified in Table 16-B2(a).

The initial, design and maximum number of gyrations are specified in AASHTO R 35, Superpave volumetric design for Hot Mix Asphalt (HMA).

Table 16-B2(b) Requirements for Asphalt Concrete

Cumulative Equivalent Standard Axles (CESA)' in Million	Required Relative Density, Percent of theoretical maximum specific gravity			Voids in the Mineral Aggregate (VMA), Percent Minimum		Voids Filled with Asphalt (VFA) Range, Percent	Dust-to- Binder Ratio Range
	N initial	N design	N max	Nominal maximum size Aggregate (mm)			
				19.0	12.5		
3 to <10	>89.0	96.0	>98.0	13.0	14.0	65-75	0.6-1.2
10 to <30	>89.0	96.0	>98.0	13.0	14.0	65-75	0.6-1.2

¹The anticipated project traffic level expected over a 20 year design period.

(b) Marshall method

The mixture shall comply with the requirements given in Table 16B-2(b).

TABLE 16B-2(a) Requirements for Asphalt Concrete

Asphalt concrete	No. of blows Marshall compaction	Minimum Stability (kN)	Flow (mm)	Air voids (VIM) (%)	Voids in Mineral Aggregate (VMA) (%)
19	75 ¹	9	2 - 4	3 - 6	Minimum 13
12.5	75 ¹	9	2 - 4	3 - 6	Minimum 14

Note 1: Satisfactory volumetric composition must be confirmed by refusal density testing

The nominal binder content shall be 5%. In addition to the requirements given in Table 16B-2 (b), the maximum Marshall Stability for 2x75 blows shall be 18 kN, and at compaction to refusal shall retain a minimum of 3% VIM.

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 and should meet the requirements presented in Table 16B-1(b).

Having established the suitability of the aggregate source, several gradings satisfying the requirements of Table 16B-1(c) and Table 16B-1(d) 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 vibratory hammer in accordance with BS 598 (Part 104:1989) with the following revision:

“It should first be confirmed that compaction on one face of the sample gives the same refusal density as when the compaction cycle is applied to both faces of the same sample. The procedure which gives the highest result shall be used.”

From the bitumen content-VIM relationship a bitumen content which corresponds to a VIM of 3% shall be identified. Compaction trials shall be undertaken, to confirm the workability of the mix. At least two or more gradings will be required for compaction trials. The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% Voids in Mix (VIM) at refusal density.

1605B MIXING AND LAYING ASPHALT CONCRETE

Add the following:

The temperature of the bitumen and aggregates when mixed should be determined using both Penetration Index (PI) and softening point of the bitumen on the bitumen tests data chart (BTDC). The temperature of the bitumen and aggregates when mixed shall be 110+/-3°C above the softening point (Ring and Ball) of the bitumen.

Compaction shall 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 90°C.

The mixing and placing of asphalt concrete must be carried out only under favorable weather conditions. Mixing and placing of asphalt concrete will not be allowed if the moisture content of aggregate affects the uniformity of temperature, or if free water is present on the working surface. Mixing shall not be allowed to take place more than two hours before placing begins unless provision had been made for storing. Storage of mixed materials will only be permitted in insulated hot mix bins. In any case, storage will not be permitted for a period longer than 12 hours after mixing, unless otherwise approved by the Engineer.

The minimum thickness of the compacted layer shall be 35mm when 12.5mm nominal maximum size aggregate is used (on the carriage way or road shoulders).

1606B COMPACTION

Rolling shall be continued until compaction of the completed layer attains a minimum mean value of 95% of refusal density (no value less than 93%) and until the voids measured in the compacted layer are within the specified range as appropriate.

SECTION 17 – CONCRETE WORKS

1703 MATERIALS FOR CONCRETE

(b) Replace the first 3 lines with the following; -

Cement shall comply with the following Kenyan Standards:

- KS1725: 2001 CEM 1 42.5 N for ordinary Portland cement

1703, 1704, 1705 CONCRETE WORKS

1. LEVELLING CONCRETE (CLASS 15/20) FOR BOTTOM SLAB INCLUSIVE OF COST OF FORMWORKS

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 wing walls 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 twenty eight (28) days : 15N/mm²

Maximum size of coarse aggregate : 20mm

Minimum cement content : 300 kg/m³.

Maximum water/cement ration of 50% with slump of 80mm.

b) Construction Method

The bed of stone boulders or formation upon which the levelling concrete will be placed shall be free from water, 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.

2. (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, with UF2 finish on roof and floor slabs, shall be used for Culvert walls and slabs.

a) Concrete Materials

i) 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 done 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

(V) Fine and coarse aggregates must be clean, hard, strong and durable, not susceptible to ASR 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 (mm)	Percentage by Weight Passing
10	100
5	89 -100
2.5	60 -100
1.2	30 -100
0.6	15 - 54
0.3	5 - 40
0.15	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
% by weight	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, vegetation 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 25/20

The requirements of Concrete Class 25/20 are provided as follows unless otherwise the Engineer will designate any alteration.

Design compressive strength twenty eight (28) days : 25N/mm^2

Minimum cement content : 300kg/m^3

Maximum cement content : 540kg/m^3

Maximum size of coarse aggregates : 20mm

Maximum water/cement ratio of 50% with slump of 80mm

d) Proportioning Concrete

The Contractor shall consult with the Engineer as to mix proportions at least sixty (60) 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.

i. Concrete Works

1. 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.

2. Mixing and delivery

Slump of mixed concrete shall be checked and approved at an accuracy of +25mm against designated slump in these Specifications.

3. Concrete in hot weather

No concrete shall be placed when the ambient air temperature is expected to exceed 33°C during placement operations.

4. 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.

5. 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.

ii. Measurement and Payment

Measurements for the Concrete Works Class 25/20 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 25/20) of culvert walls and slabs shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing, finishing horizontal surfaces to class UF2 finish, 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.

3. (CLASS 30/20) OF THE BEAMS AND DECK SLAB

Description

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of the insitu beams and deck slab, in accordance with Standard Specifications and in conformity with the requirements shown on the Drawings.

Concrete Class 30/20 shall be used for beams and slab.

Concrete Materials

a) Cement

Cement shall be of Portland type and shall conform to the requirements of BS or equivalent.

- **b)** The Contractor shall select only one type or brand of cement or others. Changing of type or of cement will not be permitted without a new mix design approved by the Engineer. All cement is subject to the Engineers approval however, approval of cement by the Engineer shall not relieve the Contractor of the responsibility to furnish concrete of the specified compressive strength.
- **c)** Conveyance of cement by jute bags shall not be permitted. Storage in the Contractors silo or store house shall not exceed more than two (2) months, and age of cement after submit to the Engineer for his approval the result of quality certificate done prepared by the manufacturer.
- **d)** 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

e) Aggregates

Fine and coarse aggregates must be clean, hard, strong and durable, not susceptible to ASR and free from absorbed chemicals, clay coating, or materials in amounts

that could affect hydration, bonding, strength and durability of concrete. The aggregates should conform to BS 882.

- f) Grading of aggregates shall conform to BS 812.

Other requirements for aggregates are as follows:

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

Coarse Aggregate

Abrasion, AASGTO T96	: Max. 405loss
Soft Fragment and shale, AASHTO M80	: Max. 5% by weight
Thin and elongated pieces, AASHTO M80	: Max. 15%

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, vegetation and salt as determined by the Engineer.

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.

Concrete Class 30/20

Concrete Class 30/20 shall be used for in situ beams and deck slab. The requirements of Concrete Class 30/20 are provided as follows unless otherwise the Engineer will designate any alteration:

Design compressive strength twenty eight (28) days	: 30N/mm ²
Maximum size of coarse aggregates	: 20mm
Minimum cement content	: 340kg/m ³
Maximum cement content	: 540kg/m ³
Maximum water/cement ratio of 45% with slump of 80mm.	

Proportioning Concrete

The Contractor shall consult with the Engineer as to mix proportions at least sixty (60) 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.

Concreting Work

a) Batching

Batching shall be done by weight with accuracy of;

Cement	: 1/2 percent
Aggregate	: 1/2 percent
Water and Admixture	: 1 percent

Equipment should be capable of measuring quantities within these tolerances for the smallest 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.

b) Mixing and Delivery

Slump of mixed concrete shall be checked and approved against designated slump in these specifications. The time elapsing from when the water is added to the mix until the concrete is deposited in place at the site of the work shall not exceed thirty (30) minutes in case that the concrete is hauled in non agitative type trucks or

carries, nor more than sixty (60) minutes in case that it is hauled in truck mixers or other carriers with agitators.

c) Concrete in Hot Weather

No concrete shall be placed when the ambient air temperature is expected to exceed 33°C during placement operations.

d) 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, and such night work is subject to approval by the Engineer.

e) 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 30/20 of beams and deck slab 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 30/20) of beams and deck slab shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing, finishing horizontal surfaces to class UF2 finish, and curing the concrete, equipment and tools, labour and other incidentals necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

1722 FORMWORK FOR CULVERT WALLS AND SLABS

This work shall consist of all temporary moulds 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**i) Formworks**

Formworks shall be designed to carry the maximum loads which 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.

Unless otherwise described in the Contract, all form joints for exposed surfaces of concrete shall form a regular pattern with horizontal and vertical lines continuous throughout each structure and all construction joints shall coincide with these horizontal and vertical lines.

Form joints shall be sealed against leakage of mortar. PVC pipes of 50mm diameter for weep holes shall be arranged as shown on the Drawings.

Unless otherwise specified, formwork shall be designed to form chamfers at all external corners whether or not such chamfers are shown on the Drawings to prevent cracks and other damage from arising.

The inside surface of forms shall be cleaned and coated with a releasing agent to prevent adhesion of the concrete. Release agents shall be applied strictly in accordance with the manufacturer's detailed instructions. The release agent shall be applied to the formwork prior to erection. Release agent must not come into contact with reinforcement. Immediately before concrete is placed, the forms shall thoroughly be thoroughly cleaned and freed from sawdust, shavings, dust, mud or other debris by hosing with water. Temporary openings shall be provided in the forms to drain away the water and rubbish.

ii) Scaffolding

All scaffolding required to support the forms shall be designed and constructed to provide necessary rigidity and support the loads without appreciable deflection or deformation.

Details, plans and structural and flexural calculations for scaffolding shall be submitted to the Engineer for approval, but in no case shall the Contractor be relieved of his responsibility for the results obtained by use of these plans, etc.

iii) Removal of formwork

The time at which the formwork is struck shall be the Contractor's responsibility and the forms shall not be removed until the concrete strength has reached 20N/mm².

c) Measurement and Payment

Formwork shall be measured as the net area, in square metres, in contact with the finished concrete surface of the walls and slabs. No measurement shall be allowed for formwork of temporary construction joints.

Payment for the Formworks shall be full compensation for furnishing, erecting, jointing all the forms for the concrete including furnishing and applying release agent, and construction of the required scaffolding to support the forms, all conforming to the shape, lines, grade and dimensions of the structure as shown on the Drawings, all in accordance with the Drawings and as directed by the Engineer.

1728 REINFORCING BARS OF WALLS AND SLABS

This work shall consist of furnishing, fabricating and placing in the concrete of the bottom slab, top slab, beams, median wall, sidewalls, wingwalls and aprons, reinforcing bars of the quality, type and size in accordance with these Specifications and in conformity with the requirements shown on the Drawings.

Reinforcing bars shall be high yield deformed bar and shall meet the requirements of British Standard BS 4449, unless otherwise called for the drawings or approved by the Engineer.

No reinforcing bar shall be delivered without a Certificate guaranteeing the yield stress.

All testing for compliance will be at the Contractor's expense.

1729 STORAGE OF REINFORCEMENT

Reinforcement shall be kept off the ground, free from dirt, oil, grease and rust and stored within a building or provided with suitable covers.

1730 BENDING REINFORCEMENT

The Contractor shall prepare bar bending schedules for the approval of the Engineer showing the location types, sizes, bending dimensions and cut lengths of the reinforcing bar required to be fixed in the works.

Qualified men shall be employed for the cutting and bending, and proper application shall be provided for such work.

Bars shall be cut and bent cold to the dimensions indicated and with equipment and methods approved by the Engineer.

Stirrups and tie bars shall be bent around a pin having a diameter not less than 15 times the minimum diameter of the bar. Bends of other bars, where full tension in the bar may occur, shall be made around a pin having a diameter not less than 7.5 times the bar diameter as shown on the Drawings.

Reinforcing bars shall be accurately formed to the shapes and dimensions indicated on the Drawings, and shall be fabricated in a manner that will not injure the materials.

1731 FIXING REINFORCEMENT

Reinforcing bars shall be accurately placed in proper position, and so that they be firmly held during placing of concrete. Bars shall be tied at all intersections by using annealed iron wire 0.9mm or larger diameter, or suitable clips.

Distances from the forms shall be maintained, corrected by means of metal hangers, metal blocks, metal supports or other supports approved by the Engineer.

The Engineer shall inspect reinforcing bars after placing. When a long time has elapsed after placing reinforcing bars, they shall be cleaned and inspected again by the Engineer before placing concrete.

When it is necessary to splice reinforcing bars at points, position and methods of splicing shall be determined based on strength calculations and approved by the Engineer.

In lapped splices, the bars shall be lapped by the required length, and wired together at several points by using annealed iron wire larger than 0.9mm. The minimum splice length shall be 40 times diameter of the bar unless otherwise shown on the drawings or instructed by the Engineer.

Exposed reinforcing bars intended for bonding with future extensions shall be effectively protected from injury and corrosion.

Oxyacetylene welding joint of reinforcing steel shall be done only if authorized by the Engineer in writing.

Measurement and Payment

Bending and installation of reinforcement bars shall be measured in terms of tons. In computing the weight to be measured, the theoretical weights of bars of the cross-section shown on the Drawings or authorized shall be used.

These weights are given in the following table: -

Bar type and the 56 Cross section in mm	Weight of Bar in Kilogramme per 21m length of bar
Y10	7.40
Y12	10.66
Y16	18.95
Y20	29.60
Y25	46.30

SECTION 20 - ROAD FURNITURE

2001 ROAD RESERVE BOUNDARY POSTS

Road reserve boundary posts shall be provided, with reference points, in compliance with Standard Specification Clause 2001.

2002 FENCING AND GATES

Add the following:

“Construction material for gates shall be steel. Fencing shall be constituted of wood permanent posts and six strand wire.”

2003 EDGE MARKER POSTS

Edge marker posts shall be provided as directed by the Engineer and in compliance with Standard Specification Clause 2003.

2004 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.

THE BACK PLATE – Made of preferably fibreglass or plastic sheets with framing and reinforcing to resist the wind load, and any resultant distortion moments or vibration.

THE SIGN SUPPORT – For ground mounted signs vertical poles/structures shall consists of single, multiple, braced, compound, steel or concrete poles.

RETROREFLECTIVE AND/OR SEMI-MATT MATERIALS - High Intensity Prismatic reflective sheeting fully meeting the requirements of ASTM D4956 Type IV, IX, X or BS873: Part 6: 1983 Class 1 material.

2004B 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.

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 delivered as directed.

2005 ROAD MARKING

(a) General

Paint for road marking shall be hot-applied thermoplastic paint and shall comply with BS 3262. The paint shall be surface reflectorized complying with BS 6088.

The Contractor shall forward all paint intended for application to Materials Department, Ministry of Transport and Infrastructure at least seven (7) months before the date of the application for testing and approval.

The rates inserted in the Bills of Quantities for road marking shall include for prior application of approved tack coat.

b) Materials

Road markings shall be of hot applied thermoplastic compound as specified in the item and the material shall meet the requirements as specified below:

- (i) The work under this section consists of marking traffic stripes using a thermoplastic compound meeting the requirements specified herein.
- (ii) The thermoplastic compound shall be screeded/extruded on to the pavement Surface in a molten state by suitable machine capable of controlled preparation and laying with surface application of glass beads at a specific rate. Upon cooling to ambient pavement temperature, it shall produce an adherent pavement marking of specified thickness and width and capable of resisting deformation by traffic,
- (iii) The colour of the compound shall be white or yellow (IS colour No. 556) as specified in the drawings or as directed by the Engineer.
- (iv) Here the compound is to be applied to cement concrete pavement, a sealing primer as recommended by the manufacturer, shall be applied to the pavement in advance of placing of the stripes to ensure proper bonding of the compound.
- (v) On new concrete surface any laitance and/or curing compound shall be removed before the markings are applied.

c) Thermoplastic Material

The thermoplastic material shall be homogeneously composed of aggregate, pigment, resins and glass reflectorizing beads.

- (i) **Composition:** The pigment, beads, and aggregate shall be uniformly dispersed in the resin. The material shall be free from all skins, dirt and foreign objects and shall comply with requirements indicated in Table 20-1.

Table: 20-1. PROPORTIONS OF CONSTITUENTS OF MARKING MATERIAL (Percentage by weight)

Component	White	Yellow
Binder	18.0 min.	18.0 min.
Glass Beads	30-40	30-40
Titanium Dioxide	10.0 min.	—
Calcium Carbonate and Inert Fillers	42.0 max.	See Note
Yellow Pigments	—	See Note

Note: Amount of yellow pigment, calcium carbonate and inert fillers shall be at the option of the manufacturer, provided all other requirements of this Specification are met

(ii) **Properties:** The properties of thermoplastic material, when tested in accordance with ASTM D36/BS - 3 262 - (Part 1), shall be as below:

(a) Luminance:

White: Daylight luminance at 45 degrees-65 per cent min. as per AASHTO M 249

Yellow: Daylight luminance at 45 degrees -45 per cent min. as per AASHTO M 249

(b) Drying time: When applied at a temperature specified by the

manufacturer and to the required thickness, the material shall set LO bear traffic in not more than 15 minutes.

(c) Skid resistance: not less than 45 as per BS 6044.

(d) Cracking resistance at low temperature: The material shall show i-o cracks on application to concrete blocks.

(e) Softening point: 102.5 ± 9 , 5° C as per ASTM D 36. How resistance: Not more than 2 5 per cent as per AASHTO M 249.

(f) Yellowness index (for white thermoplastic paint): not more than 0.12 as per AASHTO M 249

(iii) **Storage life:** The material shall meet the requirements of these Specifications for a period of one year. The thermoplastic material must also melt uniformly with no evidence of skins or unmelted panicles for the one year storage period. Any material not meeting the above requirements shall be replaced by the manufacturer/ supplier/Contractor.

(iv) **Reflectorisation:** Shall be achieved by incorporation of beads, the grading and other properties of the beads shall be as specified in Clause 803.4.3.

(v) **Marking:** Each container of the thermoplastic material shall be clearly and indelibly marked with the following information:

- (a) The name, trade mark or other means of identification of manufacturer
- (b) Batch number
- (c) Date of manufacture

- (d) Colour (white or yellow)
- (e) Maximum application temperature and maximum safe heating temperature.
- (vi) **Sampling and testing:** The thermoplastic material shall be sampled and tested in accordance with the appropriate ASTM/BS method. The Contractor shall furnish to the Employer a copy of certified test reports from the manufacturers of the thermoplastic material showing results of all tests specified herein and shall certify that the material meets all requirements of this Specification,

d) Reflectorising glass beads

General: This Specification covers two types of glass beads to be used for the production of reflectorised pavement markings.

Type 1 beads are those which are a constituent of the basic thermoplastic compound vide Table 20- 1 and Type 2 beads are those which are to be sprayed on the surface.

The glass beads shall be transparent, colourless and free from milkiness, dark particles and excessive air inclusions.

These shall conform to the requirements spelt out in here below:

Specific requirements

- a) **Gradation:** The glass beads shall meet the gradation requirements for the two types as given in Table 20-2.

Table: 20- 2. GRADATION REQUIREMENTS FOR GLASS BEADS

Sieve size	Per cent retained	
	Type 1	Type 2
1.18 mm	0 to 3	
850 micron	5 to 20	0 to 5
600 micron	-	5 to 20
425 micron	65 to 95	-
300 micron	-	30 to 75
ISO micron	0 to 10	10 to 30
below 180 micron	-	0 to 15

- b) **Roundness:** The glass beads shall have a minimum of 70 per cent true spheres.
- c) **Refractive index:** The glass beads shall have a minimum refractive index of 1.50.
- d) **Free flowing properties:** The glass beads shall be free of hard lumps and clusters and shall dispense readily under any conditions suitable for paint striping. They shall pass the free flow - test.
- e) **Test methods:** The specific requirements shall be tested with the following methods:

- (i) Free- flow test -Spread 100 grams of beads evenly in a 100 mm diameter glass dish. Place the dish in a 250 mm inside diameter desiccator which is filled within 25 mm of the top of a desiccator plate with sulphuric acid water solution {specific gravity 1.10}. Cover the desiccator and let it stand for 4 hours at 20 to 29 degree C. Remove sample from desiccator, transfer beads to a pan and inspect for lumps or clusters. Then pour beads into a clean, dry glass funnel having a 100mm stem and 6 mm orifice. If necessary, initiate flow by lightly tapping the funnel. The glass spheres shall be essentially free of lumps and clusters and shall flow freely through the funnel.
- (ii) The requirements of gradation, roundness and refractive index of glass beads and the amount of glass beads in the compound shall be tested as per B3 6088 and BS 3262 (Part I).
- (iii) The Contractor shall furnish to the Employer a copy of certified test reports from the manufacturer of glass beads obtained from a reputed laboratory showing results of all tests specified herein and shall certify that the material meets all requirement of this Specification. However, if so required, these tests may be carried out as directed by the Engineer.

e) Application properties of thermoplastic material

The thermoplastic material shall readily get screeded/extruded at temperatures specified by the manufacturers for respective method of application to produce a line of specified thickness which shall be continuous and uniform in shape having clear and sharp edges. The material upon heating to application temperatures shall not exude fumes, which are toxic, obnoxious or injurious to persons or property.

f) Preparation:

- (i) The material shall be melted in accordance with the manufacturer's instructions in a heater filled with a mechanical stirrer to give a smooth consistency to the thermoplastic material to avoid local overheating. The temperature of the mass shall be within the range specified by the manufacturer and shall on no account be allowed to exceed the maximum temperature stated by the manufacturer. The molten material should be used as expeditiously as possible and for thermoplastic material which has natural binders or is otherwise sensitive to prolonged heating, the material shall not be maintained in a molten condition for more than 4 hours.
- (ii) After transfer to the laying equipment, the material shall be maintained within the temperature range specified by the manufacturer for achieving the desired consistency for laying.

g) Properties of finished Road Marking:

- (a) The stripe shall not be slippery when wet.
- (b) The marking shall not lift from the pavement in freezing weather.
- (c) After application and proper drying, the stripe shall show no appreciable deformation or discolouration under traffic and under road temperatures up to 60°C.

