



REPUBLIC OF KENYA

**PROPOSED CONSTRUCTION OF LECTURE THEATRE AT
ALUPE UNIVERSITY COLLEGE**

TENDER DOCUMENTS

TENDER NO: AUC / ONT /05 / 001 / 22

PROCURING ENTITY



**ALUPE UNIVERSITY COLLEGE
P.O. BOX 845 – 50400
BUSIA**

TENDER CLOSING DATE; 13TH JUNE 2022

**PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY
COLLEGE**

TENDER NO: AUC / ONT /05 / 001 / 22

TENDER DOCUMENTS

Consisting

A	Contents page	(i)
B	Signature and Special notes page	(ii)
C	Standard Tender Documents for Procurement of Works:	
	Section I: Instructions to Tenderers	1
	Section II: Tender Data Sheet (TDS)	18
	Section III: Evaluation and Qualification Criteria	22
	Section IV: Tendering Forms	28
	Section V: Bills of Quantities	60
	Section VI: Specifications	73
	Section VII: Drawings	73
	Section VIII: General Conditions of Contract (GCC)	74
	Section IX: Special Conditions of Contract (SCC)	130
	Section X: Contract Forms	132
D	Particular Preliminaries	PP/1 - PP/11
E	General Preliminaries	GP/1 - GP/10
F	Preambles and pricing notes	PN/1 - PN/2
G	Builder's General Specifications	1 - 61
H	Builder's Works; Lecture Hall	LH/1 – LH/20
J	External Works	EW/1 – EW/4
K	Plumbing & Drainage	GS-1 – TS/1
L	Electrical Installations	Elec 1 – Elec 32
M	Provisional Sums	PS/1
N	Grand Summary	GS/1

**PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY
COLLEGE**

TENDER NO: AUC / ONT /05 / 001 / 22

Issued by: -

**Alupe University College,
P. O. Box 845 – 50400,
Busia.**

The contract for the above-mentioned works entered into this..... day of 2022 by the undersigned refers to these Tender Documents and the MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING, URBAN DEVELOPMENT & PUBLIC WORKS and public General Specification dated March, 1976 (together with any amendments issued thereto) shall be read and construed as part of the said contract.

.....
THE CONTRACTOR

.....
**VICE CHANCELLOR,
ALUPE UNIVERSITY COLLEGE**

Date :

Date:

SPECIAL NOTES

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

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

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

SIGNATURE PAGE AND NOTES

TABLE OF CONTENTS

INVITATION TO TENDER.....	v
PART 1: TENDERING PROCEDURES	1
SECTION I - INSTRUCTIONS TO TENDERERS	1
A. GENERAL PROVISIONS	1
1.0 Scope of tender	1
2.0 Fraud and corruption.....	1
3.0 Eligible tenderers	1
4.0 Eligible goods, equipment, and services.....	3
5.0 Tenderer's responsibilities	3
B. CONTENTS OF TENDER DOCUMENTS.....	4
6.0 Sections of Tender Document.....	4
7.0 Clarification of Tender Document, Site Visit,Pre-tender Meeting	4
8.0 Amendment of Tender Documents	5
10.0 Language of Tender	5
11.0 Documents Comprising the Tender.....	5
12.0 Form of Tender and Schedules	6
13.0 Alternative Tenders	6
14.0 Tender Prices and Discounts	6
15.0 Currencies of Tender and Payment	6
16.0 Documents Comprising the Technical Proposal.....	7
17.0 Documents Establishing the Eligibility and Qualifications of The Tenderer	7
18.0 Period of Validity of Tenders.....	8
19.0 Tender Security	8
20.0 Format and Signing ofTender.....	9
D. SUBMISSION AND OPENING OF TENDERS.....	11
21.0 Sealing and Marking of Tenders	11
22.0 Deadline for Submission of Tenders	11
23.0 Late Tenders	11
24.0 Withdrawal, Substitution, and Modification of Tenders.....	11
25.0 Tender Opening.....	12
E. EVALUATION AND COMPARISON OF TENDERS.....	12
26.0 Confidentiality	12
27.0 Clarification of Tenders.....	13
29.0 Determination of Responsiveness.....	13
30.0 Non-material Non-conformities.....	13
31.0 Arithmetical Errors	14
33.0 Margin of PreferenceandReservations.....	14
34.0 Nominated Subcontractors.....	14
35.0 Evaluation of Tenders	15
36.0 Comparison of tenders.....	15
37.0 Abnormally low tenders and abnormally high tenders	15
Abnormally LowTenders.....	15
Abnormally high tenders.....	15
38.0 Unbalanced and/or front-loaded tenders.....	16
39.0 Qualifications of the tenderer.....	16
40.0 Lowest evaluated tender	16
41.0 Procuring entity's right to accept any tender, and to reject any orall tenders.	16