- (d) The marking shall not deteriorate by contact with sodium chloride, calcium chloride or oil drippings from traffic.
- (e) The stripe or marking shall maintain its original dimensions and position. Cold ductility of the material shall be such as to permit normal movement with the road surface without chopping or cracking.
- (f) The colour of yellow marking shall conform 10 IS Colour No. 356 as given in IS: 164.

h) Application

- 1) Marking shall be done by machine. For locations where painting cannot be done by machine, approved manual methods shall be used with prior approval of the Engineer. The Contractor shall maintain control over traffic while painting operations are in progress so as to cause minimum inconvenience to traffic compatible with protecting the workmen.
- 2) The thermoplastic material shall be applied hot either by screeding or extrusion process. After transfer to the laying apparatus, the material shall be laid at a temperature within the range specified by the manufacturer for the particular method of laying being used. The paint shall be applied using a screed or extrusion machine.
- 3) The pavement temperature shall not be less than 10°C during application. All surfaces to be marked shall be thoroughly cleaned of all dust, dirt, grease, oil and all other foreign matter before application of the paint.

The material, when formed into traffic stripes, must be readily renewable by placing an overlay of new material directly over an old line of compatible material. Such new material shall so bond itself to the old line that no splitting or separation takes place. Thermoplastic paint shall be applied in intermittent or continuous lines of uniform thickness of at least 2.5 mm unless specified otherwise.

Where arrows or letters are to be provided, thermoplastic compound may be hand-sprayed. In addition to the beads included in the material, a further quantity of glass beads of Type 2, conforming to the above noted Specification shall be sprayed uniformly into a mono - layer on to the hot paint line in quick succession of the paint spraying operation. The glass beads shall be applied at the rate of 250 grams per square metre area.
- 4) The minimum thickness specified is exclusive of surface applied glass beads. The method of thickness measurement shall be in accordance with Appendices B and C of BS - 3262 (Part 3).
- 5) The finished lines shall be free from ruggedness on sides and ends and be parallel to the general alignment of the carriageway. The upper surface of the lines shall be level, uniform and free from streaks

Measurements for Payment

- 1) The painted markings shall be measured in sq. metres of actual area marked (excluding the gaps, if any).
- 2) In respect of markings like directional arrows and lettering, etc., the measurement shall be by numbers.

Rate

The Contract unit rate for road markings shall be payment in full compensation for furnishing all labour, materials, tools, equipment, including all incidental costs necessary for carrying out the work at the site conforming to these Specifications complete as per the approved drawing(s) or as directed by the Engineer and all other incidental costs necessary to complete the work to these Specifications.

2005A 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 is of optical menthyl methacrylic.

CONSTRUCTION

The Road Stud 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 98.5mm². 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:

a) Colour

Shall be white, yellow or red as specified and the Retro – reflectance values should conform to the testing procedures of ASTM E 809.

b) Impact Resistance

The marker shall not crack or break when tested using a 1000gram weight from a height of 1 metre. (ASTM D 2444) or BS 3900 Part E3.

c) Resistance to Water Penetration

There shall be no water penetration behind the lens after submerged in a water bath at 70 + 50oF for 10 minutes. And it should still meet the reflectance Requirement as stipulated by BS 998.

d) Heat Resistance

Shall comply with the initial brightness as per BS 873 Part IV of 1978

e) Night Visibility

The marker shall be bright as per BS 873 Part IV of 1978

f) Compression Resistance

There shall be no cracking sound at a pressure lower than 25 tones as per BS 873 Part IV of 1978.

g) Corrosion Resistance

After immersing a sample of Road stud in a solution containing 30g/l of sodium chloride for thirty (30) days, there shall not be any signs of corrosion, (BS 998).

Note: These markers are intended for application directly to pavement surfaces and are compatible with raised pavement markers. These adhesives should be of high quality and tested for conformance to customer requirements.

ADHESIVES

- i) 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.
- ii) Pot life: not less than 20 minutes at 20°C
- iii) Rotational cure time: between 20 and 30 minutes at 20°C
- iv) 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 10mm 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 colour shall be submitted.

2006 GUARDRAILS

All materials for guardrails shall comply with the requirements of AASHTO M180-98. Guardrail posts and spacer blocks shall be galvanised UNP steel profiles 120 x 55x7mm or of the type and size shown on the drawings, with posts driven vertically at least 1.2m into the shoulder as directed by the Engineer.

Beams for guardrails shall be "Armco Flexbeam" or similar obtained from a manufacturer approved by the Engineer.

Reflective plates shall be galvanised V-type shape, manufactured from 1.5mm thick mild steel plate, with the outer surfaces coated with engineering grade retro-reflective material. Holes for fixing shall be drilled before the plates are galvanised.

2007 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 2.0m.

2008 KILOMETER MARKER POSTS

Kilometre marker posts shall be provided as directed by the Engineer and in compliance with Standard Specification Clause 2008.

2009 RUMBLE STRIPS

The Contractor shall provide, place, trim, shape and compact to line and level asphaltic concrete rumble strips on the finished shoulders as directed by the Engineer.

Asphaltic concrete rumble strip sets to the full width of the carriageway and shoulders shall also be placed as warning strips to speed humps at the preselected locations marked on the Drawings to the satisfaction of the Engineer.

2010 TREES

Trees will be planted according to the advice given by the District Forest Officer or if not available, from an alternative source approved by the Engineer. The rate shall allow for transportation to site, planting as directed by the Engineer, watering during the first dry season after the planting, and protection until the end of the Maintenance Period.

2012 SERVICE DUCTS

Service ducts shall be provided in locations as directed by the Engineer. Ducts shall be heavy duty PVC spigot and socket pipe of 3mm minimum wall thickness. Minimum cover to the top of the pipe from formation level shall be 0.6m. Pipes shall be bedded and surrounded by a 100mm minimum thickness of compacted fine granular material of 10mm maximum size. The remainder of the trench shall be backfilled with selected backfill material of subbase quality up to the top of formation level.

Measurement and payment shall be by the metre of pipe installed, and shall include all excavation, spoil, bedding and surround, backfill, transport, supply, bed, lay of PVC pipe complete with 2mm galvanised draw wire, and end sealing caps and end markers.

2013 ROAD HUMPS

Where shown on the drawings or directed by the Engineer, the Contractor shall provide, place, trim, shape and compact to line and level road humps.

Road humps shall be constructed in asphaltic concrete or concrete class 20/10 to the dimensions shown on the drawings or as directed by the Engineer.

Road humps should be painted with white thermoplastic paint of 45° diagonal strips as shown on the drawings.

2014 RAISED ZEBRA CROSSING

Where shown on the drawings or as directed by the Engineer, the Contractor shall provide, place, trim, shape and compact to line and level flat-topped zebra crossing as detailed on the drawings.

2015 DUCT MARKER POSTS

Duct markers shall be installed by the Contractor at each end of the services ducts provided under clause 2015. The duct marker shall be located immediately beyond the outer edge of the shoulder or footpath and as close to the line of the duct as physical constraints permit. Where several ducts are laid side by side, only one duct marker post will be necessary. The duct marker posts shall be constructed as shown on the Drawings and shall be clearly and durably marked on the side facing away from the road. The marker post shall be inscribed “X ducts” where X is the number of ducts laid in the group marked by the marker post.

2016 CULVERT MARKER POSTS

Culvert markers shall be installed by the Contractor at each end of culverts constructed along the project road. The culvert marker shall be located immediately beyond the outer edge of the shoulder or footpath and as close to the line of the culvert as physical constraints permit. Where several culverts are laid side by side, only one culvert marker post will be necessary at each end of the culverts. The culvert marker posts shall be constructed as shown on the Drawings and shall be clearly and durably marked on the side facing away from the road. The marker post shall be inscribed “X culverts” where X is the number of culverts laid in the group marked by the marker post.

2017 BOLLARDS

Where shown on the Drawings or instructed by the Engineer, the Contractor shall construct permanent bollards. The bollards shall be precast using a class of concrete as shown on the drawings.

2018 PLOT BOUNDARY BEACONS

Where shown on the Drawings or instructed by the Engineer, the Contractor shall construct plot boundary beacons. The plot boundary beacons shall be 1.2m long reinforced concrete post with 150x150mm cross-section founded on 450x450x350 mass concrete as shown on the drawings.

2019 CHANNEL BLOCKS

The Contractor shall provide, lay and joint 125mm x125 and 125mm x 250mm channel blocks to roads, footpaths and shoulders as shown on the Drawings or as instructed by the Engineer.

2021 MEASUREMENT AND PAYMENT**Item: Reflective road studs****Unit: No**

Road studs shall be measured by the number instructed and installed. The rate shall include for the cost of provision and transport of all materials, preparation of the road surface, application of adhesives and full compliance with the manufacturer's instructions.

Item: Road humps**Unit: m**

Road humps shall be measured by the length installed. The rate shall include for provision, installation and compaction to the satisfaction of the Engineer and removal of surplus material.

Item: Flat topped zebra crossing**Unit: No**

Flat topped zebra crossings shall be measured by the number instructed and installed. The rate shall include for all materials, labour and equipment, and all measures required in the construction of the crossing, in accordance with the drawings.

Item: Service ducts**Unit: m**

Service ducts shall be measured by the metre as the length of duct installed as per the Engineer's instructions. The rate shall include for providing all materials, excavation, installation of PVC ducts, backfilling to the formation level, compaction, all in accordance with clause 2015.

Item: Duct Marker Post**Unit: No**

Duct marker posts shall be measured by the number instructed and installed. The rate shall include for provision and installation of posts, all excavation and backfill, compaction to the satisfaction of the Engineer.

Item: Culvert marker post**Unit: No**

Culvert marker posts shall be measured by the number instructed and installed. The rate shall include for provision and installation of posts, all excavation and backfill, compaction to the satisfaction of the Engineer.

Item: Bollards:**Unit: No**

Bollards shall be measured by the number instructed and installed. The rate shall include for provision and installation of bollards, all excavation and backfill, compaction to the satisfaction of the Engineer.

Item: Plot boundary beacons**Unit: No**

Plot boundary beacons shall be measured by the number instructed and installed. The rate shall include provision, transport of materials, excavation, erection of beacons and backfill, compaction to the satisfaction of the Engineer.

Item: Channel blocks**Unit: m**

Channel blocks shall be measured by the length installed, in accordance with the drawings, or as instructed by the Engineer. The unit rate shall include for all excavation (including in hard materials) provision and placing of backing and bedding concrete, cutting of blocks as necessary, and placing of channel blocks to the line and level shown on the drawings or as instructed by the Engineer.

SECTION 22 - DAYWORKS

2202 MEASUREMENTS AND PAYMENT

Add after the first paragraph of Clause (a) Plant:

Where items of major equipment listed in the schedule of Dayworks are specified by type (e.g. concrete mixer etc.) the power rating of such items of equipment to be provided by the Contractor shall not be lower than the power ratings of such equipment, manufactured within the last two years prior to the date of Tender. Any item of major plant employed upon Dayworks which has a power rating lower than specified 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.

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.

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 24 - ELECTRICAL, STREET LIGHTING AND TRAFFIC LIGHTS INSTALLATION

2444 SOLAR LED STREET LIGHTING FITTINGS

1.0 MECHANICAL SPECIFICATIONS

Housing: Aluminum Alloy

Shape & Outer Dimension: 485*185*130 (Can use any traditional Street light cover) Weight: < 12Kg

2.0 ELECTRICAL SPECIFICATIONS

BATTERY CAPACITY (FOR SINGLE ARM LIGHT HEAD)

- 24v DC systems of 12v sealed lead acid, AGM or GEL type rechargeable batteries.
- Battery capacity is 200Amp/ Hr.
- Battery life is approximately 3-4 years subject to environmental factors.
- Over charge and over discharge protection system.
- Each battery voltage maintained at or below 14.2 v. DC maximum and at or above 11v. DC
- Each battery charge voltage is programmed to 16.9 v. DC.

BATTERY CAPACITY (FOR DOUBLE ARM LIGHT HEAD)

- 24v DC systems of 12v sealed lead acid, AGM or GEL type rechargeable batteries.
- Battery capacity is 400Amp/ Hr.
- Battery life is approximately 3-4 years subject to environmental factors.
- Over charge and over discharge protection system.
- Each battery voltage maintained at or below 14.2 v. DC maximum and at or above 11v DC
- Each battery charge voltage is programmed to 16.9 v. DC.

BATTERY BOX

- Galvanized steel battery box will accommodate the rechargeable battery.
- Welded anchor plates or pre-drilled holes to enable secure installation.
- Silver/gray color finish.
- Battery box to fit 4no. 12 volt 400 Amp/Hour batteries.

SOLAR PANEL

- Highly efficient polycrystalline solar panel.
- Aluminum frame with anti-aging and encapsulated.
- Low reflecting tempered glass.
- 300 Watts solar panel (for double arm fittings) or 150 watts for single arm.
- Solar panels supplied in a dual format (2 x 150w = 300w).
- 150w solar panel dimensions are approx. 45" x 40" x 2"
- (L x W x D).
- Solar panel life of approximately 15-20 years subject to environmental factors.

ARM

- Galvanized steel arm to accommodate each of the two lamp units (light heads).
- Attaches to the street light pole.
- Silver/gray color finish.

3.0 POST / POLE

- Standard grade galvanized steel pole with base unit to enable secure installation.
- Pole has a square flat base (flat plate) with pre-drilled holes for installation.
- The square base of the pole is approximately (275mm x 275mm).
- Fixing bolts to be included.
- Wind load rating for pole is 110 MPH with a 1.3 gust factor.
- Two templates for setting the fixing bolts into new, wet concrete shall be included.
- The templates for aligning the anchors approx. (275mm x 275mm).
- The bolt pattern (distance from one hole center to another) is approx. (175mm).
- The 4 pre-drilled holes on each template are approx. (28mm) diameter.
- Pole overall height: 11.5m
- The top of the pole shall have an outside diameter of approximately (100 mm) and tapers outwards towards the base
- Silver/gray color finish.
- Typically the pole requires a concrete foundation of as shown in the drawings

4.0 LED

- LED Model: OSRAM (or Equivalent)LED
- LED Quantity: 600 led's per head
- LED Power Consumption: 90 W
- LED Brightness: 8000 lumens
- Automatic startup at 120 LUX or less

5.0 ENVIRONMENTAL SPECS

- Operating Temperature: -30 to 50 C
- Storage Temperature: -40 to 80 C
- Body Temperature < 60 C at 25 C (ambient)
- IP Level: IP65
- LED life: Over 50,000 hours
-

6.0 OPTICAL SPEC

Beam Angle:

X (Direction follow the road) : 120 degrees

Y (Direction cross the road) : 100 degrees

SECTION 25 - HIV/AIDS AWARENESS AND EDUCATION

2501 SCOPE OF THIS SECTION

This specification sets out the Contractor's obligations with regard to on-site HIV/AIDS awareness campaign and preventive measures which are to be instituted.

2502 INTERPRETATION AND DOCUMENTATION

The following documents shall inter-alia be read in conjunction with this Specification;

- The Instructions to Bidders
- The Conditions of Contract
- The Drawings

2503 GENERAL REQUIREMENTS

a) HIV/AIDS Awareness Campaign

The Contractor shall institute an HIV/AIDS awareness campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to display AIDS awareness posters in all buildings frequented by workers employed on the contract, where such buildings fall under the control of the Contractor. In addition, the Contractor will put at least ten HIV/AIDS awareness posters in the vehicles that are regularly used on site. The posters shall be printed on gloss paper and shall be at least A1 size on buildings and A3 size, or other approved size, on vehicles. The message on the posters shall be supplied by the Employer through the Engineer before the posters are printed.

AIDS awareness shall also be included in the orientation process of all workers employed on the contract.

b) AIDS Prevention Campaign

The Contractor shall institute an HIV/AIDS prevention campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to make condoms available to workers. The condoms shall be from an approved manufacturer. The Contractor shall make available at least 4,000 condoms every month through dispensing machines or other approved method of distribution. The Contractor shall at all times keep the site adequately supplied with condoms.

c) HIV/AIDS Training

Introduction

HIV/AIDS is having a significant and increasing impact in Kenya. Statistics show a prevalence of 10-15% along some of the major roads in the country. Interventions that stimulate the movement of people increase both the exposure to the HIV virus and the spread of the virus. Road construction has been identified as one such intervention.

Ministry of Transport and Infrastructure policy is to integrate HIV/AIDS awareness and prevention into all road construction and rehabilitation programmes. This is in accordance with the Third National Strategic Plan (2000-5) for HIV/AIDS prevention and control as approved by the Government of Kenya and many other organizations.

It is a contractual requirement to carry out HIV/AIDS awareness and prevention activities during the construction period as provided in this specification.

Objective

The objective is to reduce the risk of exposure to and spread of the HIV virus in the area of the construction. The target group will be local labourers and their supervisors employed by the works Contractors. The wider community will benefit indirectly through their normal day-to-day interaction with the target group.

Scope of activities

Activities for HIV/AIDS awareness and prevention will be broad-based targeting both individuals and groups. They may consist of:

- (i) Information posters in public places both on and offsite (eating houses, bars, guest houses, vehicles etc.)
- (ii) Availability of socially marketed condoms.
- (iii) Peer educators (reference people) drawn from the local labour and educated in HIV/AIDS issues for discussions with colleagues (estimate 1 per 100 employees).
- (iv) Small focus group discussions and information covering key issues
- (v) Theatre groups and video presentations
- (vi) Promotional events (such as sports to encourage openness and discussion of HIV/AIDS issues
- (vii) Promotional billboards to raise awareness of the integration of construction and HIV/AIDS activities
- (viii) Inclusion of HIV/AIDS activities at site meetings with the Provincial/District committees and other representatives
- (ix) Availability of promotional material such as t-shirts, caps bumper stickers, key rings etc.

The scope of activities may be tailored as required to meet the perceived needs and priorities of the labourers, determined by participatory approaches to ensure they are appropriate desired and have a public health impact. The scale and frequency of activities may also be adjusted to suit requirements of the target group. Education will cover:

- (i) preventive behaviours including partner reduction, condom use, awareness and importance of treatment of Sexually Transmitted Infections (STIs);
- (ii) skills including negotiating safer sex, correct condom use, purchase without embarrassment; and
- (iii) referral to local health centres and available services.

Tasks to support the above activities will be to:

- (i) Establish the status and focus of all current and planned HIV/AIDS activities in the area to ensure complementarity and determine potential involvement in project activities.
- (ii) Carry out a brief review of regional activities combining road construction with HIV/AIDS campaigns to determine options, best practice key issues, constraints, etc.
- (iii) Review of Information, Education and Communication (IEC) materials available and their relevance to road construction, making recommendations for future development of IEC materials.
- (iv) Provide education and training for site personnel, supervisors and peer educators for the scope of activities as above.
- (v) Provide supervision for peer educators to ensure sustained quality of education. Incentives for their continual work may be small promotional items such as t-shirts, caps, etc.
- (vi) Provide mechanisms for the social marketing of condoms and distribution of materials.
- (vii) Monitor activities regularly to assess effectiveness and impact. This should include an initial, interim and final assessment of basic Knowledge, Attitude and Practices (KAP) taking account of existing data sources and recognising the limitations due to the short time frame to show behavior change. The KAP will be supported by qualitative information from focus group discussions.

Collaboration

HIV/AIDS activities are co-ordinated nationally by the National Aids Control Council (NACC). Ministry of Transport and Infrastructure, in consultation with NACC and the Ministry of Health (MoH), will co-ordinate with the provincial, district and local representatives. Representatives of local health authorities will be invited to attend training and communication activities.

Activities on the construction site will be linked as far as possible with on-going HIV/AIDS awareness and prevention in the area. This will ensure complementarity of approaches, reinforcing education and minimising duplication. In addition, these links will ensure that the target group will have access to continued information after the end of the construction period.

Contractor Responsibilities

The Contractor will employ and designate a qualified HIV/AIDS expert to be approved by the Engineer, who will work closely with the Client, Ministry of Transport and Infrastructure and other implementing agencies to support the HIV/AIDS awareness and prevention activities. This will ensure maximum effectiveness and integration with construction activities. Specific, but not exclusive, issues to be addressed by the Contractor are:

- (a) Scheduling of appropriate timing and duration for the implementation of HIV/AIDS activities as part of work plan for labourers and supervisors. Designated rest times such as lunch breaks and pay days should be excluded.
- (b) Identification of suitable individuals for education from recruitment records for education with the implementing organisation.
- (c) Provision of suitable sites for communication activities and for condom distribution.
- (d) Monitoring the implementation of peer educational activities.
- (e) Provision of necessary support to the implementing organisation.