F. AWARD OF CONTRACT	17
42.0 Award criteria.....	17
43.0 Notice of intention to enter into a contract	17
44.0 Standstill Period.....	17
44.0 Standstill Period.....	17
45.0 Debriefing By The Procuring Entity.....	17
46.0 Letter of Award.....	17
47.0 Signing of Contract.....	17
48.0 Performance Security.....	17
49.0 Publication of Procurement Contract.....	18
50.0 Procurement related Complaint	18
SECTION II - TENDER DATA SHEET (TDS)	18
SECTION III - EVALUATION AND QUALIFICATION CRITERIA.....	22
1. General Provisions	22
2. Preliminary examination for Determination of Responsiveness.....	22
3. Tender Evaluation	22
4. Multiple Contracts	22
5. AlternativeTenders	23
6. Margin of Preference	23
7. Post qualification and Contract Award	23
8. QUALIFICATION FORM	25
SECTION IV –TENDERING FORMS	28
1. FOREIGN TENDERERS 40% RULE	28
2. Form EQU: EQUIPMENT	29
3. FORM PER - 1:	30
4. FORM PER - 2:	31
5. TENDERERS QUALIFICATION WITHOUT PRE-QUALIFICATION	33
OTHER FORMS	43
1. FORM OF TENDER	43
a) TENDERER'S ELIGIBILITY- CONFIDENTIALBUSINESS QUESTIONNAIRE	46
b) CERTIFICATE OF INDEPENDENTTENDERDETERMINATION	50
c) SELF-DECLARATION FORM - SELF DECLARATION OFTHETENDERER	51
d) APPENDIX 1 - FRAUD AND CORRUPTION.....	54
2. FORM OF TENDER SECURITY - DEMANDBANKGUARANTEE	56
3. FORM OF TENDER SECURITY (TENDER BOND)	57
4. FORM OF TENDER-SECURING DECLARATION.....	58
5. APPENDIX TO TENDER.....	59
ii	
SECTION V – BILLS OF QUANTITIES	60
1. PREAMBLES	63
2. Bill No. 1 – Preliminary Items	67
3. Bill No. 2: Work Items	38
4. Bill No. 3: Schedule of Daywork Rates - Labour	69
5. Bill No. 3: Schedule of Daywork Rates - Materials.....	70
6. Bill No. 3: Schedule of Daywork Rates - Contractor's Equipment.....	71
7. Bill No. 3: Daywork Summary	71
8. Bill No. 4: Provisional Sums.....	72
9. GRAND SUMMARY	72

SECTION VI - SPECIFICATIONS	73
SECTION VII - DRAWINGS	73
SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)	74
1. General Provisions	74
2. The Procuring Entity	80
3. The Engineer	81
4. The Contractor	83
5. Nominated Subcontractors	91
6. Staff and Labor	92
7. Plant, Materials and Workmanship	95
8. Commencement, Delays and Suspension	97
9. Tests on Completion	100
10. Procuring Entity's Taking Over	100
11. Defects Liability	102
12. Measurement and Evaluation	104
13. Variations and Adjustments	105
14. Contract Price and Payment	109
15. Termination by Procuring Entity	115
16. Suspension and Termination by Contractor	117
17. Risk and Responsibility	119
18. Insurance	121
19. Force Majeure	124
20. Settlement of Claims and Disputes	126
Section IX - Special Conditions of Contract	130
SECTION X – CONTRACT FORMS	132
FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD	133
FORM No. 2 - NOTIFICATION OF AWARD - LETTER OF ACCEPTANCE	135
FORM No. 3 – CONTRACT AGREEMENT	136
FORM No. 4 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]	137
FORM No. 5- PERFORMANCE SECURITY [Option 2 – Performance Bond]	138
FORM No. 6 – ADVANCE PAYMENT SECURITY	140
FORM No. 7 – RETENTION MONEY SECURITY	141



REPUBLIC OF KENYA

**ALUPE UNIVERSITY
COLLEGE**

**TENDER DOCUMENTS FOR PROCUREMENT OF WORKS (BUILDING AND ASSOCIATED
CIVIL ENGINEERING WORKS)**

1) NAME AND CONTACT ADDRESSES OF PROCURING ENTITY

Name: **ALUPE UNIVERSITY COLLEGE**

Address: **P.O. Box 845 – 50400, Busia**

Email address.....principal@auc.co.ke.....

.....procurement@auc.co.ke.....

2) Invitation to Tender (ITT) No: **AUC / ONT /05 / 001 / 22**

3) Tender Name: **PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY
COLLEGE**

INVITATION TO TENDER

PROCURING ENTITY: ALUPE UNIVERSITY COLLEGE

CONTRACT NAME AND DESCRIPTION: PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE

1. **Alupe University College** invites sealed tenders for the construction of the **Proposed Construction of Lecture Theatre at Alupe University College**.
2. Tendering will be conducted under open competitive method **National** using a standardized tender document. Tendering is open to **qualified and interested NCA 1 – 4 Tenderers**.
3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours **0900 to 1700 hours** at the address given below.
4. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of Kshs. 1,000.00 in cash or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically from the Website(s) – www.auc.ac.ke. Tender documents obtained electronically will be free of charge.

The tender is a **single contract package** comprised of the **of the following Three (3) parts of requirements;-**

Item	Requirement Category	Part No.
1	Main Works	Part 1
2	Mechanical Works	Part 2
3	Electrical Works	Part 3

The Main Works (Part 1) Contractor will be the Main Tenderer. The main tenderer **MAY** invite eligible sub contractors participating through parts two (2) to three (3) to form part of his tender. A copy of the agreement entered into by the sub contractors shall be submitted with the tender.

The Main Works Contractor will take the lead and shall be responsible for the sub contractors or joint venture partners and will arrange for the mandatory Tender Security.

5. Tender documents may be viewed and downloaded for free from the website www.auc.ac.ke. Tenderers who download the tender document must forward their particulars immediately to

procurement@auc.co.ke
0741217185 or 0736044469
P.O Box 895 – 50400 Busia

In order to facilitate any further clarification or addendum.

6. Tenders shall be quoted be in Kenya Shillings and shall include all taxes. Tenders shall remain valid for 126 days from the date of opening of tenders.
7. All Tenders must be accompanied by a **tender Security of Kenya Shillings 2,000,000.00**
8. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
9. Completed tenders must be delivered to the address below on or before **13th June 2022**. Electronic Tenders **will not be** permitted.
10. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and times pecified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below.
11. Late tenders will be rejected.

12. The addresses referred to above are:

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

- (1) Name of Procuring Entity: ALUPE UNIVERSITY COLLEGE
- (2) Physical address for hand Courier Delivery to an office or Tender Box (City, Street Name, Building, Floor Number and Room).
- (3) Postal Address: P.O. Box 845 – 50400, Busia
- (4) Insert name, telephone number and e-mail address of the officer to be contacted.

B. Address for Submission of Tenders.

- 1) Name of Procuring Entity: ALUPE UNIVERSITY COLLEGE
- 2) Postal Address: P.O. Box 845 – 50400, Busia
- 3) Physical address for hand Courier Delivery to an office or Tender Box (City, Street Name, Building, Floor Number and Room).

C. Address for Opening of Tenders.

- 1) Name of Procuring Entity: ALUPE UNIVERSITY COLLEGE
- 2) Physical address for the location: P.O. Box 845 – 50400, Busia

**VICE CHANCELLOR
ALUPE UNIVERSITY COLLEGE**

Name _____
(Official of the Procuring Entity issuing the invitation)

Designation _____

Signature _____

Date _____

PART I: TENDERING PROCEDURES

SECTION I - INSTRUCTIONS TO TENDERERS

A GENERAL PROVISIONS

10 Scope of tender

- 11** The Procuring Entity as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The name, identification, and number of lots (contracts) of this Tender Document are specified in the TDS.
- 12** Throughout this tendering document:
- a) The term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;
 - b) if the context so requires, “singular” means “plural” and vice versa;
 - c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Procuring Entity. It excludes official public holidays.

20 Fraud and corruption

- 21** 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.
- 22** 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.
- 23** Tenderers shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity.
- 24** 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 **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.

30 Eligible tenderers

- 31** A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agree mentor with the intent to enter in to 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**.
- 32** 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 are also not allowed to participate in any procurement proceedings.
- 33** A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:

- a) Directly or indirectly controls, is controlled by or is under common control with an other tenderer;
 - b) Receives or has received any director indirect subsidy from another tenderer;
 - c) Has the same legal representative as an other tenderer;
 - d) Has a relationship with an other tenderer, directly or through common third parties, that puts it in a position to influence the tender of an other tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;
 - e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods or works that are the subject of the tender;
 - f) Any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as a consultant for Contract implementation;
 - 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 contract specified in this Tender Document;
 - h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:
 - i) Are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or
 - ii) May be involved in the implementation or supervision of such Contract unless the conflicts stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.
- 34 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
- 35 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. Members of a joint venture may not also make an individual tender, be a sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender.
- 36 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates 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 sub-contractors or sub-consultants for any part of the Contract including related Services.
- 37 A Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.
- 38 A Tenderer that is a state-owned enterprise or a public institution in Kenya may be eligible to tender and be awarded Contract(s) only if it is determined by the Procuring Entity to meet the following conditions, i.e. if it is:
- i) A legal public entity of Government and/or public administration,
 - ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and;
 - (iii) Operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.
- 39 Firms and individuals shall be ineligible if their countries of origin are:
- (a) As a matter of law or official regulations, Kenya prohibits commercial relations with that country;
 - (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, local sub-contracts and labor) from citizen suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided for this purpose in “*SECTION III - EVALUATION AND QUALIFICATION CRITERIA, Item 9*”.
- 3.11 Pursuant to the eligibility requirements of ITT 3.10, a tender is considered a foreign tenderer, if it is registered in Kenya and has less than 51 percent ownership by nationals of Kenya and if it does not subcontract to foreign firms or individuals more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms registered in Kenya have less 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.
- 3.12 The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.
- 3.13 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke.
- 3.14 A Kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing valid tax compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

40 Eligible goods, equipment, and services

- 41 Goods, equipment and services to be supplied under the Contract 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.
- 42 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.

50 Tenderer's responsibilities

- 51 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.
- 52 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 the tenderer's own expense.
- 53 The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity against 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.

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

B. CONTENTS OF TENDER DOCUMENTS

60 Sections of Tender Document

- 61 The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 10.

PART 1: Tendering Procedures

Section I – Instructions to Tenderers

Section II – Tender Data Sheet (TDS)

Section III- Evaluation and Qualification

Criteria Section IV – Tendering Forms

PART 2: Works' Requirements

Section V - Bills of Quantities

Section VI - Specifications

Section VII - Drawings

PART 3: Conditions of Contract and Contract Forms

Section VIII - General Conditions (GCC)

Section IX - Special Conditions of Contract

Section X- Contract Forms

- 62 The Invitation to Tender Notice issued by the Procuring Entity is not part of the Contract documents. Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.
- 63 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its Tender all information and documentation as is required by the Tender document.
- 70 **Clarification of Tender Document, Site Visit, Pre-tender Meeting**
- 71 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity 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 7.2. 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 Tender documents in accordance with ITT 7.4, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, 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.
- 72 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the site(s) of the required contracts and obtain all information that may be necessary for preparing a tender. The costs of visiting the Site shall be at the Tenderer's own expense. The Procuring Entity shall specify in the **TDS** if a pre-arranged Site visit and/or a pre-tender meeting will be held, when and where. The Tenderer's designated representative is invited to attend a pre-arranged site visit and a pre-tender meeting, as the case may be. The purpose of the site visit and the pre-tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 73 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.