The Contractor shall be actively involved in the liaison and coordination associated with the provision and implementation of the HIV/AIDS awareness and education program.

Inputs

An organisation experienced in the provision of HIV/AIDS awareness and prevention activities will be selected as a Sub-Contractor to provide the above scope of activities on behalf of the main Contractor.

Reporting

The implementing organisation will produce the following reports to be submitted to the Contractor, Consultants, Ministry of Transport and Infrastructure and NACC:

- (a) Monthly progress briefs for inclusion in site meetings.
- (b) Quarterly reports detailing activities carried out, issues, follow up, etc.
- (c) Review report of activities in the road construction sector,
- (d) Review report of existing IEC materials with recommendations for development of materials specifically for the road sector.

- (e) Final report detailing the methodology and activities carried out under this project including lessons learnt, impact, liaison with the Contractor and other parties, etc.

In addition, a report with the recommended approach for integration of HIV/AIDS awareness and prevention activities in the road construction sector will be produced. This will be a synthesis of project activities including contractual approaches, communication activities, availability of materials, liaison with existing organisations, etc. It will be developed with all parties involved in the construction activities to ensure the wide range of views and experiences is gained.

The final report and recommended approach will be presented to Ministry of Transport and Infrastructure, NACC and other interested organisations including private sector, funding agencies and NGO's.

Timing

Activities shall commence at the start of the construction period and continue throughout the thirty (30) months to ensure a sustained impact. Reporting and dissemination activities shall continue for three months after the project is completed to ensure integration into current practice.

2504 MEASUREMENT AND PAYMENT

Section I of the Bill of Quantities contains a prime cost sum for the provision of a HIV/AIDS awareness campaign, plus a percentage for the Contractor's liaison and coordination, overheads and profit associated with the provision and implementation of this campaign.

SECTION 26 – ROAD SAFETY AWARENESS AND EDUCATION

2601 SCOPE OF THIS SECTION

This specification sets out the Contractor's obligations with regard to on-site road safety campaign which is to be conducted during the construction period. The aim of this road safety campaign is to achieve safe road use in the project area.

Indeed, an improved roadway complete with paved surface will undoubtedly encourage more vehicular traffic and will allow vehicles to travel at higher average speeds. This will increase the possibility for accidents between vehicles, and with non-motorized traffic such as cyclists, pedestrians and both domestic and wild animals.

Although the improved road will be wider in certain areas and dangerous curves will be straightened, thus making it safer to travel at higher speeds, there is still likelihood of collisions between vehicles and with vehicles and bicycles, pedestrians, and livestock (and wildlife).

Due to poor road conditions over the years, people, animals, NMTs, and particularly children are unaware of the danger of a fast approaching vehicle and may cross the road in front of it. This impact is likely to be serious during daytime hours when traffic is heavier and when drivers are able to move faster.

Thus the Contractor shall conduct a road safety campaign in order to increase the awareness of the dangers of the road among the communities living alongside the project road, and the Consultant's workers.

2602 GENERAL REQUIREMENTS

(a) Road safety prevention campaign

The Contractor shall institute a road safety campaign amongst his workers, and the communities living alongside the road, for the duration of the contract. . As part of the campaign the Contractor will be required to display road safety posters in all buildings frequented by workers employed on the contract, where such buildings fall under the control of the Contractor, and in all schools and public buildings within the road project area. In addition, at least three (3) of the Contractor's vehicles, regularly used on site shall display road safety posters. The posters shall be printed on gross paper and shall be at least A1 size on buildings and A3 size, or other approved size on vehicles. The message on the posters shall be supplied by the Employer through the Engineer before the posters are printed.

(b) Road safety training

Objective

The objective of the road safety campaign is to reduce the risk of exposure to road accidents in the area of the road. The target groups will be the public alongside the road, especially the children in schools and the chiefs of the village, but also local labourers and their supervisors employed by the works contractors. The wider community will benefit indirectly through their normal day-to-day interaction with the target groups.

Scope of activities

Activities for road safety awareness will be broad-based targeting both individuals and groups. They may consist of:

- (i) Information posters in public places both on and offsite (eating houses, bars, guest houses, etc.) and on contractor's vehicles,
- (ii) Peer educators (reference people) drawn from the local labour, and from the local communities, and educated in road safety issues for discussions with colleagues or the local community members,
- (iii) Small focus group discussions and information covering key issues,
- (iv) Theatre groups and video presentations,
- (v) Promotional events (such as football matches) to encourage openness and discussion of road safety issues,
- (vi) Promotional bill boards to raise awareness of the integration of construction and road safety activities,
- (vii) Availability of promotional materials such as T-shirts, caps, bumper stickers, key rings, etc.

The scope of activities may be tailored as required to meet the perceived needs and priorities of the local communities and the workers, determined by participatory approaches to ensure they are appropriate, desired and have a public impact. The scale and frequency of activities may also be adjusted to suit requirements of the target groups. Education will cover:

- (a) preventive behaviours including safe road crossing, walking on shoulders and not on the road;
- (b) referral to local information centers and services available.

Tasks to support the above activities will be to:

- 1) Establish the status and focus of all current and planned road safety campaign activities in the area to ensure complementarity and determine potential involvement in project activities.
- 2) Carry out a brief review of regional activities combining road construction with road safety campaigns to determine options, best practice key issues, constraints, etc.

- 3) Review of Information, Education and Communication (IEC) materials available and their relevance to road construction, making recommendations for future development of IEC materials.
- 4) Provide education and training for site personnel, supervisors, local community members, and peer educators for the scope of activities as above.
- 5) Provide supervision for peer educators to ensure sustained quality of education. Incentives for their continual work may be small promotional items such as T - shirts, caps, etc.
- 6) Monitor activities regularly to assess their effectiveness and impact. This should include an initial, interim and final assessment of basic knowledge, attitude and practices (KAP) taking account of existing data sources and recognising the limitations due to the short time frame to show behaviour change. The KAP will be supported by qualitative information from focus group discussions.

Contractor's Responsibilities

The Contractor will designate a qualified road safety expert, to be approved by the Engineer, who will work closely with the Client, MOR and other implementing agencies to support the road safety campaign activities. This will ensure maximum effectiveness and integration with construction activities. Specific but not exclusive issues to be addressed by the Contractor are:

- (a) Scheduling of appropriate timing and duration for the implementation of the road safety campaign as part the work plan.
- (b) Identification of suitable individuals for education from recruitment records with the implementing organization and from within the local communities.
- (c) Provision of suitable sites for communication activities.
- (d) Monitoring of the implementation of peer educator activities.
- (e) Provision of support as necessary to the implementing organization and local communities.

Inputs

An organisation experienced in the provision of road safety campaigns will be selected as a subcontractor to provide the above scope of activities on behalf of the main Contractor.

Reporting

The implementing organisation will produce the following reports to be submitted to the Contractor, the Engineer, and the Employer:

- (a) monthly progress briefs for inclusion in site meetings.

- (b) quarterly reports detailing activities carried out, issues, follow ups, etc.
- (c) a review report of activities in the road construction sector,
- (d) a review report of existing IEC materials with recommendations for development of materials specifically for the road sector.
- (e) a final report detailing the methodology and activities carried out under this project including lessons learnt, impact, liaison with the Contractor and other parties, etc.

Timing

Activities shall commence at the start of the construction period and continue through out the Contract duration to ensure a sustained impact. Reporting and dissemination activities shall continue for three months after the project is completed to ensure integration into current practice.

2603 MEASUREMENT AND PAYMENT

The payment for items in this clause shall include full compensation for all work associated with the provision of road safety campaign related services as specified.

Item: Instituting a Road Safety Awareness Campaign

Unit: months

The unit of measurement shall be the calendar month or part thereof, measured over the duration of the campaign. The tendered rate shall include full compensation for equipment, labour and material required for the provision of the service.

Item: Instituting an Accident Prevention Campaign

Unit: months

The unit of measurement shall be the calendar month or part thereof, measured over the duration of the campaign. The tendered rate shall include full compensation for equipment, labour and material required for the provision of the service.

Item: Road Safety Training

Unit: Provisional Sum

Compensation for road safety specialists for the implementation of the Training element of Clause 26 03 (b).

Any amount required under this item will be approved by the Engineer, prior to expenditure. Handling costs and profit in respect of this sub-item will be paid as a percentage (%) of the Provisional Sum expended.

SECTION 27 – Environmental and Social (ES) requirements

Further to the requirements of Sections 117 and 120 of the Specification Stipulated under Section VI: Specifications, the following Sub-Clauses of the Conditions of Contract make explicit reference to ES matters. The Contractor is required to meet it's obligations under the said Sub-Clauses.

Sub- Clause/Clause No.	Sub-Clause/Clause	Remarks
4.1	<i>Contractor's General Obligations</i>	<i>Provide an CESMP</i>
4.6	<i>Co-operation</i>	<i>contractor's cooperation is required to conduct environmental and social assessment.</i>
4.8	<i>Health and Safety Obligations</i>	<i>provision of services that accommodate physical, social and cultural needs of Contractor's Personnel is required. Indicate any additional requirements for the health and safety manual</i>
4.15	<i>Access Route and Use of Public Roads</i>	<i>Provide specific traffic and road safety management plan.</i>
4.18	<i>Protection of the Environment</i>	<i>Legal limits for emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall not be exceeded.</i>
4.20	<i>Progress Reports</i>	<i>Required on a monthly basis.</i>
4.21	<i>Security of the Site</i>	<i>Provide for the security arrangements.</i>
4.23 (c)	<i>Archeological and Geological Findings</i>	<i>Proceed as required under the Contract.</i>
6.2	<i>Rate of Wages and Conditions of Labour</i>	<i>Provide labour management procedure in accordance with the Labour Laws.</i>
6.28	<i>Traning of Contractor's Personnel</i>	<i>As set out in the ESCP, specify, , details of any training to relevant Contractor's Personnel to be provided by the Employer's Personnel on environmental and social aspects. (whom, what, when, where, how long etc.)</i>

Payment for ES Requirements

The cost of implementing work place safe systems of work, including the measures necessary for ensuring traffic and road safety, shall be covered by the Tenderer's rates for the relevant works. Alternatively, provisional sums could be set aside for discrete activities for example for HIV counselling service, and, SEA awareness and sensitization or to encourage the contractor to deliver additional ES outcomes beyond the requirement of the Contract.

Supplementary Information

[No supplementary information]

Section V – Bills of Quantities

A. Preamble

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Technical Specifications and Drawings.
2. The brief description of the items in the Bill of Quantities is purely for the purpose of identification, and in no way modifies or supersedes the detailed descriptions given in the conditions of Contract and Specifications for the full direction and description of work and materials.
3. The quantities given in the Bill of Quantities are estimated and provisional and are given to provide a common basis for bidding. 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 bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
4. There is no guarantee to the Contractor that he will be required to carry out all the quantities of work indicated under any one particular item or group of items in the Bill of Quantities.
5. The price and rates entered in the Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all constructional plant to be used, labour, insurance, supervision, compliance testing, materials, erection, maintenance of works, overheads and profits, taxes and duties together with all general risks, liabilities and obligations set out or implied in the Contract, transport, electricity and telephones, water, use and replenishment of all consumables, including those required under the Contract by the Engineer and his staff.
6. A rate or price shall be entered against each item in the priced Bill 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 Bill of Quantities.
7. Any entry of “nil” or any other price or rate that shall render the Bid unresponsive in accordance with Clause 29 of the instructions to Bidders, unless deemed justifiably covered elsewhere in the Bills of Quantities, may lead to the entire Bid being rejected
8. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill 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.
9. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.

10. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Clause 13.4 and 13.5 of the Conditions of Contract.
11. The method of measurement of completed work for payment shall be in accordance with *Standard Specification for Road and Bridge Construction* of the Ministry of Transport and Communications, 1986.
12. "Authorized" "Directed" or "Approved" shall mean the authority, direction or approval of the Engineer.
13. Unless otherwise stated, all measurements shall be net taken on the finished work carried out in accordance with the details shown on the drawings or instructed, with no allowance for extra cuts or fills, waste or additional thickness necessary to obtain the minimum finished thickness or dimensions required in this contract. Any work performed in excess of the requirements of the plans and Specifications will not be paid for, unless ordered in writing by the Engineer.
14. Errors will be corrected by the Employer for any arithmetic errors in computation or summation as follows:
 - (a) Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.
15. Earthworks:
 - (a) Hard material, in this Contract, shall be defined as the material which, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledge hammers, or the use of compressed air drilling for their removal, and which cannot be extracted by ripping with a dozer tractor of at least 300 kilowatt power with a single, rear-mounted, hydraulic ripper. Boulders of more than 0.2m³ occurring in soft material shall be classified as hard material
 - (b) Soft material shall be all material other than hard material
16. The Contractor shall be entitled to payments due in respect of
 - (i) Equipment employed on Daywork basis on the rental rates entered by him in the "schedule of Dayworks: Plant"
 - (ii) That Labour (ordinary) employed on daywork basis at the rates entered by him in the "Schedule of Daywork: Labour"
 - (iii) Materials used on daywork at the rates entered by him in the "Schedule of Dayworks: Materials".
17. The following units of measurement and abbreviations used herein shall have the following meanings:

Unit	Abbreviation	Unit	Abbreviation
cubic meter	m ³ <i>or</i> cu m	millimeter	mm
hectare	ha	month	mon
hour	h	number	nr
kilogram	kg	square meter	m ² <i>or</i> sq m
lump sum	L.Sum	square millimeter	mm ² <i>or</i> sq mm
meter	m	week	wk
metric ton (1,000 kg)	t		

B. Bill of Quantities

Grand Summary

BILLS OF QUANTITIES FOR THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO [B2] ROAD-PHASE 2. Summary of Bills of Quantities		
Bill No.	Description	Amount (KShs)
1	Preliminary And Supervisory/Support Services	
4	Site Clearance	
5	Earthworks	
7	Excavation and Filling for Structures	
8	Culvert and Drainage Works	
9	Passage of Traffic	
12	Natural Material Bases and Subbase	
14	Cement Treated Base and Subbase Materials	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
17	Concrete Works (Major Structures)	
20	Road Furniture	
22	Dayworks	
23	Paved Surfaces	
24	Street Lighting	
25	HIV/AIDS Awareness and Education	
26	Road Safety Awareness and Education	
27	Environmental and Social Mitigation Measures	
A	Subtotal - 1	
B	Add 16 % Vat Of (D) As VAT	
C	Add: Public Procurement Capacity Building Levy @ 0.03%	
Grand Total Carried Forward To The Form Of Bid (A+B+C)		

Bill No. 1: General Items

Bill No. 1: Preliminary And Supervisory/Support Services					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
1.01	Maintain Resident Engineer's Main Office. See attached Appendix to Bill No. 1.01.	Item	1		
1.02	Maintain and provide laboratory equipment and reagents for use by the Engineer's representative for the entire duration of the contract as per the attached Appendix C.	Item	1		
1.03	Provide and erect publicity signs as directed by the Engineer	No.	2		
1.04	Provide and maintain survey equipment for use by the Engineer's representative for the entire duration of the contract as per the attached appendix to this bill item. See attached Appendix to Bill No. 1.05	Item	1		
1.05	Provide, fuel and maintain with drivers Two (2) new 4WD double cabin pickups of minimum engine 2500cc capacity fully loaded as approved by the Engineer, inclusive of the first 4000km per vehicle month.	V.mth.	24		
1.06	E.O Item 1.05 for mileages over 4000km per vehicle month.	Km	30,000		
1.07	Provide Resident Engineer's Miscellaneous account to be spent in whole or part as directed by the Resident Engineer against receipts as detailed in the schedule attached in Appendix B as Instructed by the Engineer.	Item	1		
1.08	Payment of Engineer's Supervisory Staff including overtime in accordance with clause 137 of Special Specifications and as per Remuneration Rates in Appendix A as instructed by the Engineer.	L.Sum	1	15,959,700	15,959,700

Bill No. 1: Preliminary And Supervisory/Support Services					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
1.09	E.O. item 1.08 for the contractor's overheads and profit.	%	15,959,700		
1.10	Allow Provisional Sum of KShs. 10,000,000.00 for Land acquisition.	Prov. Sum	1	10,000,000	10,000,000
1.11	E.O. item 1.10 for the contractor's overheads and profit.	%	10,000,000		
	Total Carried forward to Summary Page				

Bill No. 4: Site Clearance

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 4: Site Clearance					
No.	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	Site Clearance				
4.01	Clear site on road reserve including removal of trees, hedges, bushes and other vegetation or detritious organic material in accordance with the specification.	Ha	3.15		
	Topsoil Stripping				
4.02	Remove topsoil to maximum depth of 200mm as directed by the Engineer stockpile good material for later top soiling of slide slopes and landscaping of quarries and borrow pits.	m ³	6,300		
	Removal of Existing Structures				
4.03	Excavate, remove and dispose of or stockpile existing concrete pipe culverts of any diameter, including outlet and inlet structures as will be directed by the Engineer.	m	400		
4.04	Allow a Lump Sum of KShs. 2,000,000.00 for removal of buildings, structures and fences within the Road Reserve and dispose off materials as will be directed by the Engineer.	L.Sum	2,000,000	1	
4.05	E.O. item 4.04 for the contractor's overheads and profit.	%			
	Removal of Existing Services				
4.06	Allow Provisional Sum of KShs. 5,000,000.00 for the removal and alteration of services inclusive of liaison with the appropriate bodies in accordance with Specifications. These include water and sewer pipes, overhead and underground power lines, overhead and underground telecommunication cables, fibre optic cables etc.	Prov. Sum	5,000,000	1	
4.07	E.O. item 4.06 for the contractor's overheads and profit.	%			

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 4: Site Clearance					
No.	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
4.08	Removal of existing road signs and stockpile or re-use as directed by the Engineer	No.	10		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
4.01A	Clear site on road reserve including removal of trees, hedges, bushes and other vegetation or deteriorious organic material in accordance with the specification.	Ha	1.3		
4.02A	Remove topsoil to maximum depth of 200mm as directed by the Engineer stockpile good material for later top soiling of slide slopes and landscaping of quarries and borrow pits.	m ³	2100		
Total Carried Forward to Summary:					

Bill No. 5: Earthworks

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 5: Earthworks					
Bill No.	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
5.01	Fill in soft material, including benching of shoulders and embankment and compact to 95% MDD (AASHTO T99) as directed by the Engineer	m ³	31,500		
5.02	Fill in hard material and compact as directed by the Engineer	m ³	3,150		
5.03	Cut to spoil in soft material or stockpile for reuse as directed by the Engineer in hard	m ³	8,400		
5.04	Cut to spoil in hard material or stockpile for reuse as directed by the Engineer in hard	m ³	840		
5.05	Scarify, water and compact existing ground to at least 100% MDD (AASHTO T99) to a depth of 150mm below ground level.	m ³	1,575		
5.06	Fill in soft material, for Class S4 improved subgrade material to a thickness of 300mm in layers of 150mm compaction to 100% MDD (AASHTO T99).	m ³	11,025		
5.07	Scarify existing bituminous pavement material and store for re-use or cart away to spoil as directed by the Engineer	m ²	300		
5.08	Provide, place and compact rock fill at swampy areas as per clause 507 of the specifications and as directed by the Engineer.	m ³	100		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
5.01A	Fill in soft material, including benching of shoulders and embankment and compact to 95% MDD (AASHTO T99) as directed by the Engineer	m ³	6,750		
5.02A	Fill in hard material and compact as directed by the Engineer	m ³	2,700		
5.03A	Cut to spoil in soft material or stockpile for reuse as directed by the Engineer in hard	m ³	3,600		

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 5: Earthworks					
Bill No.	Description	Unit s	Quantity	Rate (Ksh)	Amount (KSh)
5.04A	Cut to spoil in hard material or stockpile for reuse as directed by the Engineer in hard	m ³	1,080		
5.05A	Scarify, water and compact existing ground to at least 100% MDD (AASHTO T99) to a depth of 150mm below ground level.	m ³	2,100		
5.06A	Fill in soft material, for Class S4 improved subgrade material to a thickness of 325mm in layers of 150mm and 175mm compaction to 100% MDD (AASHTO T99).	m ³	3,415		
5.08A	Provide, place and compact rock fill at swampy areas as per clause 507 of the specifications and as directed by the Engineer.	m ³	350		
Total Carried Forward to Summary:					

Bill No. 7: Excavation and Filling of Structures

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 7: Excavation and Filling for Structures					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
7.01	Excavate for structure in soft material as directed by the Engineer	m ³	120		
7.02	Excavate for structure in hard material to any depth but not exceeding 4m as directed by the Engineer	m ³	18		
7.03	Provide, haul as necessary and backfill; all in accordance with the specifications and in conformity with the Engineer's instructions	m ³	40		
7.04	Excavate and compact the surfaces to receive the gabions	m ³	50		
7.05	Provide and place gabion boxes and mattresses as specified or as directed by the Engineer	m ²	1100		
7.06	Provide and place rock fill to gabions and mattresses	m ³	200		
7.07	Allow for grouting of the rock fill where necessary	m ²	150		
7.08	River training in soft material	m ³	240		
7.09	Provide and fix filter fabric behind porous filter material as per the Drawings and Specifications	m ²	2000		
7.10	Provide and place 200mm thick stone pitching including grouting to outfall drains as detailed in the drawings or as directed by the Engineer	m ²	6,000		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
7.10A	Provide and place 200mm thick stone pitching including grouting to outfall drains as detailed in the drawings or as directed by the Engineer	m ²	3000		
Total Carried Forward to Summary:					