- 74** Minutes of a pre-arranged site visit and those of the pre-tender meeting, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents. Minutes shall not identify the source of the questions asked.
- 75** The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the pre-arranged site visit and those of the pre-tender meeting at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.
- 80** **Amendment of Tender Documents**
- 81** At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.
- 82** Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from the Procuring Entity. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's website in accordance with ITT 7.5.
- 83** To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the dead line for the submission of Tenders, pursuant to ITT 22.2.

C. PREPARATION OF TENDERS

9.0 Cost of Tendering

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.

10.0 Language of Tender

The Tender, as well as all correspondence and documents relating to the tender exchanged by the tenderer 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 and notarized translation of the relevant passages into the English Language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

11.0 Documents Comprising the Tender

- 11.1** The Tender shall comprise the following:
- a) Form of Tender prepared in accordance with ITT 12;
 - b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
 - c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
 - d) Alternative Tender, if permissible, in accordance with ITT 13;
 - e) **Authorization**: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
 - f) **Qualifications**: documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
 - g) **Conformity**: a technical proposal in accordance with ITT 16;
 - h) Any other document required in the **TDS**.
- 11.2** In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed JV Agreement. Change of membership and conditions of the JV prior to contract signature will render the tenderer liable for disqualification.

12.0 Form of Tender and Schedules

- 12.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed with out any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
- 12.2 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

13. Alternative Tenders

- 13.1 Unless otherwise specified in the TDS, alternative Tenders shall not be considered.
- 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.
- 13.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents 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 Tenderer with the Winning 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' Requirements.

14.0 Tender Prices and Discounts

- 14.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.
- 14.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by 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, including any discounts offered.
- 14.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.
- 14.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except incases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.
- 14.6 Where tenders are being invited for individual lots (contracts) or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the sametime.

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

150 Currencies of Tender and Payment

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

152 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.

153 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 Schedule of Adjustment Data in the Appendix to Tender are reasonable, in which case a detailed break down of the foreign currency requirements shall be provided by Tenderers.

16.0 Documents Comprising the Technical Proposal

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

170 Documents Establishing the Eligibility and Qualifications of the Tenderer

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

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

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

174 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.

175 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.

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

- 177** 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.
- 178** If a tenderer fails to submit the information required by these requirements, its tender 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.
- 179** 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 depending the outcome of (iii),
 - iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other person have committed any criminal offence.
- 17.10** If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 17.8 will ensue unless the tenderer can show to the reasonable satisfaction of 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.

18.0 Period of Validity of Tenders

- 18.1.** Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 22). A tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.
- 18.2** In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 19, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender.

19.0 Tender Security

- 191** The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency **specified** in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.
- 192** 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:
- i) cash;
 - ii) a bank guarantee;
 - iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;
 - (iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.
- 193** If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.

- 194** 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 Procuring Entity as non-responsive.
- 195** 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.
- 196** The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the TDS.
- 197** The Tender Security may be forfeited or the Tender-Securing Declaration executed:
- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension there to provided by the Tenderer; or
 - b) if the successful Tenderer fails to: -
 - i) sign the Contract in accordance with ITT47; or
 - ii) furnish a Performance Security and if required in the TDS, and any other documents required in the TDS.
- 198** Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA to debar the Tenderer from participating in public procurement as provided in the law.
- 199** 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.
- 1910** A tenderer shall not issue a tender security to guarantee itself.
- 200** **Format and Signing of Tender**
- 201** 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.
- 202** 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.
- 203** 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.
- 204** 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.
- 205** 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

210 Sealing and Marking of Tenders

211 The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to 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 Tenderer shall place the following separate, sealed envelopes:

- a) in an envelope or package or container marked “ORIGINAL”, all documents comprising the Tender, as described in ITT 11; and
- b) in a new envelope or package or container marked “COPIES”, all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 13, and if relevant:
 - i) in an envelope or package or container marked “ORIGINAL –ALTERNATIVE TENDER”, the alternative Tender; and
 - ii) in the envelope or package or container marked “COPIES- ALTERNATIVE TENDER”, all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity,
- b) bear the name and address of the Tenderer; and
- c) bear the name and Reference number of the Tender.

212 If an envelope or package or container is not sealed and marked as required, the *Procuring Entity* will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.

220 Deadline for Submission of Tenders

221 Tenders must be received by the Procuring Entity at the address specified in the **TDS** and no later than the date and time also specified in the **TDS**. When so specified in the **TDS**, tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified in the **TDS**.

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

23.0 Late Tenders

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 Tenderer.

240 Withdrawal, Substitution, and Modification of Tenders

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

- a) prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawal 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.

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

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

25. Tender Opening

- 251** Except in the cases specified in ITT 23 and ITT 24.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified **in the TDS**, in the presence of Tenderers' designated representatives 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**.
- 252** First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 253** 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.
- 254** 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.
- 255** 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.
- 256** Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the tender opening committee attending the opening.
- 257** At the Tender Opening, 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).
- 258** The Procuring Entity shall prepare minutes of the Tender Opening that shall include, as a minimum: -
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security, if new as required;
 - e) number of pages of each tender document submitted.
- 259** The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers.