Bill No. 8: Culverts and Drainage Works

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 8 : Culvert and Drainage Works					
Bill No.	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
8.01	Excavation in soft material for pipe culverts, headwalls, wing walls, apron, toe walls and drop inlets and compact as specified or as directed by the Engineer	m ³	300		
8.02	Excavation in hard material for pipe culverts, headwalls, wing walls, apron, toe walls and drop inlets and compact as specified or as directed by the Engineer	m ³	240		
8.03	Excavate for inlet, out fall, catch water drains, mitre and cut-off drains in soft material as directed by the Engineer.	m ³	1,000		
8.04	Excavate for inlet, out fall, catch water drains, mitre and cut-off drains in hard material as directed by the Engineer.	m ³	200		
8.05	Desilt and clean existing culverts to free-flowing condition as directed by the Engineer.	m	300		
8.06	Provide, lay and join 600mm I.D precast concrete pipes	m	300		
8.07	Provide, lay and join 900mm I.D precast concrete pipes for cross culverts	m	180		
8.08	Excavate for, provide, lay and joint IBD with double side slabs as directed by the Engineer.	m	3,000		
8.09	Provide and place class 15/20 concrete to beds and blinding	m ³	87		
8.10	Provide and place class 25/20 concrete to headwalls, wing walls, aprons, surrounds to walls, inlets and outlets to pipe culverts including reinforcement and formwork	m ³	210		
8.11	Provide and place A142 fabric mesh reinforcement on in-situ lining of drainage channels as directed by the Engineer.	m ²	8,000		
8.12	In-situ lining with class 20/20 on drainage channels to be instructed by the Engineer as per the specifications, drawings and as directed by the Engineer.	m ²	1,200		

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 8 : Culvert and Drainage Works					
Bill No.	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
8.01A	Excavation in soft material for pipe culverts, headwalls, wing walls, apron, toe walls and drop inlets and compact as specified or as directed by the Engineer.	m ³	1,350		
8.02A	Excavation in hard material for pipe culverts, headwalls, wing walls, apron, toe walls and drop inlets and compact as specified or as directed by the Engineer	m ³	100		
8.03A	Excavate for inlet, out fall, catch water drains, mitre and cut-off drains in soft material as directed by the Engineer.	m ³	80		
8.04	Excavate for inlet, out fall, catch water drains, mitre and cut-off drains in hard material as directed by the Engineer.	m ³	60		
8.06A	Provide, lay and join 600mm I.D precast concrete pipes	m	80		
8.07A	Provide, lay and join 900mm I.D precast concrete pipes for cross culverts	m	60		
8.09A	Provide and place class 15/20 concrete to beds and blinding	m ³	30		
8.10A	Provide and place class 25/20 concrete to headwalls, wing walls, aprons, surrounds to walls, inlets and outlets to pipe culverts including reinforcement and formwork.	m ³	70		
Total Carried Forward to Summary:					

Bill No. 9: Passage of Traffic

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 9 : Passage of Traffic					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
9.01	Construct and maintain, including watering 7.0 m wide deviations, having a 150mm thick compacted gravel wearing course.	Km	1		
9.02	Provide, Place, maintain and remove Temporary signs and barriers, lights on deviations; in accordance with specifications and as instructed by the Engineer	Km	1		
9.03	Allow for maintenance of deviations (grading and spot gravelling), including reinstatement of existing pavement layers and drainage along entire road project all in accordance with the specifications.	L.Su m	1	1,500,000	1,500,000
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
9.01 A	Construct and maintain, including watering 7.0 m wide deviations, having a 150mm thick compacted gravel wearing course.	Km	1		
9.02 A	Provide, Place, maintain and remove Temporary signs and barriers, lights on deviations; in accordance with specifications and as instructed by the Engineer	Km	1		
9.03 A	Allow for maintenance of deviations (grading and spot gravelling), including reinstatement of existing pavement layers and drainage along entire road project all in accordance with the specifications.	L.Su m	1	750,000	750,000
Total Carried Forward to Summary:					

Bill No. 12: Natural Material for Sub-Base and Base

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 12 : Natural Material Bases and Subbase					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	Natural Material for Subbase				
12.01	Provide, place, water and compact, Natural Material for Subbase as per Section 12 of the Specifications and as directed by the Engineer.	m ³	6,600		
	Natural Material for Base				
12.02	Provide, place, water and compact, Natural Material for Base as per Section 12 of the Specifications and as directed by the Engineer.	m ³	5,700		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
	Natural Material for Subbase				
12.01A	Provide, place, water and compact, Natural Material for Subbase as per Section 12 of the Specifications and as directed by the Engineer.	m ³	2,300		
	Natural Material for Base				
12.02A	Provide, place, water and compact, Natural Material for Base as per Section 12 of the Specifications and as directed by the Engineer.	m ³	2,000		
Total Carried Forward to Summary:					

Bill No. 14: Cement and Lime Treated Sub-Base and Base

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 14 : Cement Treated Base and Subbase Materials					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
14.01	Provide and spread cement stabilizer to natural gravel base and sub-base; all in accordance with the specifications and in conformity with Engineer's instructions.	Ton	385		
14.02	Provide and spread cement stabilizer to natural gravel base and base; all in accordance with the specifications and in conformity with the Engineer's instructions.	Ton	445		
14.03	Mix-in stabilizer into natural gravel for base and sub-base.	m ³	12,300		
14.04	Water and maintain curing system for cement treated material; all in accordance with the specifications and as directed by the Engineer.	m ²	75,800		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
14.01A	Provide and spread cement stabilizer to natural gravel base and sub-base; all in accordance with the specifications and in conformity with Engineer's instructions.	Ton	115		
14.02A	Provide and spread cement stabilizer to natural gravel base and base; all in accordance with the specifications and in conformity with the Engineer's instructions.	Ton	160		
14.03A	Mix-in stabilizer into natural gravel for base and sub-base.	m ³	4,300		
14.04A	Water and maintain curing system for cement treated material; all in accordance with the specifications and as directed by the Engineer.	m ²	26,500		
Total Carried Forward to Summary:					

Bill No. 15: Bituminous Surface Treatment and Surface Dressing

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 15 : Bituminous Surface Treatment and Surface Dressing					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
15.01	Prepare surface for Treatment.	m ²	32,000		
15.02	Provide and Spray MC 30 cut-back bitumen as prime coat to carriageway, shoulders, busbays and junctions at rate 0.8-1.2 lts/m ² as prime coat	Ltr	38,400		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
15.01A	Prepare surface for Treatment.	m ²	13,000		
15.02A	Provide and Spray MC 30 cut-back bitumen as prime coat to carriageway, shoulders, busbays and junctions at rate 0.8-1.2 lts/m ² as prime coat	Ltr	15,600		
Total Carried Forward to Summary:					

Bill 16: Bituminous Mixes

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 16: Bituminous Mixes					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
16.01	Provide, lay and compact SUPERPAVE Asphalt Concrete for aggregate nominal size 19mm to carriageway as directed by the Engineer.	m ³	2,300		
16.02	Provide and spray K-160 as tack coat at a rate of 0.8-1.2L/sq metre as directed by the Engineer.	Ltr	50,600		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
16.01A	Provide, lay and compact SUPERPAVE Asphalt Concrete for aggregate nominal size 19mm to carriageway as directed by the Engineer.	m ³	651		
16.02A	Provide and spray K-160 as tack coat at a rate of 0.8-1.2L/sq metre as directed by the Engineer.	Ltr	15,600		
Total Carried Forward to Summary:					

Bill 17: Concrete Works (Major Structures)

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 17: Concrete Works (Major Structures)					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
17.01	Provide and fix heavy duty PVC pipes 75mm diameter x 325mm long in weep holes of culvert and wingwalls.	NO.	25		
	Concrete				
17.02	Provide place and compact concrete class 15/20 for blinding	m ³	3.5		
17.03	Provide place and compact concrete class 25/20 concrete	m ³	40		
	Formwork				
17.04	Provide Vertical formwork to achieve class F1 finish	m ²	190		
17.05	Horizontal framework class F2 finish	m ²	190		
	Steel				
17.06	Provide, cut bend and fix into position high yield reinforcement bar to BS 4461 as directed and as shown on the drawing	Tonne	15		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
17.01A	Provide and fix heavy duty PVC pipes 75mm diameter x 325mm long in weep holes of culvert and wingwalls.	No.	30		
	Concrete				
17.02A	Provide place and compact concrete class 15/20 for blinding	m ³	4.5		
17.03	Provide place and compact concrete class 25/20 concrete	m ³	50		
	Formwork				
17.04A	Provide Vertical formwork to achieve class F1 finish	m ²	210		
17.05A	Horizontal formwork class F2 finish	m ²	210		
	Steel				
17.06A	Provide, cut bend and fix into position high yield reinforcement bar to BS 4461 as directed and as shown on the drawing	Tonne	5.1		
Total Carried Forward to Summary:					

Bill 20: Road Furniture

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 20: Road Furniture Repair and Maintenance					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	Warning signs				
20.01	Provide, excavate for and erect warning signs, including backfill				
	(a) 450 x 900 mm size	No	6		
	(b) 750 mm size	No	6		
	Priority signs				
20.02	Provide, excavate for and priority signs, including backfill and concreting with concrete class 15/20 to base				
	(a) 600 mm size	No	5		
	(b) 1000 mm size	No	5		
	Prohibitory signs				
20.03	Provide, excavate for and erect prohibitory signs diameter 600mm, including backfill and concreting with concrete class 15/20 to base	No	5		
	Standard Informatory signs - All Provisional				
20.04	Provide, excavate for and erect information signs, including backfill and concreting with concrete class 15/20 to base				
	(a) 400mm x 300mm size	No.	6		
	(b) 600mm x 600mm size	No.	6		
	Non-Standard informatory signs (Provisional)				
20.05	Provide, excavate for and erect information signs, including backfill and concreting with concrete class 15/20 to base				
	(a) Non-Standard informatory signs less than 1m ²	No.	5		
	(b) As Item 20.07 (a) but equal or more than 1m ² but less than 2 m ²	No.	5		
	(c) As Item 20.12 (a) but equal or more than 2m ² but less than 5 m ²	No.	2		
Carried Forward					

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 20: Road Furniture Repair and Maintenance (Cont'd)					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	Brought Forward				
	Road marking in Thermoplastic Paint				
20.06	Prepare road surface, supply approved tack coat and road thermoplastic paint, spray approved tack coat, mark out and paint				
	(a) White paint	m ²	1722		
	(b) Yellow paint	m ²	50		
	Reflective Road Studs (cat's eyes)				
20.07	Provide, transport, handle and place approved reflective road studs	No	1,200		
	Road Humps and Rumble Strips				
20.08	Provide material, transport and construct road humps and rumble strips as per drawings and Engineer's instructions	m ³	15		
	Concrete Road Kerbs				
20.09	Provide material, transport, handle, mix and place raised precast road kerbs as specified in the drawings and as directed by the Engineer	m	12,200		
	Raised Zebra Crossings				
20.10	Provide all material, lay and construct raised zebra crossing using class 20/20 concrete.	m ³	34		
	P.c.c bollards				
20.11	Provide and erect p.c.c bollards as directed by the Engineer.	No.	10		
20.12	Guardrails				
	(a) Provide, transport materials, post, excavate, erect flexbeam guardrails complete with posts and swarflex ART 3240 guardrail reflectors as directed by the Engineer	m	100		
	(b) Provide guardrail end pieces	No.	4		
	Service ducts				
20.13	Provide all materials, construct 150mm PVC ducts under road and provide duct marker posts to be installed as directed by the Engineer.	m	80		
Carried Forward					

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No. 20: Road Furniture Repair and Maintenance					
Item	Description	Units	Quantity	Rate (Ksh)	Amount (KSh)
	Brought Forward				
	RC Slabs				
20.14	Provide and place 3.0m x 1.5m x 150mm thick reinforced concrete class 25/20 pedestrian slabs over open drains as directed as directed by the Engineer	No.	30		
	ACCESS TO HOMABAY COUNTY GOVT. HEADQUARTERS				
	Warning signs				
20.01A	Provide, excavate for and erect warning signs, including backfill				
	(a) 750 mm size	No	5		
	Priority signs				
20.02A	Provide, excavate for and priority signs, including backfill and concreting with concrete class 15/20 to base				
	(a) 1000 mm size	No	3		
	Prohibitory signs				
20.03A	Provide, excavate for and erect prohibitory signs diameter 600mm, including backfill and concreting with concrete class 15/20 to base	No	3		
	Standard Informatory signs - All Provisional				
20.04A	Provide, excavate for and erect information signs, including backfill and concreting with concrete class 15/20 to base				
	(b) 400mm x 300mm size	No.	4		
	Non-Standard informatory signs (Provisional)				
20.05A	Provide, excavate for and erect information signs, including backfill and concreting with concrete class 15/20 to base				
	(a) Non-Standard informatory signs less than 1m ²	No.	3		
	Road marking in Thermoplastic Paint				
20.06A	Prepare road surface, supply approved tack coat and road thermoplastic paint, spray approved tack coat, mark out and paint				

	(a) White paint	m ²	460		
	(b) Yellow paint	m ²	150		
	Reflective Road Studs (cat's eyes)				
20.07A	Provide, transport, handle and place approved reflective road studs	No	400		
	Road Humps and Rumble Strips				
20.08A	Provide material, transport and construct road humps and rumble strips as per drawings and Engineer's instructions	m ³	14		
Carried Forward to Summary					

Bill 22: Day Works

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.22	Day Works				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount (Ksh.)
Equipment					
22.01	Crawler dozers with hydraulic ripper attachments c) 186 - 250 kW rated flywheel power.	Hr.	8.00		
22.02	Motor Graders (b) 111 - 150kw rated fly wheeled power	Hr.	8.00		
22.03	Single drum vibratory roller, self-propelled or with towing tractor, 8.9 - 11.7 tonne un-ballasted weight	Hr.	8.00		
22.04	Rollers deadweight (3-wheel include Tractor) - 8.9t-10.5t unballasted weight	Hr.	8.00		
22.05	Dual drum sheep foot or grid compactor 10 - 20 tonne un-ballasted weight	Hr.	8.00		
22.06	Pneumatic tiered, self-propelled roller, 8-15 tonne unballasted weight	Hr.	8.00		
22.07	Vibratory pedestrian operated dual drum roller 900 kg - 1.3 tonne un-ballasted weight	Hr.	8.00		
22.08	Vibrating plate compactor a) 114kg-200kg operating weight	Hr.	8.00		
22.09	Compressor rated by normal delivery of free air per min. at about 7kg/cm2 capable of 70m3 of air per min. complete with all tools, hoses, steel, etc.	Hr.	8.00		
22.10	Cranes, mobile rubber tyred, rough terrain type of 23.0-40.0t max working load	Hr.	8.00		
22.11	Hydraulic excavator, rated bucket capacity of 1.0 - 2.0m3, - crawler mounted, 100-125kW power rating, 20-25 tonne operating weight	Hr.	8.00		
22.12	Hydraulic rock hammer breaker, crawler mounted, 100-125kW power rating	Hr.	8.00		
22.13	Small site dumpers 0.75- 1.2 tonne rated payload	Hr.	8.00		
22.14	Backhoe loader excavators, hydraulic wheeled dual purpose, 50-75kW, 5-8 tonne operating weight	Hr.	8.00		

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.22	Day Works				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount (Ksh.)
22.15	Water pump (inclusive of hoses) 50 - 76mm delivery	Hr.	8.00		
22.16	Wheeled loaders -4-wheel drive: articulated 125-200kW rating, 2.01-3.4 m ³ SAE rated capacity	Hr.	8.00		
22.17	Crawler loader -0.8-1.3m ³ SAE rated capacity	Hr.	8.00		
22.18	Concrete vibrator poker type with motor	Hr.	8.00		
22.19	Concrete Mixer: 200 - 300 L (wet capacity)	Hr.	8.00		
22.20	Lorries -Tipper: b- 11.1- 17.0 t gross vehicle weight	Hr.	8.00		
22.21	Flatbed truck, 10-15 tonne load capacity	Hr.	8.00		
22.22	Water bowser - self-propelled with pump 8,000- 12,000 Litre capacity	Hr.	8.00		
22.23	Pressure bitumen distributor 8,000 Litre - 12,000 liter capacity	Hr.	8.00		
22.24	Hand compactor "Wacker" or equivalent	Hr.	8.00		
22.25	Mechanical bitumen hand spray unit, 200 Litre	Hr.	8.00		
22.26	Self-propelled chip spreader or equivalent approved	Hr.	8.00		
22.27	Mechanical broom	Hr.	8.00		
22.28	Pulvumixer	Hr.	8.00		
Labour					
22.29	Unskilled Labour	PD	30.00		
22.30	Artisans Grade I	PD	10.00		
Material					
22.30	Gravel material (Marram)	m ³	500.00		
22.31	Premix - AC Type I (hot)	m ³	35.00		
22.32	Ordinary Portland Cement, (KS 1725 2001 CEM 1 42.5)	Tonne	20.00		
22.33	Aggregates for concrete - Fine	M ³	100.00		
22.34	Aggregates for concrete - coarse (nominal size 10-40)	M ³	100.00		
22.35	Shuttering Timber Class F1 finish	M ³	100.00		
22.36	Shuttering Timber Class F2 finish	M ³	100.00		
22.37	Class 1, nominal size chippings - 10/14mm	M ³	50.00		

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.22	Day Works				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount (Ksh.)
22.38	KI-60 emulsion	L	1,200.00		
22.39	Bitumen cutback MC-30	L	1,200.00		
22.40	bitumen and emulsions 80/100	L	4,500.00		
BILL 22 SUB-TOTAL A					
Total Carried Forward to Summary:					

Bill 23: Paved Surfaces

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.23	Paved Surfaces				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount KSh.
23.01	Provide, lay and fix concrete paving blocks to walkways including 50mm sand bed and joints as directed by the Engineer	M ²	12,000		
Total For Bill 23 Carried Forward to Summary:					

Bill 24: Street Lighting

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.24	Street Lighting				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount KSh.)
24.01	Allow a Provisional Sum of 18,000,000 for the supply, install, test and commission high mast (10m) double arm street lighting galvanized steel complete with solar panels, integrated with LED chip and Battery plus all other electrical accessories and appliances in accordance with the Section 24 of the Specifications.	Prov. Sum	1	18,000,000	18,000,000
24.02	E.O. item 24.01 for contractor's overhead and profit	%	18,000,000		
Total for Bill 24 Carried Forward to Summary:					

Bill 25: HIV/AIDS Awareness and Education

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.25	HIV/AIDS Awareness and Education				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount KSh.)
25.01	Allow a Provisional Sum of 2,0000,000 to Institute and provide an HIV/AIDS awareness, prevention campaign and training including presentation for monthly reports at site meeting in accordance with the specification to be approved by the Engineer during the Time for Completion.	Prov. Sum	1	2,500,000	2,500,000
25.02	Include a percentage in item 25-50-001A for contractor's overhead and profit	%	2,500,000		
Total for Bill 25 Carried Forward to Summary:					

Bill 26: Road Safety Awareness and Education

THE CAPACITY ENHANCEMENT OF GOT RABUOR – HOMA BAY PIER – CORNER KODOYO (B2) ROAD – PHASE 2					
Bill No.26	Road Safety Awareness and Education				
Item No.	Description	Units	Quantity	Unit Bid Rate(Ksh.)	Amount KSh.)
26.01	Allow a Provisional Sum of 2,500,000.00 for instituting Road Safety Awareness and Accident Prevention Campaigns and Training including preparation and presentation of monthly reports at site meetings in accordance with the specifications to be approved by the Engineer during the Time for Completion	Prov. Sum	1	2,500,000	2,500,000
26.02	Include a percentage in item 25-50-001A for contractor's overhead and profit	%	2,500,000		
Total for Bill 26 Carried Forward to Summary:					

Bill 27: Environmental and Social Mitigation Measures

Bill No. 27: Environmental and Social Mitigation Measures					
Item	Description	Unit	Quantity	Rate Kshs.	Amount Kshs.
27.01	Allow a Provisional Sum of Kshs. 1,000,000 for Construction Phase ESMP as directed by the Resident Engineer or as provided in the ESMP in the Specifications.	Prov. Sum	1	1,000,000	1,000,000
27.02	E.O. item 24.01 for contractor's overhead and profit	%	1,000,000		
27.03	Allow a Provisional Sum of Kshs. 1,000,000 for Operation Phase ESMP as directed by the Resident Engineer or as provided in the ESMP in the Specifications.	Prov. Sum	1	1,000,000	1,000,000
27.04	E.O. item 24.01 for contractor's overhead and profit	%	1,000,000		
27.05	Allow a Provisional Sum of Kshs. 1,000,000 for Decommissioning Phase ESMP as directed by the Resident Engineer or as provided in the ESMP in the Specifications.	Prov. Sum	1	1,000,000	1,000,000
27.06	E.O. item 24.01 for contractor's overhead and profit.	%	1,000,000		
27.07	Allow a Lump Sum of KShs 1,000,000.00 for Environmental Impact Assessment Study and license.	L.Sum	1	1,000,000	1,000,000
27.08	E.O. item 1.12 for the contractor's overheads and profit.	%	1,000,000		
Total of Bill 27 Carried Forward Summary					