E. EVALUATION AND COMPARISON OF TENDERS

26. Confidentiality

- 261** Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.
- 262** Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.
- 263** 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.

270 Clarification of Tenders

271 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 Procuring Entity shall not be considered. The Procuring Entity'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.

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

280 Deviations, Reservations, and Omissions

281 During the evaluation of tenders, the following definitions apply: -

- a) "*Deviation*" is a departure from the requirements specified in the tender document;
- b) "*Reservation*" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and
- c) "*Omission*" is the failure to submit part or all of the information or documentation required in the Tender document.

290 Determination of Responsiveness

291 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.

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

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

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

294 If a tender is not substantially responsive to the requirements of the tender 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.

300 Non-material Non-conformities

301 Provided that a tender is substantially responsive, the Procuring Entity may waive any non-conformities in the tender.

302 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 non-material non-conformities in the tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.

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

31.0 Arithmetical Errors

- 31.1** The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity.
- 31.2** Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis: -
- a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
 - b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid prices shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
 - c) if there is a discrepancy between words and figures, the amount in words shall prevail
- 31.3** Tenderers shall be notified of any error detected in their bid during the notification of award.

32.0 Conversion to Single Currency

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

33.0 Margin of Preference and Reservations

- 33.1** A margin of preference may be allowed only when the contract is open to international competitive tendering where foreign contractors are expected to participate in the tendering process and where the contract exceeds the value/threshold specified in the Regulations.
- 33.2** A margin of preference shall not be allowed unless it is specified so in the **TDS**.
- 33.3** Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 33.4.
- 33.4** Where it is intended to reserve a contract to a specific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and who are appropriately registered as such by the authority to be specified in the **TDS**, a 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.

34.0 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 sub-contracting 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** Domestic 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 hereafter 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 III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Procuring Entity shall determine the Lowest Evaluated Tender in accordance with ITT 40.

- 352 To evaluate a Tender, the Procuring Entity shall consider the following:
- a) Price adjustment in accordance with ITT 31.1 (iii); excluding provisional sums and contingencies, if any, 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) and (b) above, if relevant, to a single currency in accordance with ITT 32;
 - d) price adjustment due to quantifiable non material non-conformities in accordance with ITT 30.3; and
 - e) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.
- 353 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.
- 354 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers base done lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36.0 Comparison of tenders

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.

37.0 Abnormally low tenders and abnormally high tenders

Abnormally Low Tenders

- 371 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.
- 372 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.
- 373 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

Abnormally high tenders

- 374 An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that 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.
- 375 In case of an abnormally high 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.

376 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.

380 Unbalanced and/ or front-loaded tenders

381 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or frontloaded, 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 Tender document.

382 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:

- a) accept the Tender;
- b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price;
- c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works;
- d) reject the Tender,

390 Qualifications of the tenderer

391 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 III, Evaluation and Qualification Criteria.

392 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 Sub-contractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

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

400 Lowest evaluated tender

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

- a) Most responsive to the Tender document; and
- b) the lowest evaluated price.

41.0 Procuring entity's right to accept any tender, and to reject any or all tenders.

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

F. AWARD OF CONTRACT

42.0 Award criteria

The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

430 Notice of Intention to Enter into a Contract/Notification of Award

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

- a) the name and address of the Tenderer submitting the successful tender;
- b) the Contract price of the successful tender;
- c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;
- d) the expiry date of the Standstill Period; and
- e) instruction son how to request a debriefing and/ or submit a complaint during the stand still period;

440 Stand still Period

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

442 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter into a Contract with the successful Tenderer.

450 Debriefing by The Procuring Entity

451 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, 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.

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

46.0 Letter of Award

Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 42.1, upon addressing a complaint that has been filed with in 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.

470 Signing of Contract

471 Upon the expiry of the fourteen days of the Notification of Intention to enter in to contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

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

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

480 Performance Security

481 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, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.

- 482** Failure of the successful Tenderer to submit the above-mentioned Performance Security and other documents required in the **TDS** or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.
- 483** Performance security shall not be required for contracts estimated to cost less than the amount specified in the Regulations.

490 Publication of Procurement Contract

Within fourteen 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 readout at Tender opening.

50.0 Procurement related Complaint

The procedures for making Procurement-related Complaints are as specified in the **TDS**.

SECTION II - TENDER DATA SHEET

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

A. GENERAL	
ITT 1.1	<p>The name of the Contract is: PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE</p> <p>The reference number of the contract is; AUC / ONT / 05 / 001 / 22</p> <p>The number and identification of Lots (contracts) comprising this tender are: <i>Not applicable</i></p> <p>Lot 1 Name: _____</p> <p>Lot 2 Name: _____</p> <p>Lot...Name: _____</p>
ITT 2.3	<p>The information made available on competing firms is as follows:</p> <p>_____</p>
ITT 2.4	<p>The firms that provided consultancy services for the contract being tendered for are:</p> <p>STATE DEPARTMENT FOR PUBLIC WORKS, P.O.BOX 30743-00100 NAIROBI</p>
ITT 3.1	<p>The maximum number of members in a Joint Venture (JV) shall be: <i>Two (2)</i></p>