Appendices

APPENDIX A					
PART I: KeNHA PROJECT STAFF RENUMERATION SCALE					
<u>KeNHA RE's Payment of Engineers Supervisory Staff</u>					
<u>1. Engineers</u>					
NO.	DESIGNATION	UNIT	Quantity	Rate (Kshs)	Amount (Kshs)
1	Resident Engineer (Field Allowances)	Man-Days	150	4,500.00	675,000.00
2	Deputy Resident Engineer (Field Allowances)	Man-Days	150	4,500.00	675,000.00
3	Engineer (Projects)	Man-Months	12	161,500.00	1,938,000.00
4	Graduate Engineer	Man-Months	12	75,000.00	900,000.00
5	Trainee Engineer	Man-Months	12	45,000.00	540,000.00
<u>2. Inspectorate</u>					
1	Road Inspector (Field Allowances)	Man-days	180	2,100.00	378,000.00
2	Assistant Inspector	Man-Months	24	52,500.00	1,260,000.00
3	Trainee Inspector	Man-Months	12	40,000.00	480,000.00
<u>3. Laboratory</u>					
1	Lab Technician	Man-Months	12	52,500.00	630,000.00
2	Lab Attendant	Man-Months	24	36,500.00	876,000.00
<u>4. Survey</u>					
1	Surveyor (Field Allowances)	Man-Days	180	2,100.00	378,000.00
2	Ass. Surveyor	Man-Months	12	71,500.00	858,000.00
3	Leveller	Man-Months	12	52,500.00	630,000.00
4	Chainman	Man-Months	24	36,500.00	876,000.00

<u>5. Admin</u>					
1	Office Administrator	Man-Months	12	52,500.00	630,000.00
6	Office Attendant	Man-Months	12	36,500.00	438,000.00
<u>6. Environment and Social Safeguards</u>					
1	Sociologist	Man-Months	12	71,500.00	858,000.00
2	Environmentalism	Man-Months	12	71,500.00	858,000.00
	Sub-total				13,878,000.00
	Provide 15% for allowances and overtime in accordance to Labour Laws and Human Resource procedures & guidelines				2,081,700.00
	TOTAL CARRIED TO BILL ITEM 1.08				15,959,700.00

PART II			
KeNHA PROJECT STAFF RENUMERATION SCALE			
1. TECHNICAL STAFF			
Civil Engineering Degree Holders			
S/n	Staff Designation	Minimum Qualifications	Gross Monthly Remuneration (Man Months) (Ksh.)
1	Engineer (Projects)	i. Holds a Degree in Civil Engineering or its equivalent.	161,500.00
		ii. Registered Professional Civil Engineer with EBK and a corporate member of IEK.	
		iii. Has Worked with KeNHA for over 3 years.	
2	Assistant Engineer	i. Holds a Degree in Civil Engineering or its equivalent from an institution recognized by EBK.	117,500.00
		ii. Registered Graduate Civil Engineer with EBK.	
		Iii. Has over 5 years Post-Registration Experience in Roads.	
		iv. Has Worked with KeNHA for over 3 years.	
3	Graduate Engineer	i. Holds a Degree in Civil Engineering or its equivalent from an institution recognized by EBK.	75,000.00
		ii. Registered Graduate Civil Engineer with EBK.	
		iv. Has Worked with KeNHA for over 3 years.	
4	Trainee Engineer	i. Holds a Degree in Civil Engineering or its equivalent from an institution recognized by EBK.	45,000.00
		ii. Registered or awaiting Registration as a Graduate Civil Engineer with EBK.	
		ii. Fresh Graduate from University.	
Civil Engineering Diploma Holders			

S/n	Staff Designation	Minimum Qualifications	Gross Monthly Remuneration (Man Months) (KSh.)
2	Inspector	i. Holds a Diploma in Civil Engineering - Highways Category.	71,500.00
		ii. Has over 3 Years Post graduation Practical Experience in Roads.	
		iii. Has worked with KeNHA for over 2 years.	
3	Assistant Site Inspector	i. Holds a Diploma in Civil Engineering - Highways Category.	52,500.00
		ii. Has over 2 Years Post Graduation Practical Experience in Roads.	
Construction/Project Management Degree Holders			
S/n	Staff Designation	Minimum Qualifications	Gross Monthly Remuneration (Man Months) (KSh.)
1	Project Inspector	i. Holds a Degree in Project or Construction management or its equivalent.	71,500.00
		ii. Construction Managers must be registered as Professionals with ACMK (Association of Construction Managers of Kenya) while Project Managers must be registered with KAPM (Kenya Association of Project Managers) and PMI (Project Management Institute) as professionals.	
		iii. Has over 5 Years Post Graduation Experience	
Surveyors			
S/n	Staff Designation	Minimum Qualifications	Gross Monthly Remuneration (Man Months) (Ksh.)
1	Surveyor	i. Holds a Degree in Survey or its equivalent	117,500.00

		ii. Registered as a Graduate Member with the Institute of Survey of Kenya	
		iii. Has over 3 Years of Practical Experience in Roads.	
2	Assistant Surveyor/Leveler	i. Holds a Degree/Diploma in Survey or its equivalent	71,500.00
		ii. Fresh from college	
3	Chainman	i. Has over 1 year of practical experience in roads survey	36,500.00
2. NON-TECHNICAL STAFF			
Administration			
1	Assistant Human Resource	Holds a Bachelor's Degree in Business Administration (Human Resource Management) or its equivalent.	71,500.00
		Has worked with KeNHA for over 2 years.	
Office Assistant			
1	Office Assistant/Clerks	Has O-Level Certificate or its equivalent.	36,500.00
		Trained on data keeping and/or computer applications.	

APPENDIX B

<u>KeNHA RE's OFFICE MISCELLANEOUS EXPENSES</u>					
<u>1. Stationaries & Consumables</u>					
NO.	DESCRIPTION	UNIT	Quantity	Rate (Ksh)	Amount (Ksh)
1	A3 Photocopy Papers (White)	Reams	10		
2	A4 Photocopy Papers (White)	Reams	50		
3	A4 Photocopy Papers (Coloured)	Reams	8		
4	Paper Conqueror Laid A4 (Blue)	Reams	10		
5	KeNHA branded first grade cotton Reflector Jackets as shall be instructed	No	22		
6	Toner for HP Color LaserJet Pro MFP M477fdw	No.	5		
7	Safety Boots	No.	10		
8	Overalls	No.	10		
9	Dust Coats	No.	10		
Subtotal A					
<u>2. Staff Welfare</u>					
1	Airtime for R.Es staff On site	SUM	200,000.00	1.00	200,000.00
Subtotal B					200,000.00
<u>3. Consumables and Allowances</u>					
1	Lunches @ 50,000 per Month	No.	12	50,000.00	600,000.00
Subtotal C					600,000.00
GRAND TOTAL CARRIED FORWARD TO BILL ITEM 1.07					

APPENDIX C					
<u>LABORATORY EQUIPMENTS AND CONSUMABLES</u>					
S/No.	Description	Unit	Quantity	Unit Price	Amount
1	Sodium Hexametaphosphate	Kgs	3		
2	Cone Penetrometer	No.	1		
3	CBR Tester Machine	No.	1		
4	Buoyance balance frame	No.	1		
5	Slump base plate	No.	10		
6	Plasticity Index troughs	No.	5		
7	Gunny Sacks/Bags	Pcs	100		
8	Plastic bag 450 x 300 x 1000 gauge	No	100		
9	Clipboards (PVC)	No	20		
10	Palette Knives	No.	2		
11	Trichloroethylene	Lts	10		
12	Sand for FDT	Ton	10		
13	Safety Cones	No.	2		
14	Wheelbarrow	No.	3		
15	Scientific Calculators	No.	5		
16	Reflective Tapes (Yellow)	No.	2		
17	Moisture Tins	No.	100		
18	Books	No.	5		
19	Balance Chargers (Input;100-240V-50/60Hz,0.25AOutput:12.0V-500Ma)	No.	2		
20	Spray Rate Pans	No	4		
21	Spread Rate Pans	No	4		
22	Spring Balance	No	2		
GRAND TOTAL CARRIED FORWARD TO BILL ITEM 1.02					

APPENDIX TO BILL ITEM NO. 1.01

Item:	1.01: Furniture and Stationary for the office for the Supervisor's Representative				
Desc:	Provide and maintain furniture and stationary for the Engineer's Representative's office for the duration of the contract				
	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	FURNITURE AND EQUIPMENT FOR THE ENGINEER'S OFFICE				
	OFFICE FURNITURE				
102/1	Maintain the RE's main office for the entire contract period in accordance with the specification. Measurements and payments to be done in accordance with clause 141(d) of the standard specification.	Item	1		
102/2	Meeting table (3.0mx 1.2m) with 6 chairs	No.	1		
102/3	Executive Desk 2.2m x 0.9m with chair and 3 lock up drawers	No.	3		
102/4	Chairs with arm rests	No.	8		
102/5	Standard Table (1.5mx 0.9m) with 2 drawers and 2 chairs.	No.	4		
102/6	Typist's table with one chest of drawers and a chair	No.	2		
102/7	Plan tables and stools	No.	2		
102/8	Personal computers core i7 with minimum 1 TB hard disc drive, 16GB RAM, 3.5 inch disc drive, 52X DVD /CD-RW drive, 2 serial and 1 parallel ports 21" SVGA Digital colour monitor and the latest windows operating system	No.	2		
102/9	Laptop computers core i7, minimum 500 GB hard disc drive, 8GB RAM, 3.5 inch disc drive, 52X DVD /CD-ROM drive, TFT colour screen	No.	2		
102/10	2 No. HP portable Officejet colour printer compatible with the above laptops	No.	2		
102/11	1 HP laserjet or equivalent A3-size printer compatible with the above personal computer.	No.	1		
102/12	The contractor shall supply A4 paper and consumables, for the Engineer's printers in a quantity sufficient to complete the contract.	Reams	300		
102/13	The contractor shall supply A3 size paper and consumables, for the Engineer's printers in a quantity sufficient to complete the contract.	Reams	30		
102/14	1 no HP Deskjet 1220 cxi inkjet or equivalent colour printers or equivalent including consumables sufficient for the duration of the contract.	No.	1		
102/15	7 no.s UPS (uninterrupted power supply) unit 1 KVA with surge protector capable to support and backup each PC	No.	7		
102/16	1 NO HP scanjet 7450C scanner or equivalent with upto 2400-dpi resolution 50 sheet automatic feeder, fast SCSI and USB connectivity to PC	No.	1		
102/17	1 NO. canon power shot G2 or equivalent digital cameras 20 mega pixels zoom 3x optical, 2x digital, 1 installed memory card, minimum 32GB	No.	1		
102/18	1 NO. HP designjet 120 or equivalent plotter 36" media size with sufficient consumables to complete the contract.	No.	1		
102/19	1 no. Complete set of latest editions of software complete with manuals and CDs of a type compatible with the personal computer disc drives windows 7 operating system, MS office professional suit, microsoft project and the latest version AUTOCAD/CIVIL 3D		2		
102/20	1 no. Safe for cash and valuables min. size approx. 0.8mx0.5mx0.4m to be concreted in place (either wall or floor mounted) complete with lock and keys.	No.	1		
102/21	1 Drawing table stools	No.	1		
102/22	1 set plan drawers (6 drawers)	No.	1		
102/23	1 two drawer Steel lockable filing cabinet	No.	1		
102/24	Set of transparent plastic curve guides, metric.	No.	1		
102/25	8 no. Electronic Calculator in number and type HP48GX or equivalent.	No.	5		

Item:	1.01: Furniture and Stationary for the office for the Supervisor's Representative				
Desc:	Provide and maintain furniture and stationary for the Engineer's Representative's office for the duration of the contract				
	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
102/26	Fire extinguisher	No.	3		
102/27	First aid kit	No.	2		
102/28	Snake bite kit	No.	2		
102/29	Stapling machines	No.	8		
102/30	Paper punches	No.	8		
102/31	A3 size Colour photocopy machine with accessories and supplies sufficient to complete the project	No.	1		
102/32	1no.spiral binding machine with consumables sufficient to complete the contract.	No.	1		
102/33	Water filters	No.	6		
102/34	Thermos jug 4.5 litres capacity	No.	8		
102/35	25 cups,25 glasses and 5 coffee sets	Set	1		

APPENDIX TO BILL ITEM NO. 1.05

Desc:	Allow a prime cost sum to purchase and provide survey equipment and accessories in accordance with the specifications and as will be directed by the Engineer				
	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
105/1.01	SURVEY EQUIPMENT Leica Viva TS12 P 2" R1000 Performance Robotic Package Smart Station (0,6 mgon) R1000 type with PowerSearch, automatic target aiming, reflectorless R1000 EDM, electronic guide light EGL, laser plummet, 1 keyboard with 1/4 VGA colour touch screen, Bluetooth / RS232 / CF card interface, RadioHandle interface, user manual and container, complete with RH15, RadioHandle with integrated radio modem, antenna, user manual (frequency range 2400-2483 MHz); CS10 Radio Field Controller, Ruggedized WinCE field controller with full VGA touch display, 1GB Flash Memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes bluetooth, internal WLAN module, internal TPS radio module, numeric keypad, stylus and all other ancillary accessories such as batteries, rapid charger, etc	No.	1		
105/1.02	Tripods wild GST/20 or equivalent	No.	6		
105/1.03	Levels wild NAK2 or equivalent	No.	2		
105/1.04	Metal (Aluminium) levelling stave (5m)- foldable	No.	4		
105/1.05	Steel tape 50m	No.	4		
105/1.06	Steel tape 25m	No.	6		
105/1.07	Fibre glass tapes 50m	No.	5		
105/1.08	Trumeter or equivalent wheeled measuring metre	No.	1		
105/1.09	Ranging rods 2.5m	No.	10		
105/1.10	Ranging rods 2.5m (metal, joinable)	No.	10		
105/1.11	Optical squares	No.	4		
105/1.12	Spare batteries	No.	4		
105/1.13	Rapid charger	No.	1		
105/1.14	Reflectors with mounts	No.	6		
105/1.15	Triple prism mount with reflectors	No.	2		
105/1.16	Tribachs	No.	4		
105/1.17	Steel hammer (4kg)	No.	4		
105/1.18	Spirit level for staves	No.	4		
105/1.19	Metal pocket rulers (5m)	No.	12		
105/1.20	Surveying umbrella	No.	2		
105/1.21	Reflective road safety vests	No.	15		
105/1.22	Drawing boards (field book frames A4)	No.	10		
105/1.23	Size metal/wood with plastic cover	No.	10		
105/1.24	Repair and maintain survey equipment for the entire project duration	Lsum	1		
105/1.25	GNSS equipment Real time accuracy SBAS, Post Processing accuracy, 4GB internal memory NAND Flash. 32.6 Wh (2200mAh), Battery life 10 hrs. With all accessories and external radio	No.	0		

	Sub Total carried forward to the BoQ				
--	---	--	--	--	--

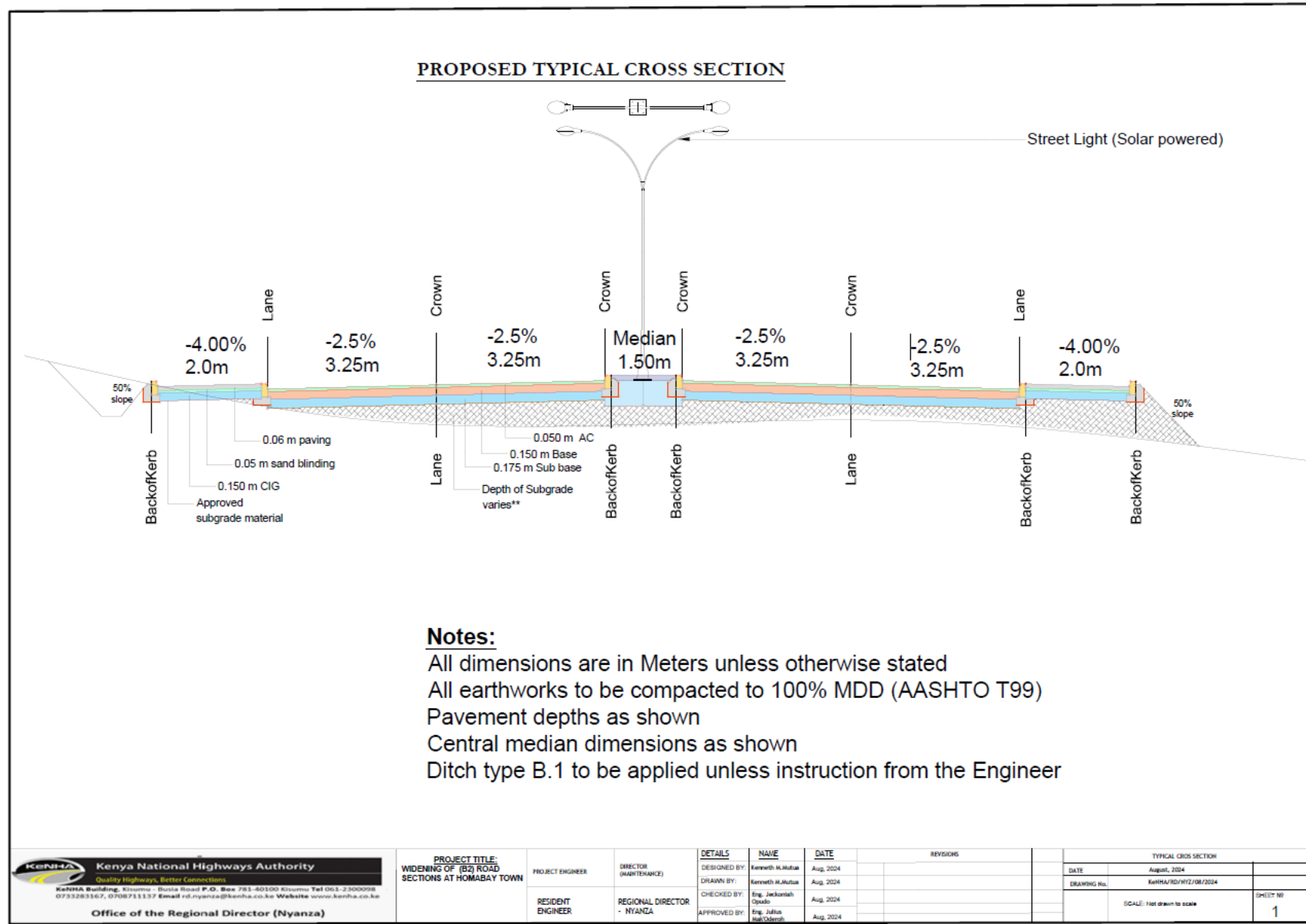
Section VIII - Drawings

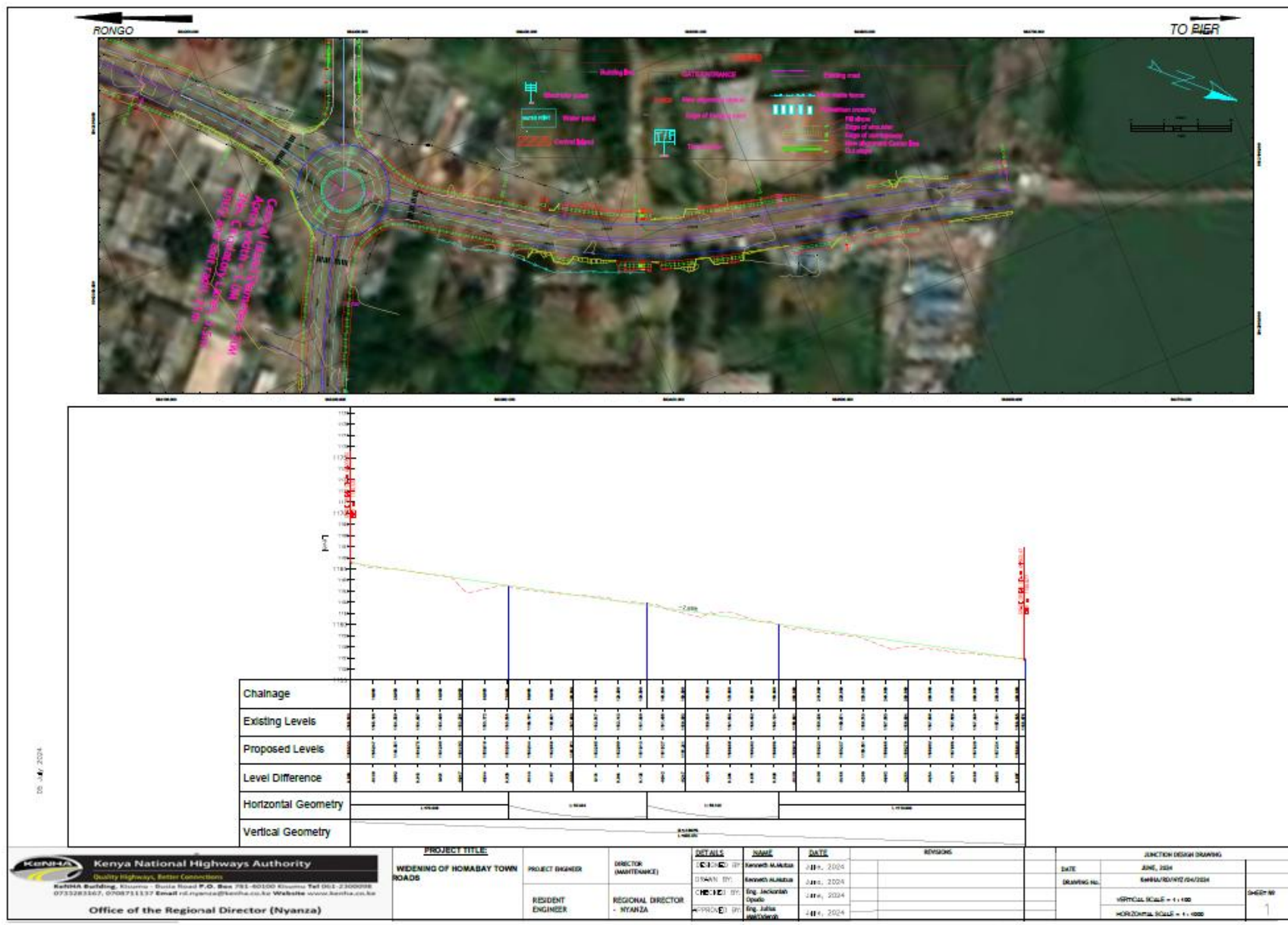
The drawings provided in this Tendering Document form an integral part of the contract and are issued for the purpose of defining the scope, nature, and intent of the proposed highway construction works. These drawings illustrate the general arrangement, typical cross-sections, details, and other relevant aspects of the project to guide Tenderers in preparing their proposals.

Tenderers are advised that the drawings should be read in conjunction with the Specifications, Bill of Quantities, and other tender documents to ensure a comprehensive understanding of the works. While every effort has been made to ensure accuracy, Tenderers are responsible for verifying all dimensions, levels, and other critical details on-site prior to submission of their bids. Any discrepancies, omissions, or ambiguities noted in the drawings should be brought to the attention of the Employer for clarification.

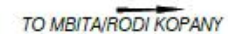
The Employer reserves the right to issue additional drawings, revisions, or clarifications as deemed necessary during the tendering process and execution of the works. The Contractor shall be responsible for constructing the works in accordance with the latest approved drawings issued by the Engineer.

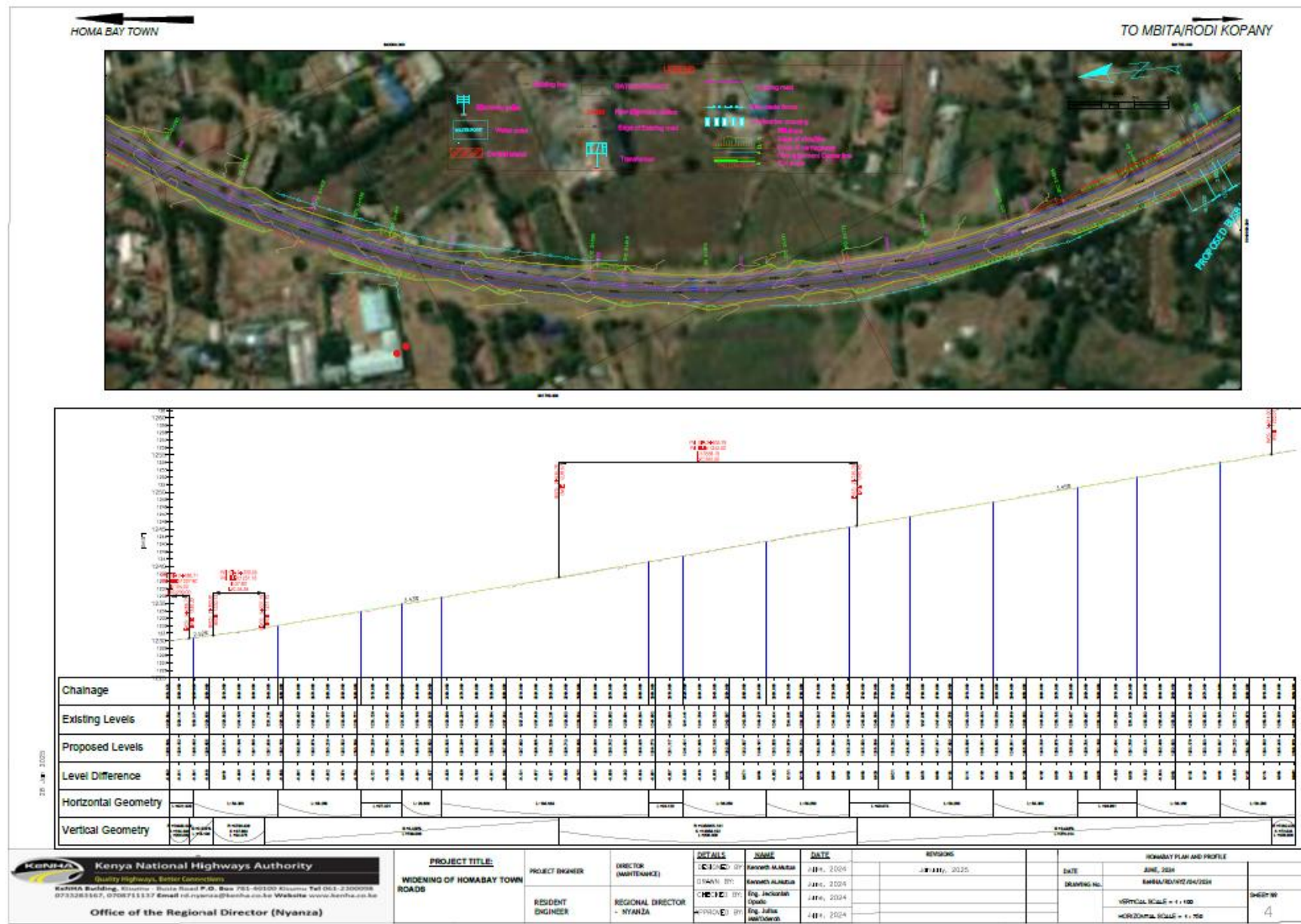
It shall be understood that these drawings do not relieve the Contractor of their obligation to execute the works in compliance with applicable Road Design Manuals, Specifications, and statutory requirements.

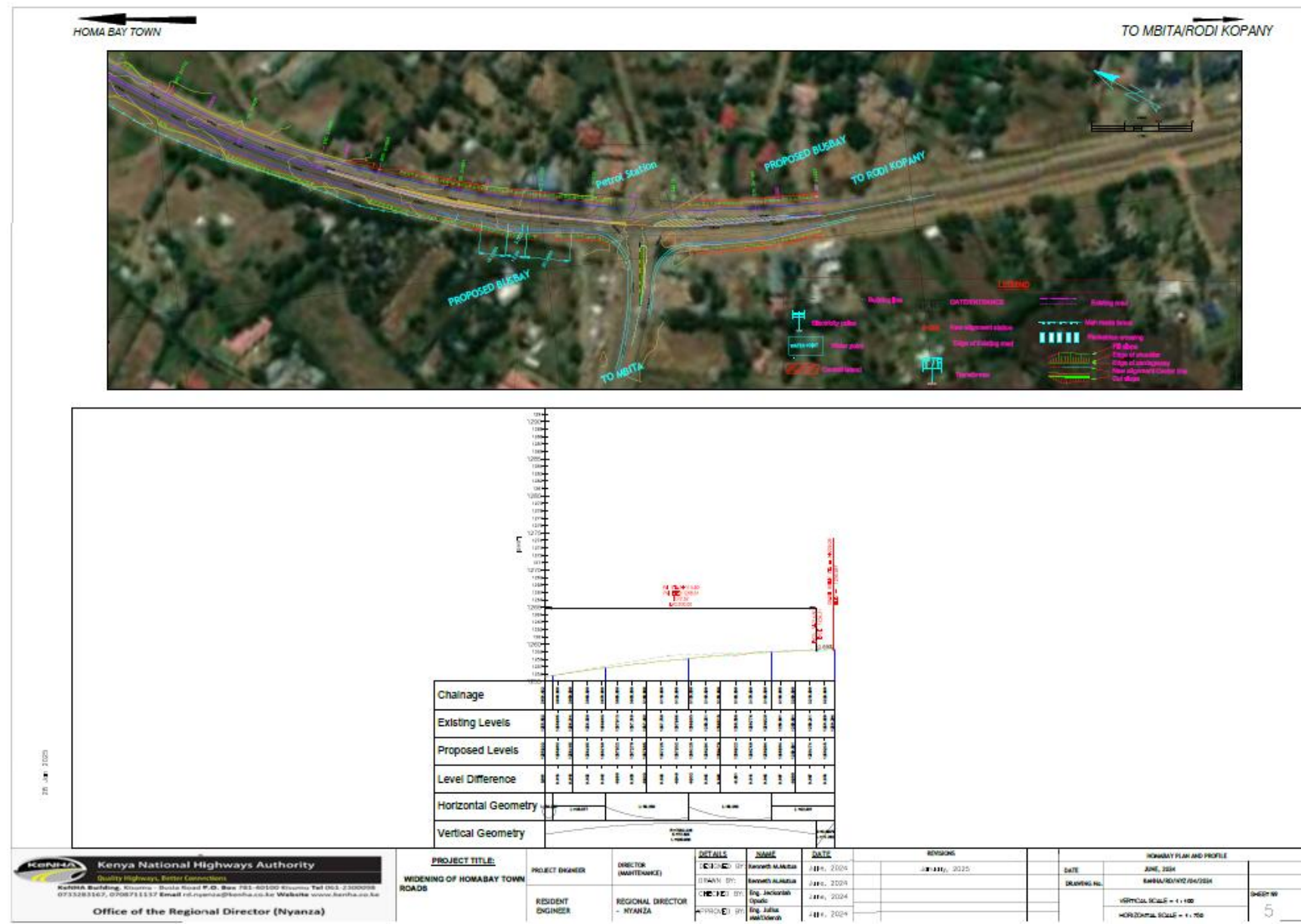


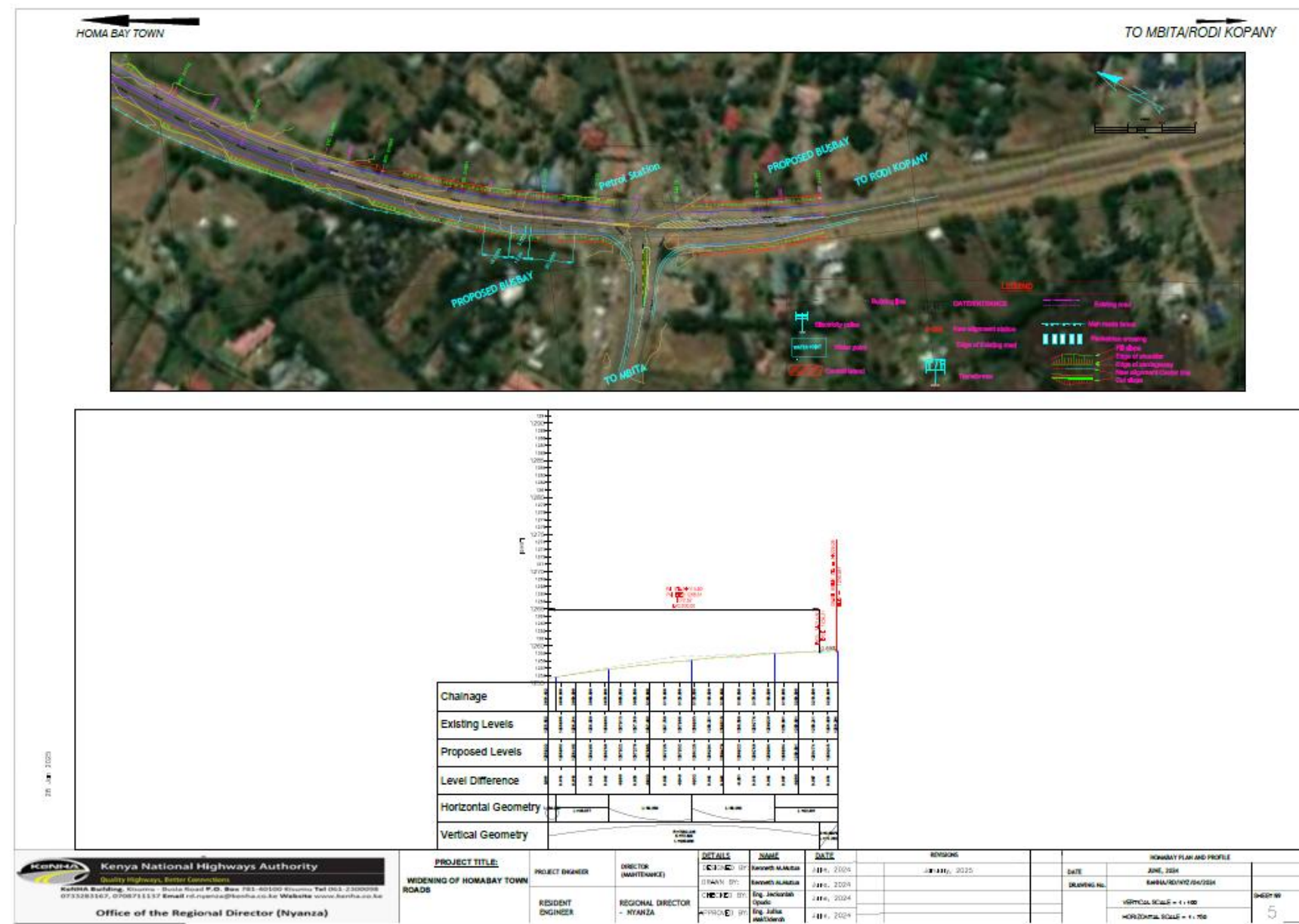












PART 3 – Conditions of Contract and Contract Forms

Section IX - General Conditions (GC)

Red Book:

© FIDIC 1999. All rights reserved.

The Conditions of Contract are the “General Conditions” which form part of the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”) First Edition 1999” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and the following “Particular Conditions” which comprise of the amendments and additions to such General Conditions.

An original copy of the above FIDIC publication i.e. “*Conditions of Contract for Building and Engineering Works Designed by the Employer*” must be obtained from FIDIC.

General Conditions

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

1.1.1.1 “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.

1.1.1.2 “Contract Agreement” means the contract agreement referred to in Sub-Clause 1.6 [Contract Agreement].

1.1.1.3 “Letter of Acceptance” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.1.4 “Letter of Tender” means the document entitled letter of tender or letter of bid, which was completed by the Contractor and includes the signed offer to the Employer for the Works.

1.1.1.5 “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.

1.1.1.6 “Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.1.7 “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 Bill of Quantities, data, lists, and schedules of rates and/or prices.

1.1.1.8 “Tender” means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.1.9 “Bill of Quantities”, “Daywork Schedule” and “Schedule of Payment Currencies” mean the documents so named (if any) which are comprised in the Schedules.

1.1.1.10 “Contract Data” means the pages completed by the Employer entitled contract data which constitute Part A of the Particular Conditions.

1.1.2 Parties and Persons

1.1.2.1 “Party” means the Employer or the Contractor, as the context requires.

1.1.2.2 “Employer” means the person named as employer in the Contract Data and the legal successors in title to this person.

1.1.2.3 “Contractor” means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

1.1.2.4 “Engineer” means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Contract Data, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

1.1.2.5 “Contractor’s Representative” means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor’s Representative], who acts on behalf of the Contractor.

1.1.2.6 “Employer’s Personnel” means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer’s Personnel.

1.1.2.7 “Contractor’s Personnel” means the Contractor’s Representative and all personnel whom the Contractor

utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 “Subcontractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.2.9 “DB” means the person or three persons appointed under Sub-Clause 20.2 [Appointment of the Dispute Board] or Sub-Clause 20.3 [Failure to Agree on the Composition of the Dispute Board]

1.1.2.10 “FIDIC” means the Fédération Internationale des Ingénieurs-Conseils, the international federation of consulting engineers.

1.1.2.11 “Bank” means the financing institution (if any) named in the Contract Data.

1.1.2.12 “Borrower” means the person (if any) named as the borrower in the Contract Data.

1.1.3 Dates, Tests, Periods and Completion

1.1.3.1 “Base Date” means the date 28 days prior to the latest date for submission of the Tender.

1.1.3.2 “Commencement Date” means the date notified under Sub-Clause 8.1 [Commencement of Works].

1.1.3.3 “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 Contract Data (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.

1.1.3.4 “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 the Employer.

1.1.3.5 “Taking-Over Certificate” means a certificate issued under Clause 10 [Employer’s Taking Over].

1.1.3.6 “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 the Employer.

1.1.3.7 “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 Contract Data (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]..

1.1.3.8 “Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate]..

1.1.3.9 “Day” means a calendar day and “year” means 365 days.

1.1.4 Money and Payments

1.1.4.1 “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.

1.1.4.2 “Contract Price” means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.

1.1.4.3 “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.

1.1.4.4 “Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

1.1.4.5 “Final Statement” means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

1.1.4.6 “Foreign Currency” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

- 1.1.4.7 “Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.
- 1.1.4.8 “Local Currency” means the currency of the Country.
- 1.1.4.9 “Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].
- 1.1.4.10 “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].
- 1.1.4.11 “Retention Money” means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].
- 1.1.4.12 “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**
- 1.1.5.1 “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, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.
- 1.1.5.2 “Goods” means Contractor’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.
- 1.1.5.3 “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.
- 1.1.5.4 “Permanent Works” means the permanent works to be executed by the Contractor under the Contract.
- 1.1.5.5 “Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for

the Employer and relating to the construction or operation of the Works.

1.1.5.6 “Section” means a part of the Works specified in the Contract Data as a Section (if any).1.1.5.7 “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.

1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.

1.1.6 Other Definitions

1.1.6.1 “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.

1.1.6.2 “Country” means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.

1.1.6.3 “Employer’s Equipment” means the apparatus, machinery and vehicles (if any) made available by the Employer 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 the Employer.

1.1.6.4 “Force Majeure” is defined in Clause 19 [Force Majeure]..

1.1.6.5 “Laws” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.6.6 “Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security]..

1.1.6.7 “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.

1.1.6.8 “Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.

1.1.6.9 “Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

1.1.6.10 “Notice of Dissatisfaction” means the notice given by either Party to the other under Sub-Clause 20.4 [Obtaining Dispute Board’s Decision] indicating its dissatisfaction and intention to commence arbitration.

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 “bid” and “tenderer” with “bidder” and the words “tender documents” with “bidding documents”

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

In these Conditions, provisions including the expression "Cost plus profit" require this profit to be one-twentieth (5%) of this Cost unless otherwise indicated in the Contract Data.

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 Contract Data; and

(b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract Data. 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 law of the country or other jurisdiction stated in the Contract Data.

The ruling language of the Contract shall be that stated in the Contract Data.

The language for communications shall be that stated in the Contract Data. If no language is stated there, the language for communications shall be the ruling language of the Contract.

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 (if any),
- (b) the Letter of Acceptance,
- (c) the Letter of Tender,
- (d) the Particular Conditions – Part A,
- (e) the Particular Conditions – Part B
- (f) these General Conditions
- (g) the Specification,
- (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 28 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 the Employer.

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 favour of a bank 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 the Employer. 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 the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.

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. The Employer'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 Employer's 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 the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence 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) the Employer for purposes other than those permitted under this Sub-Clause.

1.11 Contractor's Use of Employer's Documents

As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer'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 the Employer'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.

Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:

- (a) the Employer 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 the Employer; and the Employer 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, licences 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 the Employer 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 the Employer for the performance of the Contract;
- (b) these persons shall notify the Employer 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 the Employer.

2. The Employer**2.1 Right of Access to the Site**

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Contract Data. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Specification. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Contract Data, the Employer 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 programme submitted under Sub-Clause 8.3 [Programme].

If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, 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.

However, if and to the extent that the Employer'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, Licences or Approvals

The Employer 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, licences 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 Employer's Personnel

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's 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 Employer's Financial Arrangements

The Employer shall submit, before the Commencement Date and thereafter within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before the Employer makes any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.

2.5 Employer's Claims

If the Employer considers himself 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 Employer or the Engineer 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 [Employer'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 28 days after the Employer 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 Employer considers himself 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 the Employer 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 Employer 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.

3. The Engineer

3.1 Engineer's Duties and Authority

The Employer 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 the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer 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 the Employer's approval is required, then (for the purposes of the Contract) the Employer 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 the Employer;
- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
- (c) 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

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-Clause 3.5 [Determinations].

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised 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 the Employer intends to replace the Engineer, the Employer 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 the Employer, with supporting particulars, and the Employer 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 endeavour 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 28 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.

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..

If the Contract specifies that the Contractor 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 in sufficient detail for the Employer 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

The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer.

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 28 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.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract in the event of:

- (a) Failure by the Contractor to extend the validity of the Performance Security as described in the preceding paragraph; in which event the employer may claim the full amount of the Performance Security.
- (b) Failure by the contractor to pay the employer an amount due as either agreed by the contractor or determined under Sub-Clause 2.5 [*Employers Claims*] or Clause 20 [*Claims Disputes and Arbitration*] within 42 days after this agreement or determination.

- (c) Failure by the contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or
- (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*] irrespective of whether notice of termination has been given.

The Employer 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 the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

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-Clause 1.4 [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 Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, 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 Subcontractor is named in the Contract;
- (b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors;
- (c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
- (d) each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Employer].

4.5 Assignment of Benefit of Subcontract

If a Subcontractor'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 the Employer, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Employer for the work carried out by the Subcontractor 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) the Employer's Personnel,
- (b) any other contractors employed by the Employer, 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, the Employer 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

The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or 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.