B. Contents of Tender Document	
ITT 7.1	<p>(i) The Tenderer will submit any request for clarifications in writing at the Address: <i>As indicated in the tender advertisement</i></p> <p>To reach the Procuring Entity not later than <i>as indicated in the tender advertisement</i></p> <p>(ii) The Procuring Entity shall publish its response at the website <i>as indicated in the tender advertisement</i></p>
ITT 7.2	<p>(A) A pre-arranged pretender site visit <i>[insert "shall" or "shall not"]</i> take place at the following date, time and place: <i>As indicated in the tender advertisement</i></p> <p>Date: _____</p> <p>Time: _____</p> <p>Place: _____</p> <p>(B) Pre-Tender meeting <i>[insert "shall" or "shall not"]</i> take place at the following date, time and place: <i>As indicated in the tender advertisement</i></p> <p>Date: -</p> <p>Time: _____</p> <p>Place: _</p>
ITT 7.3	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than <i>as indicated in the tender advertisement</i> before the meeting.
ITT 7.5	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is: <i>as indicated in the tender advertisement</i>
ITT 9.1	<p>For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:</p> <p>Name of Procuring Entity: <i>ALUPE UNIVERSITY COLLEGE</i></p> <p>(1) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) <i>As indicated in the tender advertisement</i></p> <p>(2) Postal Address <i>P.O. Box 845 – 50400, Busia</i></p> <p>(3) Insert name, telephone number and e-mail address of the officer to be contacted: <i>As indicated in the tender advertisement</i></p>
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: <i>The list of additional documents is as per the evaluation 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: <i>Not applicable</i>
ITT 14.5	The prices quoted by the Tenderer shall be: <i>Fixed</i>
ITT 15.2 (a)	Foreign currency requirements <i>not allowed.</i>
ITT 18.1	The Tender validity period shall be <i>One Hundred and Twenty Six (126)</i> days.
ITT 18.3	<p>(a) The Number of days beyond the expiry of the initial tender validity period will be <i>Thirty (30)</i> days.</p> <p>(b) The Tender price shall be adjusted by the following percentages of the tender price:</p> <p>(i) By <i>Not applicable %</i> the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and</p>

	(ii) By <u>Not applicable</u> % the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.
ITT 19.1	Tender shall provide a Tender Security. The type of Tender security shall be <i>Bank guarantee</i> in the amount of Kenya shillings Two Million Only (Ksh 2,000,000.00) in the prescribed format valid for 156 days from the tender opening date. Bidders will be required to submit an original tender security together with the tender document.
ITT 20.1	In addition to the original of the Tender, the number of copies is: One (1)
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of <u>Power of Attorney certified by a Commissioner of Oaths.</u>
D. Submission and Opening of Tenders	
ITT 22.1	(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is: (1) Name of Procuring Entity: ALUPE UNIVERSITY COLLEGE (2) Postal Address: P.O. Box 845 – 50400, Busia (3) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) As indicated in tender advertisement (4) Date and time for submission of Tenders: As indicated in tender advertisement (5) Tenders shall shall not submit tenders electronically.
ITT 25.1	The Tender opening shall take place at the time and the address for Opening of Tenders Provided below: As indicated in the tender advertisement (1) Name of Procuring Entity (2) Physical address for the location (City, Street, Building, Floor Number and Room) (3) State date and time of tender opening.
ITT 25.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below <i>[insert a description of the electronic Tender opening procedures]</i> :
ITT 25.5	The number of representatives of the Procuring Entity to sign is: As directed by procuring entity
E. Evaluation, and Comparison of Tenders	
ITT 30.3	The adjustment shall be based on the "average" 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 32.0	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 Kenya Shillings
ITT 33.2	A margin of preference shall not apply.
ITT 33.4	The invitation to tender is extended to the following group that qualify for Reservations Not applicable
ITT 34.1	At this time, the Procuring Entity does not intend to execute certain specific parts of the Works by subcontractors selected in advance.

ITT 34.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: 10 % <i>of the total contract amount</i> . Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.
ITT 34.3	<p>The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows:</p> <p><i>Mechanical Works</i></p> <p><i>Electrical Installation Works</i></p> <p>For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.</p>
ITT 35.2 (d)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 48.1	<p>Other documents required in addition to the Performance Security are:</p> <ol style="list-style-type: none"> 1. Program of Works / Progress Chart 2. The bidder shall, before signing of the contract, provide the following: <ol style="list-style-type: none"> a. Proof of registration with the National Construction Authority (NCA) category 1 – 4 under building with current annual contractors practicing license. b. A registered Structured Cabling & Electrical Works Contractor with a minimum NCA Category 1 - 4 and EPRA with current annual contractors practicing license. c. And a registered Mechanical works in buildings Contractor with minimum NCA Category 1 - 4, annual contractors practicing license, whom they shall engage as their domestic subcontractors.
ITT 48.2	Additional requirements are: Not applicable
ITT 49.1	<p>The procedures for making a Procurement-related Complaint are detailed in the "Notice of Intention to Award the Contract" herein and are also available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke.</p> <p>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: <u>As indicated in the tender advertisement</u></p> <p>For the attention: <i>[insert full name of person receiving complaints]</i> Title/position: <i>[insert title/position]</i> Procuring Entity: <i>[insert name of Procuring Entity]</i> Email address: <i>[insert email address]</i></p> <p>In summary, a Procurement-related Complaint may challenge any of the following (among others):</p> <ol style="list-style-type: none"> (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1.0 GENERAL PROVISIONS

- 10** This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity shall use the Standard Tender Evaluation Document for Goods and Works for evaluating Tenders.
- 11** Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:
- a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
 - b) Value of single contract - Exchange rate prevailing on the date of the contract signature.
 - (c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

12 EVALUATION AND CONTRACT AWARD CRITERIA

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.