The Employer 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 subparagraphs (a) and (b) above related to this e.

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 obstruction so as to avoid danger to these persons,
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Employer'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 himself 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

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the

Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer'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 labour 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 himself 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 favourable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favourable 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 a net 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 the Employer 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 the Employer or of others.

The Contractor shall indemnify and hold the Employer 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) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- (d) the Employer 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 the Employer 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 on to 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, surface discharges 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 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

4.20 Employer's Equipment and Free-Issue Materials

The Employer shall make the Employer's 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:

- (a) the Employer shall be responsible for the Employer's Equipment, except that
- (b) the Contractor shall be responsible for each item of Employer'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 Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Employer 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, the Employer 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 the Employer 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:

- (a) 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 Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (b) photographs showing the status of manufacture and of progress on the Site;
- (c) 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:
 - (i) commencement of manufacture,
 - (ii) Contractor's inspections,
 - (iii) tests, and
 - (iv) shipment and arrival at the Site;
- (d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];

- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of notices given under Sub-Clause 2.5 [Employer's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
- (g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- (h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.22 Security of the Site Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorised personnel of the Employer'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 the Employer. 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 Subcontractors

5.1 Definition of "nominated Subcontractor"

In the Contract, "nominated Subcontractor" means a Subcontractor:

- (a) who is stated in the Contract as being a nominated Subcontractor, or
- (b) whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor 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 Subcontractor 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 the Employer agrees in writing to indemnify the Contractor against and from the consequences of the matter:

- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- (b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- (c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor 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 Subcontractor to perform these obligations or to fulfil these liabilities, and
 - (iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

**5.3 Payments to
nominated
Subcontractors**

The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor'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 Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor 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)

- (i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
- (ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor 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 the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

6. Staff and Labour

- | | |
|--|--|
| 6.1 Engagement of Staff and Labour | Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. |
| 6.2 Rates of Wages and Conditions of Labour | The Contractor shall pay rates of wages, and observe conditions of labour, 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 employers whose trade or industry is similar to that of the Contractor. |
| 6.3 Persons in the Service of Employer | The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel. |
| 6.4 Labour Laws | <p>The Contractor shall comply with all the relevant labour 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.</p> <p>The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.</p> |
| 6.5 Working Hours | No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Contract Data, 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 Labour

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 the Employer'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 Employer'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.

- 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 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, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

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.

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 workmanlike and careful manner, in accordance with recognised 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 labelled as to origin and intended use in the Works.

7.3 Inspection

The Employer'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 the Employer'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, labour, 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 the Employer 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 the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer.

7.6 Remedial Work

Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- (b) remove and re-execute any other work which is not in accordance with the Contract, and
- (c) 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 subparagraph (c).

If the Contractor fails to comply with the instruction, the Employer 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 [Employer's Claims] pay to the Employer 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 the Employer 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

The engineer shall give the contractor not less than 7 days' notice of the Commencement Date unless otherwise stated in the Particular Conditions the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.

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 Programme

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme 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 Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (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 Contractor 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 21 days after receiving a programme, 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 programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme 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 programme 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 programme 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-Clause 10.1 [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 the Employer, the Employer's Personnel, or the Employer's other contractors.

If the Contractor considers himself 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 programme under Sub-Clause 8.3 [Programme],

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 [Programme], a revised programme 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 the Employer to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

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 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in 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 Contract Data.

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 Employer] 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 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.

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 28 days, and
- (b) the Contractor has marked the Plant and/or Materials as the Employer'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 28 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 Clause 13 [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 Contractor 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 the Employer 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 the Employer, 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 Contractor 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, the Employer'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 Contractor 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 the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer 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 the Employer 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 the Employer 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, the Employer 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 [Employer's Claims] and Sub-Clause 3.5 [Determinations].

10. Employer'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 the Employer 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 Contractor 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 Contractor may similarly apply for a Taking-Over Certificate for each Section.

The Engineer shall, within 28 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 28 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 the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.

The Employer 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 the Employer 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 the Employer, 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 the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or 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 the Employer is responsible, the Employer 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) the Employer 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) the Employer.

**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) the Employer, and Sub-Clause 13.3 [Variation Procedure] shall apply.

**11.3 Extension of
Defects
Notification
Period**

The Employer shall be entitled subject to Sub-Clause 2.5 [Employer'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 defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, 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], the Employer may (at his option):

- (a) carry out the work himself 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 [Employer's Claims] pay to the Employer the costs reasonably incurred by the Employer 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-Clause 3.5 [Determinations]; or
- (c) if the defect or damage deprives the Employer 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 Contract or otherwise, the Employer 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 the Employer 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 28 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 they 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 the Employer'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 Performance 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 28 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 the Employer.

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 28 days after receipt by the Contractor of the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer 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 the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

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.

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 Bill 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 Contract or, if there is no such item, specified for similar work.

Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill 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)
 - (i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or other Schedule,
 - (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.25% of the Accepted Contract Amount,

- (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
- (iv) this item is not specified in the Contract as a “fixed rate item”;

or

(b)

- (i) the work is instructed under Clause 13 [Variations and Adjustments],
- (ii) no rate or price is specified in the Contract for this item, and
- (iii) 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.

12.4 Omissions

Whenever the omission of any work forms 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 the Contractor cannot readily obtain the Goods required for the Variation. 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 Value Engineering

The Contractor 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 the Employer of executing, maintaining or operating the Works, (iii) improve the

efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor 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 the Employer 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.

13.3 Variation 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 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 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.

13.4 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.

13.5 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 Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) 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. If there is no such rate, the percentage rate stated in the Contract Data shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6 Daywork

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-Clause shall 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].

13.7 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 Contractor 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.

13.8 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 labour, 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:

$P_n = a + b L_n / L_o + c E_n / E_o + d M_n / M_o + \dots$ where:

“ P_n ” 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 Contract Data ;

“ 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 labour, 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 bank 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 favourable to the Employer.

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 Bill 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 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.

14.2 Advance Payment

The Employer shall make an advance payment, as an interest-free loan for mobilisation and cash flow 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 Contract Data.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Contract Data, this Sub-Clause shall not apply.

The Engineer shall deliver to the Employer 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 the Employer 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 bank or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

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 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

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 amortisation rate stated in the Contract Data 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 Employer], 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 Employer], except for Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience], payable by the Contractor to the Employer.

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 himself to be entitled, 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 Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
- (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-Clause 14.5 [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.

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-Clause 14.5 [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**

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, en route 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 a bank guarantee in a form and issued by an entity approved by the Employer 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;

or

- (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 the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and

supporting documents, deliver to the Employer 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 by the Engineer on the Statement if any.

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 Contract Data. 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 any thing 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

The Employer 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 the Bank'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 the Employer receives this Payment Certificate; or, at a time when the Bank'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 into the bank 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 bank in the country of the currency of payment, or if not available, the interbank 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].

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 Contract or 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 28 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 the Employer (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 the Employer (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 28 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 the Employer 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 the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, 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 28 days, the

Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

**14.14 Cessation of
Employer's
Liability**

The Employer 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 the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

**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 Contract Data, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;

- (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
- (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer 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 bank of the Country.

15. Termination by Employer

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 Employer

The Employer 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], within 28 days after receiving it,
- (d) 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 forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors 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.

In any of these events or circumstances, the Employer 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), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, 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 best 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, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer 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 the Employer, these items may be sold by the

- Employer 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 Employer] 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 Employer] has taken effect, the Employer may:
- (a) proceed in accordance with Sub-Clause 2.5 [Employer'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 the Employer, have been established, and/or
 - (c) recover from the Contractor any losses and damages incurred by the Employer 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, the Employer shall pay any balance to the Contractor.
- 15.5 Employer's Entitlement to Termination for Convenience** The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself 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].

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 the Employer fails to comply with Sub-Clause 2.4 [Employer's Financial Arrangements] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Employer, 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.

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:

- (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.

16.2 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 [Employer'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 [Employer's Claims]),
- (d) the Employer 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) the Employer 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) the Employer 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.

In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

16.3 Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Employer'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) hand over 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.

16.4 Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Employer 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 the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- (a) bodily 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, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- (b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:
 - (i) 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, and
 - (ii) is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or

anyone directly or indirectly employed by any of them.

The Employer 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, wilful act or breach of the Contract by the Employer, the Employer'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 the Employer. 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 the Employer.

After responsibility has accordingly passed to the Employer, 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 [Employer'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 a 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 Employer's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Employer'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,
- (d) munitions of war, explosive materials, ionising 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,
- (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (f) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,
- (g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) 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 Employer'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 [Employer'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, trade mark, trade name, 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 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer 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 the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing 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 the Employer 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 contract or 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-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer'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 Contract Data, 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.

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 effected with insurers and in terms approved by the Employer. 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 the Employer is the insuring Party, each insurance shall be effected 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 the Employer shall act for Employer'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 Contract Data (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, 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.

If 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 the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer 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 [Employer's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.

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 subparagraph (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 effected 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 [Employer's Risks],
- (d) shall also cover, to the extent specifically required in the bidding documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Employer 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 [Employer'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 Contract Data (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 the Employer, 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 the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [Employer'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 Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

- (a) shall be effected 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 the Employer'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) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,
- (ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and
- (iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.

18.4 Insurance for Contractor's Personnel

The Contractor shall effect 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 the Employer 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 the Employer or of the Employer'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 Subcontractor's employees, the insurance may be effected by the Subcontractor, 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, ionising 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 Minimise Delay

Each Party shall at all times use all reasonable endeavours to minimise 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
Subcontractor**

If any Subcontractor 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) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer'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 the return 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 labour 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 the Employer 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 himself 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 28 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 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause 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 the Employer'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 28 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 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.

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

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 this Sub-Clause.

20.2 Appointment of the Dispute Adjudication Board

Disputes shall be referred to a DAB for decision in accordance with Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision]. The Parties shall appoint a DAB by the date stated in the Contract Data.

The DAB shall comprise, as stated in the Contract Data, either one or three suitably qualified persons ("the members"), each of whom shall be fluent in the language for communication defined in the Contract and shall be a professional experienced in the type of construction involved in the Works and with the interpretation of contractual documents. If the number is not so stated and the

Parties do not agree otherwise, the DB shall comprise three persons.

If the Parties have not jointly appointed the DAB 21 days before the date stated in the Contract Data and the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

However, if a list of potential members has been agreed by the Parties and is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.

The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Board Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DAB consults, 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.

If at any time the Parties so agree, they may jointly refer a matter to the DAB for it to give its opinion. Neither Party shall consult the DAB on any matter without the agreement of the other Party.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DAB (including each member) shall expire when the discharge referred to in Sub-Clause 14.12 [Discharge] shall have become effective.

**20.3 Failure to Agree
on the
Composition of
the Dispute**

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph

Adjudication Board

of Sub-Clause 20.2, [Appointment of the Dispute Adjudication Board],

- (b) either Party fails to nominate a member (for approval by the other Party), or fails to approve a member nominated by the other Party, of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

20.4 Obtaining Dispute Adjudication Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, either Party may refer the dispute in writing to the DAB for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this Sub-Clause.

For a DAB of three persons, the DAB shall be deemed to have received such reference on the date when it is received by the chairman of the DB.

Both Parties shall promptly make available to the DB all such additional information, further access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated,

the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give a Notice of Dissatisfaction to the other Party indicating its dissatisfaction and intention to commence arbitration. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give a Notice of Dissatisfaction to the other Party.

In either event, this Notice of Dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [Failure to Comply with Dispute Adjudication Board's Decision] and Sub-Clause 20.8 [Expiry of Dispute Adjudication Board's Appointment], neither Party shall be entitled to commence arbitration of a dispute unless a Notice of Dissatisfaction has been given in accordance with this Sub-Clause.

If the DAB has given its decision as to a matter in dispute to both Parties, and no Notice of Dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties.

20.5 Amicable Settlement

Where a Notice of Dissatisfaction has been given under Sub-Clause 20.4 above, 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 Dissatisfaction in accordance with Sub-Clause 20.4 above should move to commence arbitration after the fifty-sixth day from the day on which a Notice of Dissatisfaction was given, even if no attempt at an amicable settlement has been made.

20.6 Arbitration

Any dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.5 above and in respect of which the DB's decision (if any) has not become final and binding shall be finally settled by arbitration. Arbitration shall be conducted as follows:

- (a) if the contract is with foreign contractors,
 - (i) for contracts financed by all participating Banks except under sub-paragraph (a) (2) below: international arbitration (1) with proceedings administered by the arbitration institution designated in the Contract Data, and conducted under the rules

of arbitration of such institution; or, if so specified in the Contract Data, (2) international arbitration in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or (3) if neither an arbitration institution nor UNCITRAL arbitration rules are specified in the Contract Data, 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

- (b) if the Contract is with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer's country.

The place of arbitration shall be the neutral location specified in the Contract Data; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DAB, 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 arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DB shall not be altered by reason of any arbitration being conducted during the progress of the Works.

20.7 Failure to Comply with Dispute Board's Decision

In the event that a Party fails to comply with a final and binding DB decision, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [Arbitration]. Sub-Clause 20.4 [Obtaining Dispute Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply to this reference.

**20.8 Expiry of Dispute
Adjudication
Board's
Appointment**

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DB's appointment or otherwise:

- (a) Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [Arbitration].

APPENDIX

A General Conditions of Dispute Adjudication Board Agreement

1. Definitions

Each “Dispute Adjudication Board Agreement” is a tripartite agreement by and between:

- (a) the “Employer”;
- (b) the “Contractor”; and
- (c) the “Member” who is defined in the Dispute Board Agreement as being:
 - (i) the sole member of the "DAB" and, where this is the case, all references to the “Other Members” do not apply, or
 - (ii) one of the three persons who are jointly called the “DAB” (or “Dispute Board”) and, where this is the case, the other two persons are called the “Other Members”.

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

2. General Provisions

Unless otherwise stated in the Dispute Adjudication Board Agreement, it shall take effect on the latest of the following dates:

- (a) the Commencement Date defined in the Contract,
- (b) when the Employer, the Contractor and the Member have each signed the Dispute Adjudication Board Agreement, or
- (c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days’ notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

3. Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might

appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

- (a) experienced in the work which the Contractor is to carry out under the Contract,
- (b) experienced in the interpretation of contract documentation, and
- (c) fluent in the language for communications defined in the Contract.

**4. General
Obligations of the
Member**

The Member shall:

- (a) have no interest financial or otherwise in the Employer, the Contractor or Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Board Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Board Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;

- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Adjudication Board Agreement;
- (h) ensure his/her availability for all site visits and hearings as are necessary;
- (i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
- (k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

**5. General
Obligations of the
Employer and the
Contractor**

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DB under Sub-Clause 20.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows, in the currency named in the Dispute Adjudication Board Agreement:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for:
 - (i) being available on 28 days' notice for all site visits and hearings;
 - (ii) becoming and remaining conversant with all project developments and maintaining relevant files;
 - (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
 - (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Adjudication Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Adjudication Board Agreement is otherwise terminated.

- (b) a daily fee which shall be considered as payment in full for:
 - (i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the

Member's home and the Site, or another location of a meeting with the Other Members (if any);

- (ii) each working day on Site visits, hearings or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in subparagraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Adjudication Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Adjudication Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the Contract Data shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a Site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Adjudication Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB;

and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7. Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Adjudication Board Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Adjudication Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 (a) - (d) above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

If the Member fails to comply with any of his obligations under Clause 4 (e) - (k) above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or decisions (if any) of the DAB which are rendered void or ineffective by the said failure to comply.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Adjudication Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

PROCEDURAL RULES

Unless otherwise agreed by the Employer and the Contractor, the DB shall visit the Site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

The timing of and agenda for each Site visit shall be as agreed jointly by the DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of Site visits is to enable the DAB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes.

Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each Site visit and before leaving the site, the DAB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

The Employer and the Contractor shall furnish to the DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

If any dispute is referred to the DAB in accordance with Sub-Clause 20.4 of the Conditions of Contract, the DB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DB shall:

- (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
- (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

The Employer and the Contractor empower the DAB, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,

- (b) decide upon the DAB's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
- (d) take the initiative in ascertaining the facts and matters required for a decision,
- (e) make use of its own specialist knowledge, if any,
- (f) decide upon the payment of financing charges in accordance with the Contract,
- (g) decide upon any provisional relief such as interim or conservatory measures, and
- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.

The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:

- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or the Contractor does not agree that they do so, or
 - (ii) the absent Member is the chairman and he/she instructs the other Members not to make a decision.

Section X - Particular Conditions

The following Particular Conditions shall supplement the GC. Whenever there is a conflict, the provisions herein shall prevail over those in the GC.

Particular Conditions

Part A – Contract Data

Conditions	Sub-Clause	Data
Employer's name and address	1.1.2.2 & 1.3	Director General Kenya National Highways Authority P.O.BOX 49712-00100 Nairobi, Kenya
Engineer's name and address	1.1.2.4 & 1.3	The Engineer is :- Director - Maintenance Kenya National Highways Authority The Address of the Engineer is :- Director - Maintenance Kenya National Highways Authority P.O.BOX 49712-00100 Nairobi, Kenya
Time for Completion	1.1.3.3	Twelve (12) months
Defects Notification Period	1.1.3.7	Six (6) months
Electronic transmission systems	1.3	Not applicable
Governing Law	1.4	Law of the Republic of Kenya
Ruling language	1.4	English
Language for communications	1.4	English
Time for access to the Site	2.1	No later than the Commencement Day
Engineer's Duties and Authority	3.1	Variations resulting in an increase of the Accepted Contract Amount in excess of 2.5 % shall require approval of the Employer.
Performance Security	4.2	The performance security will be in the form of a unconditional demand guarantee in the amount(s) of Ten percent (10%) of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
Normal working hours	6.5	45 hours a week
Delay damages for the Works	8.7 & 14.15(b)	0.05% of the Contract Price per day

Maximum amount of delay damages	8.7	Ten percent (10%) of the final Contract Price.
Adjustments for Changes in Cost	13.8	Coefficients and cost indices shall be in accordance with Appendix to Bid, Schedule of adjustment data.
Total advance payment	14.2	Ten percent (10%) of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable.
Repayment amortization rate of advance payment	14.2(b)	Twenty percent (20%) of the amount of monthly interim payment certificates and completely repaid prior to the time when eighty percent (80%) of the accepted contract amount less provisional sums has been certified for payment.
Percentage of Retention	14.3	Ten percent (10%) of Interim Payment Certificates
Limit of Retention Money	14.3	Five percent (5%) of the Accepted Contract Amount
Plant and Materials	14.5	<i>Not Applicable.</i>
Minimum Amount of Interim Payment Certificates	14.6	Twelve and half percent (12.5%) of the Accepted Contract Amount.
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	Central Bank of Kenya for KES amounts.
Maximum total liability of the Contractor to the Employer	17.6	The product of One (1) times the Accepted Contract Amount.
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1	14 days 28 days
Maximum amount of deductibles for insurance of the Employer's risks	18.2(d)	Kenya Shillings One Million (KSh. 1,000,000.00)
Minimum amount of third-party insurance	18.3	Limited to Kenya Shillings Five Million (KShs 5,000,000.00) per occurrence, with unlimited number of occurrences.

Date by which the DB shall be appointed	20.2	The appointment of the DAB shall be <i>Ad Hoc</i> .
The DB shall be comprised of	20.2	Three (3) Member
List of potential DB sole members	20.2	FIDIC Presidents list of adjudicators www.fidic.org
Appointment (if not agreed) to be made by	20.3	Chartered Institute of Arbitrators Kenya
Rules of arbitration	20.6(a)	UNCITRAL Rules. The arbitration tribunal shall comprise three members to be appointed in similar manner as prescribed for the members of the DB under sub clause 20.2.
Place of arbitration	20.6(b)	To be agreed between the parties prior to contract signature
Language of arbitration	20.6(c)	English

Table: Summary of Sections (if any)

Description of parts of the Works that shall be designated a Section for the purposes of the Contract (Sub-Clause 1.1.73)	Value: Percentage* of Accepted Contract Amount (Sub-Clause 14.9)	Time for Completion (Sub-Clause 1.1.84)	Delay Damages (Sub-Clause 8.8)
Got Rabuor-Homa Bay Pier-Corner Kodoyo (B2) Road			
Access to the Homa Bay County Government Headquarters			

*These percentages shall also be applied to each half of the Retention Money under Sub-Clause 14.9

Part B - Specific Provisions

Sub-Clause 3.1

Engineer's Duties and Authority

The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (a) Sub-Clause 13.1: Right to vary - 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 Contract Data.
- (b) Sub-Clause 13.2 (Value Engineering): stating consent or otherwise to a value engineering proposal submitted by the Contractor in accordance with Sub-Clause 13.2.

Notwithstanding the obligation, as set out above, to obtain consent in writing, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, it may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor 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 consent of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, and EOT if any, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

Sub-Clause 4.1

Contractor's General Obligations

The following is inserted after the paragraph "The Contractor shall, whenever required by the Engineer...":

The Contractor shall not carry out mobilization to Site (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 gives consent, a consent that shall not be unreasonably delayed, that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management

Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Tender and agreed as part of the Contract.

The Contractor shall submit to the Engineer for Review any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Engineer for Review.

The C-ESMP shall be part of the Contractor's Documents. The procedures for Review of the C-ESMP and its updates shall be as described above.

The following is added at the end of the Sub-Clause:

"The Contractor shall provide relevant contract- related information, as the Employer and/or Engineer may reasonably request to conduct Stakeholder engagements. "Stakeholder" refers to individuals or groups who:

- (i) are affected or likely to be affected by the Contract; and
- (ii) may have an interest in the Contract.

The Contractor may also directly participate in Stakeholder engagements, as the Employer and/or Engineer may reasonably request."

Sub-Clause 4.2
Performance Security

In the last paragraph "21 days" is replaced with: "28 days".

Sub-Clause 4.6
Co-operation

The following is added after the first paragraph:

"The Contractor shall also, as stated in the Specification or as instructed by the Engineer, cooperate with and allow appropriate opportunities for the Employer's Personnel to conduct any environmental and social assessment.

Sub-Clause 4.8
Health and Safety
Obligations

The following are included after deleting "and" at the end of (d) and replacing "." with ";" at the end of (e):

- (a) provide health and safety training of Contractor's Personnel as appropriate and maintain training records;
- (b) actively engage the Contractor's Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to Contractor's Personnel, training on occupational safety and health, and provision of personal protective equipment without expense to the Contractor's Personnel;
- (c) put in place workplace processes for Contractor's Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.
- (d) Contractor's Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has been taken. Contractor's Personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;
- (e) subject to Sub-Clause 4.6, where the Employer's Personnel, any other contractors employed by the Employer, and/or personnel of any legally constituted public authorities and private utility companies are employed in carrying out, on or near the site, of any work not included in the Contract, collaborate in applying the health and safety requirements, without prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and
- (f) establish and implement a system for regular (not less than six-monthly) review of health and safety performance and the working environment."

At the end of the list add the following paragraphs:

"Within 21 days of the Commencement Date and before commencing any construction on the Site, the Contractor shall submit to the Engineer for Review a health and safety manual which has been specifically prepared for the Works, the Site

and other places (if any) where the Contractor intends to execute the Works. The procedures for Review of the health and safety manual and its updates shall be as described in this Sub-Clause.

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws.

The health and safety manual shall set out all the health and safety requirements under the Contract,

(a) which shall include at a minimum:

- (i) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;
- (ii) details of the training to be provided, records to be kept;
- (iii) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
- (iv) remedies for adverse impacts such as occupational injuries, deaths, disability and disease;
- (v) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,
- (vi) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution of the Works, taking into consideration

- differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labour;
- (vii) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with Sub-Clause 6.6; and
- (b) any other requirements stated in the Specification.

The paragraph starting with: “In addition to the reporting requirement of...” is replaced with the following:

“In addition to the reporting requirement of sub-paragraph (g) of Sub-Clause 4.21 [*Progress Reports*] the Contractor shall inform the Engineer immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer’s Personnel or Contractor’s Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA. In case of SEA, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, or sexual assault), gender and age of the person who experienced the alleged incident should be included in the information.

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Engineer of any such incident or accident on the Subcontractors’ or suppliers’ premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer’s Personnel or Contractor’s, its Subcontractors’ and suppliers’ personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Engineer within the timeframe agreed with the Engineer.

The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the

Contractor of any incidents or accidents referred to in this Subclause.”

Sub-Clause 4.15

The following is added at the end of Sub-Clause 4.15:

Access Route

“The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the use of Contractor’s Equipment on public roads or other public infrastructure.

The Contractor shall monitor road safety incidents and accidents to identify negative safety issues and establish and implement necessary measures to resolve them.”

**Sub-Clause 4.18
Protection of the
Environment**

Sub-Clause 4.18 Protection of the Environment is replaced with:

“The Contractor shall take all necessary measures to:

- (a) protect the environment (both on and off the Site); and
- (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor’s operations and/ or activities.

The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor’s activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable Laws.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor’s operations, the Contractor shall agree with the Engineer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Engineer.”

**Sub-Clause 4.21
Progress Reports**

Replace “4.20 (g) with: “the Environmental and Social (ES) metrics set out in Particular Conditions - Part C”

**Sub-Clause 4.22
Security of the Site**

Sub-Clause 4.21 Security of the Site is replaced with:

“Sub-Clause 4.21 Security of the Site

The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorised persons off the Site;
- (b) authorised persons shall be limited to the Contractor’s Personnel, the Employer’s Personnel, and to any other personnel identified as authorised personnel (including

the Employer's other contractors on the Site), by a Notice from the Employer or the Engineer to the Contractor.

The Contractor shall, within 21 days of the Commencement Date, submit for the Engineer's No-objection a security management plan that sets out the security arrangements for the Site.

The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification.

The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification."

**Sub-Clause 4.24
Fossils**

The first paragraph is replaced with the following:

"All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:

- (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and
- (c) implement any other action consistent with the requirements of the Specification and relevant Laws."

**Sub-Clause 5.1
Subcontractors**

The following is added at the beginning of the second paragraph.

“The Contractor shall require that its Subcontractors execute the Works in accordance with the Contract, including complying with the relevant ES requirements.”

The following is added at the end of the last paragraph of Sub-Clause 5.1:

“All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under sub-paragraph (a) of Sub-Clause 15.2 [*Termination by the Employer*].

Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.”

**Sub-Clause 5.2
Objection to Nomination**

In sub-paragraph (c):

“and” is deleted from the end of (i);

“.” at the end of (ii) is replaced with: “, and”.

The following is then added as (iii):

“(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [*Payment to nominated Subcontractors*].”

**Sub-Clause 6.1
Engagement of Staff and
Labour**

The following paragraphs are added at the end of the Sub-Clause:

The Contractor shall provide the Contractor’s Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor’s Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification; and shall also include the Code of Conduct for Contractor’s Personnel as set forth in Sub-Clause 4.25. The Contractor’s Personnel shall be informed when any material changes to their terms or conditions of employment occur.

“The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.”

**Sub-Clause 6.2
Rates of Wages and
Conditions of Labour**

The following paragraphs are added at the end of the Sub-Clause:

“The Contractor shall inform the Contractor’s Personnel about:

- (a) any deduction to their payment and the conditions of such deductions in accordance with the applicable Laws or as stated in the Specification; and
- (b) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force.

The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws. Where required by applicable Laws or as stated in the Specification, the Contractor shall provide the Contractor’s Personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor shall have paid the Contractor’s Personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment.”

**Sub-Clause 6.5 Working
Hours**

The following is inserted at the end of the Sub-Clause:

The Contractor shall provide the Contractor’s Personnel annual holiday and sick, maternity and family leave, as required by applicable Laws or as stated in the Specification.”

**Sub-Clause 6.6
Facilities for Staff and
Labour**

The following is inserted at the end of the first paragraph:

“The Contractor shall ensure that such accommodation and welfare facilities meet the requirements of the health and safety manual.

The following is added as the last paragraph:

“If stated in the Specification, the Contractor shall give access to or provide services that accommodate the physical, social and cultural needs of the Contractor’s Personnel. The Contractor shall also provide similar facilities for the Employer’s Personnel as stated in the Specification.”

**Sub-Clause 6.7
Health and Safety of
Personnel**

In the second paragraph, “The Contractor” is replaced with:

“Except as otherwise stated in the Specification, the Contractor...”

**Sub-Clause 6.9
Contractor’s Personnel**

The Sub-Clause is replaced with:

“The Contractor’s Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent 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 and Key Personnel (if any), who:

- (a) persists in any misconduct or lack of care;
- (b) carries out duties incompetently or negligently;
- (c) fails to comply with any provision of the Contract;
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
- (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works;
- (f) has been recruited from the Employer’s Personnel in breach of Sub-Clause 6.3 [Recruitment of Persons];
- (g) undertakes behaviour which breaches the Code of Conduct for Contractor’s Personnel (ES).

If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience. In the case of replacement of the Contractor’s Representative, Sub-Clause 4.3 [*Contractor’s Representative*] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.9 [*Contractor’s Personnel*] shall apply.

Subject to the requirements in Sub-Clause 4.3 [*Contractor’s Representative*] and 6.9 [*Contractor’s Personnel*], and notwithstanding any requirement from the Engineer to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out, any Contractor’s

Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above.”

The following Sub-Clauses 6.12 to 6.21 are added after sub-clause 6.121

**Sub-Clause 6.12
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 thereto by Contractor’s Personnel.

**Sub-Clause 6.13
Festivals and Religious
Customs**

The Contractor shall respect the Country’s recognized festivals, days of rest and religious or other customs.

**Sub-Clause 6.14
Funeral Arrangements**

The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.

**Sub-Clause 6.15
Forced Labour**

The Contractor, including its Subcontractors, shall not employ or engage forced labour. Forced labour 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 labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

**Sub-Clause 6.16
Child Labour**

The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that 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.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Engineer's consent. The Contractor shall be subject to regular monitoring by the Engineer that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

**Sub-Clause 6.17
Employment Records of
Workers**

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked, and wages paid to all workers. These records shall be summarised 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].

**Sub-Clause 6.18
Workers' Organisations**

the Contractor shall comply with the relevant labour laws that recognise workers' rights to form and to join workers' organisations of their choosing and to bargain collectively without interference. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organisations and collective bargainin.

Workers' organisations are expected to fairly represent the workers in the workforce.

Sub-Clause 6.19
Non-Discrimination and
Equal Opportunity

The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.16).

Sub-Clause 6.20
Contractor's Personnel
Grievance Mechanism

The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in Sub-Clause 6.18, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.

The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.

The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and

implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.

**Sub-Clause 6.21
Training of Contractor's
Personnel**

The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA, and health and safety training referred to in Sub-Clause 4.8

As stated in the Specification or as instructed by the Engineer, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel.

The Contractor shall provide training on SEA, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.

**Sub-Clause 8.3
Programme**

After the last paragraph add the following:

The Contractor shall allow in his Programme for the following 10 public holidays per calendar year as observed in the Republic of Kenya and upon which the Contractor shall not be permitted to work:

- New Years Day (1st January)
- Good Friday
- Easter Monday
- Labour Day (1st May)
- Madaraka Day (1st June)
- Idd-ul-Fitr
- Mashujaa Day (20th October)
- Jamhuri Day (12th December)
- Christmas Day (25th December)
- Boxing Day (26th December)

**Sub-Clause 10.2
Taking Over of Parts of
the Works**

After sub-paragraph (c) Add the following:

Use of the Works by the necessary and safe passage of traffic through the Works is not deemed use by the Employer, and any part of the Works will not be taken over by the Employer until completion of the requirements for Taking Over which are specified in the Contract.

**Sub-Clause 11.7
Right of Access**

In the second paragraph, "Whenever the Contractor intends to access any part of the Works during the relevant DNP:" is replaced with:

“Whenever, until the date 28 days after issue of the Performance Certificate, the Contractor intends to access any part of the Works:”

**Sub-Clause 13.6
Adjustments for Changes
in Laws**

The following paragraph is added at the end of the Sub-Clause:

“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 13.7 [Adjustments for Changes in Cost].”

**Sub-Clause 14.2
Advance Payment
Guarantee**

The first paragraph is replaced with:

“The Contractor shall obtain (at the Contractor’s cost) an Advance Payment Guarantee in amounts and currencies equal to the advance payment, and shall submit it to the Employer with a copy to the Engineer. This guarantee shall be issued by reputable financial institution selected by the Contractor and shall be based on the sample form annexed to the Particular Conditions or in another form agreed by the Employer (but such agreement shall not relieve the Contractor from any obligation under this Sub-Clause).”

In addition, add the following:

The Contractor shall use the advance exclusively for the costs of mobilization in respect of the Works. Should the Contractor misuse any portion of the advance, it shall become due and payable immediately, and no further advance payments will be made to him. The Contractor shall provide proof of use of the advance if requested by the Engineer

**Sub-Clause 14.6
Issue of Interim Payment
Certificates**

The following is then added as subparagraph (c) of the Sub-Clause:

“(c) if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Engineer, may be withheld until rectification or replacement has been

completed. Failure to perform includes, but is not limited to the following:

- (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;
- (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;
- (iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization;
- (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;
- (v) failure to submit ES report/s (as described in Particular Conditions - Part D), or failure to submit such reports in a timely manner;
- (vi) failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s)."

**Sub-Clause 14.7
Payment**

In sub-paragraph (b): "56 days" is replaced with "90 days"
In sub-paragraph (c): "56 days" is replaced with "90 days"

**Sub-Clause 14.9
Release of Retention
Money**

The following is added at the end of Sub-Clause 14.9:

"Unless otherwise stated in the Contract, 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 the Employer and issued by a reputable 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 Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer 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 after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 28 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 them 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.”

**Sub-Clause 15.1
Notice to Correct**

“a specified reasonable time” at the end of Sub-Clause is deleted and replaced with “14 days unless it is with regard to an emergency or an event that significantly impacts the Works; for which the Contractor shall respond with immediate effect”

**Sub-Clause 16.1
Suspension by
Contractor**

The first paragraph is substituted with:

If the Engineer fails, for reasons other than those listed under Sub-Clause 14.6 [Issue of Interim Payment Certificates], to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or the Employer fails to comply with or Sub-Clause 14.7 [Payment] to the extent that the delayed payment is higher than the Advance Payment yet to be recovered, the Contractor may, after giving not less than 28 days’ notice to the Employer, 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.”

**Sub-Clause 17.1
Indemnities**

Sub-paragraph (c) is substituted with:

“(c) riot, commotion, disorder or sabotage by persons other than the Contractor’s Personnel and other employees of the Contractor and Subcontractors;”

**Sub-Clause 17.4
Consequences of an
Exceptional Event**

The following is added at the end of sub-paragraph (b) after deleting the “.”:

“, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, 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].”

**Sub-Clause 18.1
General Requirements**

The following paragraphs are added after the first:

“Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with terms (if any) 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.”

**Sub-Clause 18.2
insurance to be provided
by the Contractor**

The following is inserted as the first sentence in Sub-Clause 18.2:

“The Contractor shall be entitled to place all insurances relating to the Contract (including but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.”

Particular Conditions

Part C- Environmental and Social (ES)

Metrics for Progress Reports

The Contractor shall be required to include the following ES Metrics for regular reporting:

- a) environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;
- b) health and safety incidents, accidents, injuries that require treatment and all fatalities;
- c) interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);
- d) status of all permits and agreements:
 - (i) work permits: number required, number received, actions taken for those not received;
 - (ii) status of permits and consents:
 - list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
 - list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);
 - identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);
 - for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).
- e) health and safety supervision:
 - (i) safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
 - (ii) number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- f) worker accommodations:
 - (i) number of expats housed in accommodations, number of locals;

- (ii) date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
 - (iii) actions taken to recommend/require improved conditions, or to improve conditions.
- g) *Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*
- h) gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
- i) training:
- (i) number of new workers, number receiving induction training, dates of induction training;
 - (ii) number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - (iii) number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - (iv) number and date of SEA prevention sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
- j) environmental and social supervision:
- (i) environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - (ii) sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and

- (iii) community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
- k) Grievances: list new grievances (e.g. number of allegations of SEA) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):
 - (i) Worker grievances;
 - (ii) Community grievances
- l) traffic, road safety and vehicles/equipment:
 - (i) traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - (ii) traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - (iii) overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m) Environmental mitigations and issues (what has been done):
 - (i) dust: number of working bowsters, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/ spoil lorries with covers, actions taken for uncovered vehicles;
 - (ii) erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - (iii) quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

- (iv) blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
 - (v) spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;
 - (vi) waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - (vii) details of tree plantings and other mitigations required undertaken in the reporting period;
 - (viii) details of water and swamp protection mitigations required undertaken in the reporting period.
- n) compliance:
- (i) compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - (ii) compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (iii) compliance status of SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (iv) compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (v) other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

Section X - Contract Forms

Table of Forms

Notification of Intention to Award	440
Contract Agreement	447
Performance Security	449
Performance Security	451
Advance Payment Security	453
Demand Guarantee	453
Retention Money Security	455

Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Tenderers that submitted a Tender.]

[Send this Notification to the Tenderers's Authorized Representative named in the Tenderers Information Form]

For the attention of Tenderers's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Employer: *[insert the name of the Employer]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

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 to the evaluation of your Tender, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Tenderers

Name: *[insert name of successful Tenderers]*

Address: *[insert address of the successful Tenderers]*

Contract price: *[insert contract price of the successful Tender]*

2. Other Tenderers *[INSTRUCTIONS: 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.]*

Name of Tenderers	Tender price	Evaluated Tender price (if applicable)
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]

3. Reason/s why your Tender was unsuccessful

[INSTRUCTIONS: State the reason/s why this Tenderers's Tender was unsuccessful. Do NOT include: (a) a point by point comparison with another Tenderers's Tender or (b) information that is marked confidential by the Tenderers in its Tender.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

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 three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Tenderers, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Employer]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

If your request for a debriefing is received within the 3 Business 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) Business 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.

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.

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) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, *[insert date]* (local time).

Provide the contract name, reference number, name of the Tenderers, contact details; and address the Procurement-related Complaint as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number]* ***delete if not used***

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.

Further information:

For more information see the [Procurement Regulations for IPF Procuring Entitys \(Procurement Regulations\)](https://policies.worldProcuringEntity.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=4005) [\[https://policies.worldProcuringEntity.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=4005\]](https://policies.worldProcuringEntity.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=4005) (Annex III). You should read these provisions before preparing and submitting your complaint. In addition, the World Procuring Entity's Guidance "[How to make a Procurement-related Complaint](http://www.worldProcuringEntity.org/en/projects-operations/products-and-services/brief/procurement-new-framework#framework)" [\[http://www.worldProcuringEntity.org/en/projects-operations/products-and-services/brief/procurement-new-framework#framework\]](http://www.worldProcuringEntity.org/en/projects-operations/products-and-services/brief/procurement-new-framework#framework) provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Tenderers who submitted a Tender in this Tendering process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.

If you have any questions regarding this Notification, please do not hesitate to contact us.

On behalf of the Employer:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful Tenderers¹. In case of joint venture, the Tenderers must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderers is any natural person who ultimately owns or controls the Tenderers by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of*

Tender No.: *[insert number of RFB process]*

Invitation to Tender No.: *[insert identification]*

To: *[insert complete name of Employer]*

In response to your request in the Letter of Acceptance dated *[insert date of letter of Acceptance]* to furnish additional information on beneficial ownership: *[select one option as applicable and delete the options that are not applicable]*

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderers (Yes / No)
<i>[include full name (last, middle, first), nationality, country of residence]</i>			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderers

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Tenderers shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderers]”

Name of the Tenderers: *[insert complete name of the Tenderers]

Name of the person duly authorized to sign the Tender on behalf of the Tenderers: **[insert complete name of person duly authorized to sign the Tender]

Title 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 signed [insert date of signing] **day of** [insert month], [insert year]

* In the case of the Tender submitted by a Joint Venture specify the name of the Joint Venture as Tenderers. In the event that the Tenderers is a joint venture, each reference to “Tenderers” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

** Person signing the Tender shall have the power of attorney given by the Tenderers. The power of attorney shall be attached with the Tender Schedules.

LETTER OF ACCEPTANCE

[letterhead paper of the Employer]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security and Contractor All Risk Insurance within 28 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with TDS ITT 47.1, within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, Contract Forms, of the Tendering document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the _____ day of _____, _____, between _____ of _____ (hereinafter “the Employer”), of the one part, and _____ of _____ (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer 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 Employer 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 (Letter of Award);
- (b) the Letter of Tender (Form of Tender);
- (c) the addenda Nos _____ (if any);
- (d) the Particular Conditions;
- (e) the General Conditions;
- (f) the Specification;
- (g) the Bills of Quantities
- (h) the Drawings; and
- (i) the completed Schedules and any other documents forming part of the contract, including, but not limited to:

- i. the ES Management Strategies and Implementation Plans

3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ on the day, month and year specified above.

Signed by _____ (for the Employer)

Signed by _____ (for the Contractor)

Performance Security

Option 1: Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Employer]*

Date: _____ *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: _____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ (hereinafter called "the Applicant") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

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 _____ (_____),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, 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 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.

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 this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "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."

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Performance Security

Option 2: Performance Bond

By this Bond _____ as Principal (hereinafter called “the Contractor”) and _____] as Surety (hereinafter called “the Surety”), are held and firmly bound unto _____] as Obligee (hereinafter called “the Employer”) 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.

WHEREAS the Contractor has entered into a written Agreement with the Employer 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.

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 Employer to be, in default under the Contract, the Employer having performed the Employer’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 Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderers and Employer 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 Employer to Contractor under the Contract, less the amount properly paid by Employer to Contractor; or
- (3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

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 Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Contractor has hereunto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its legal representative, this _____ day of _____ 20 ____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ *[Insert name and Address of Employer]*

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]*

We have been informed that _____ (hereinafter called “the Applicant”) has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called “the Contract”).

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (_____) is to be made against an advance payment guarantee.

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 _____ (_____) 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 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.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary’s Procuring Entity stating that the advance payment referred to

¹ The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

above has been credited to the Applicant on its account number _____ at _____.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant 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 ____, 2____,² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

² Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: “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.”

Retention Money Security

Demand Guarantee

_____ [Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ [Insert name and Address of Employer]

Date: _____ [Insert date of issue]

RETENTION MONEY GUARANTEE No.: _____ [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

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 Applicant") 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").

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, payment of [insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ES Performance Security] is to be made against a Retention Money guarantee.

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 _____ [insert amount in figures] (_____) [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 Applicant 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.

¹ The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated either in the currency(ies) of the second half of the Retention Money as specified in the Contract, or in a freely convertible currency acceptable to the Beneficiary.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's Procuring Entity stating that the second half of the Retention Money as referred to above has been credited to the Applicant on its account number _____ at _____ *[insert name and address of Applicant's Procuring Entity]*.

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.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

² Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "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."