2.0 PRELIMINARY EXAMINATION FOR DETERMINATION OF ESPONSIVENESS

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 in all aspects in meeting the requirements of “Part 2 – Procuring Entity's Works Requirements”, including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded. The Standard Tender Evaluation Report for Goods and Works for evaluating Tenders provides clear guidelines on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

EVALUATION AND QUALIFICATION CRITERIA

After tender opening, the tenders will be evaluated in 4 stages, namely:

1. Preliminary examination – in 2 stages.
 - (i) Stage i for Main Contractor
 - (ii) Stage ii for Domestic Sub- Contractors.
2. Detailed Technical Examination.
3. Financial Evaluation.
4. Recommendation for award
5. Post qualification: Due diligence

A. PRELIMINARY EVALUATION

i. STAGE 1; MAIN CONTRACTOR

This stage of evaluation shall involve examination of the pre-qualification conditions as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

ITEM NO.	MANDATORY REQUIREMENT (MR)	MUST SUBMIT(YES/NO)
MR 1	Must submit One Original copy of the Tender Document and one copy	YES
MR 2	Submit a copy of valid company's Certificate of Registration/ Incorporation	YES
MR 3	Provide copy of valid Tax Compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority	YES
MR 4	Must Submit a copy of CR12/CR13 from issued by the Registrar of companies (Not older than 12 Months)	YES
MR 5	Attach the current business permit/Trade License from the county government.	YES
MR 6	Copy of valid registration certificate issued by the National Construction Authority (NCA) as follows;- Main Works – NCA 1 - 4 The registration certificates Must be accompanied by Valid NCA practicing licenses. However, this will not be used as evaluation criteria but shall be a condition precedent to the signing of the contract.	YES
MR 7	Attach a duly filled, signed and stamped Form of Tender The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.	YES
	Tenderer's Eligibility-Confidential Business Questionnaire	YES
	Certificate of Independent Tender Determination	YES
	Self-Declaration of the Tenderer: - Form SD1 (Must be commissioned by a Commissioner for Oaths)	YES
	Self-Declaration of the Tenderer: - Form SD2 (Must be commissioned by a Commissioner for Oaths)	YES
MR 8	Self-Declaration of the Tenderer: - Form SD3 (Must be commissioned by a Commissioner for Oaths)	YES
	Valid tender security (Bid bond) in the amount of Kshs. 2,000,000.00 (Two Million) addressed and bound to the Procuring Entity, that is in the required format, amount, from a reputable bank or insurance company approved by public procurement Regulatory Authority and that is valid for 150 days from the date of tender opening	YES
MR 9	Submission of Original and Copy (all Volumes) in the format required by the procuring entity and all the tender document (all volumes) to be TAPE/BOOK or SPIRAL BOUND (Use of Spring or box files will not be accepted and will lead to automatic disqualification;	YES
MR 10	Tenderer must fill Form CON-2 Historical Contract Non-Performance and Pending Litigation.	YES
MR 11	The tenderer MUST submit his/her tender document as follows: - The tender must be downloaded as issued without altering the format-both original and the copy and shall be typed or written in indelible ink and be signed by an Authorized person	YES
	The Authorized person to sign the tender on behalf of the tenderer and must sign or initialized all the pages of the Tender where entries (i.e. all the forms, priced Bills of Quantities) or amendments have been made.	YES
	The entire/complete original and copy (including attachments) Must be serialized/paginated using a numbering machine or handwritten	YES
	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.	YES
MR 12	Tenderer must fill Form ELI-1 : -Tenderer Information Form and must attach copies of original documents of the below listed where applicable as instructed: - Articles of Incorporation (or equivalent documents of constitution or association), and or documents of registration of the legal entity named above, in accordance with ITT4.1.4	YES

ITEM NO.	MANDATORY REQUIREMENT (MR)	MUST SUBMIT(YES/NO)
	Include organizational chart, Board of Directors and Beneficial ownership	YES
	In case of JV, form of intent to form JV or JV agreement, in accordance with ITT 4.1.6	YES
	In case of state-owned enterprise or institution, in accordance with ITT 4.1.6 documents establishing	YES
MR 13	Power of attorney/ Authorization Letter duly signed (should be signed by directors appearing in CR12/13) or by the director of the firm with the highest shares, giving the name of person who has been authorized to submit/execute this agreement as a binding document and this person should sign all the documents related to this tender.	YES
MR 15	Main Contractor shall attach dully signed and stamped pre-contract agreement to work together with the Domestic Sub-Contractors Not Joint Venture if awarded the Tender (where Applicable). (The agreement should be signed by both parties for it to be valid)	YES

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

NB: Bidders who do not meet any of the above requirements will be disqualified and shall not be evaluated further

ii. STAGE 2; SPECIALIST SYB CONTRACTORS

The Main Contractor **MUST** team up with Qualified domestic Sub-Contractors registered by the necessary authorities and **MUST** meet/provide the requirements below for every service works where applicable:

ITEM NO.	Criteria
<u>ELECTRICAL & MECHANICAL INSTALLATION WORKS</u>	
1.	Must submit One Original copy of the Tender Document and one copy
2.	Certificate of Incorporation/Registration
3.	Attach the current business permit/Trade License from the county government.
4.	Current CR 12 for Incorporated Firms (Issued within the last 12 Months)
5.	Valid Tax Compliance / Exemption Certificate
6.	Copy of valid registration certificate issued by the National Construction Authority (NCA) as follows;- Mechanical Works – NCA 1 – 4 Electrical Works – NCA 1 – 4 Electrical Works – EPRA Certificate which is valid The registration certificates Must be accompanied by Valid NCA practicing licenses. However, this will not be used as evaluation criteria but shall be a condition precedent to the signing of the contract.
7.	Domestic Sub-contractors must sign and stamp the Summary Page of their respective Specialist Works on the Tender Document.
8.	The bidders shall be required to fill the technical schedule. Also Bidders are required to attach and submit relevant technical brochure/catalogue. Bidder MUST be in Compliance with Technical Specifications

ASSESSMENT OF THE BIDDER (OR JOINT VENTURES)

S/No.	Bidders	Builders Works	P & D	Electrical Works	Compliant/Not Compliant

Any bidder who is non-compliant in any of the above sub bids will not be evaluated further.

B: TECHNICAL EVALUATION

i) Evaluation of the Main Contractor Only

The award of points for the **STANDARD FORMS** considered in this section shall be as shown below:

PARAMETER MAXIMUM POINTS

No	Parameter	Maximum Points
(i)	Key personnel	20
(ii)	Contract Completed in the last Five (5) years	20
(iii)	Schedules of on-going projects	3
(iv)	Schedules of contractors equipment	20
(v)	Audited Financial Report for the last 3 years	15
(vi)	Evidence of Financial Resources	10
(vii)	Detailed Works Program and Methodology	5
(viii)	Site Organization Plan and construction safety plan	2
(ix)	Name, Address and Telephone of Banks (Contractor to provide	2
(x)	Litigation History	3
	TOTAL	100

Note:-

All evidence to be provided in the format provided by standard forms in this document; as the case may be.
The detailed scoring plans shall be as shown in table1 below:-

TABLE1: Assessment for Eligibility

Item	Description	Points			
		Main Contractor			
		Scored	Score /Item	Max. score	Total score
i.	Key Personnel (Attach evidence)				
	Director of the firm (Building, Civil, Electrical and Mechanical Engineering Construction Related Field) <ul style="list-style-type: none"> • Holder of degree in relevant Engineering field ----- • Holder of diploma in relevant Engineering field----- • Holder of certificate in relevant Engineering field----- • Holder of trade test certificate in relevant Engineering field----- • No relevant certificate----- 		5 3 1.5 0.75 0	5	20
	At least 3No. degree/diploma holder of key personnel in Building, Civil, Electrical and Mechanical Engineering Construction Related Field) <ul style="list-style-type: none"> • With over10 years relevant experience ----- • With over 5years relevant experience----- • With under 5years relevant experience ----- • No relevant certificate----- 		6 3 1.5 0	6	
	At least 3No certificate holder of key personnel in Building, Civil, Electrical and Mechanical Engineering Construction Related Field) <ul style="list-style-type: none"> • Withover10 years relevant experience----- • With over 5 years relevant experience----- • With under 5 years relevant experience----- • No relevant certificate----- 		6 3 1.5 0	6	
	At least 3No artisan(trade test certificate in relevant Engineering field) – (Building, Civil, Electrical and Mechanical Engineering Construction Related Field) . <ul style="list-style-type: none"> • Artisan withover10 years relevant experience ----- • Artisan with under 10 years relevant experience--- • Non skilled worker with over 10 years relevant experience-- • No relevant certificate----- 		3 1.5 0.75 0	3	
ii.	Contract completed in the last five (5) years (Max of 5No. Projects, 3 from Main Contractor and 1 No. each from each of the 2 Sub-Contract Works)- <u>Provide Evidence (Attach Award letter, Contract Agreement and/or Completion Certificate</u> <ul style="list-style-type: none"> • Project of similar nature, complexity or magnitude----- • Project of similar nature but of lower value than the one in consideration ----- • No completed project of similar nature ----- (Score per project times the number of projects)		4 2 0	20	20
iii.	On-going projects– <u>Provide Evidence (Award letter and/or Contract Agreement)</u> <ul style="list-style-type: none"> • No Project of similar nature, complexity and magnitude - (Attach Proof)----- • Two and below Projects of similar, nature complexity and magnitude ----- • Four and above Projects of similar nature, complexity and magnitude ----- 		3 2 1	3	3

Item	Description	Points			
		Main Contractor			
		Scored	Score /Item	Max. score	Total score
iv.	Schedule of contractors equipment and transport (proof or evidence of ownership/Lease) a) Relevant Transport(Tippers, pick- ups, lorries, trucks- atleast 2 no.) • Means of transport (Vehicles) ----- • No means of transport ----- Owned is 2marks each and leased 1 mark		100	10	20
	b) Relevant Tools and Equipment (Scaffolding, Concrete Mixers, Poker Vibrators, Grinders, Pressure vessel, Pressure testing machine) (at least5 no.) • Has relevant equipment for work being tendered----- • No relevant equipment for work being tendered----- Owned is 2marks each and leased 1 mark		100	10	
v.	Financial report (Main Contractor)				
	a) Average Annual Turnover (From Audited Accounts for the last 3 years -, (2019, 2020 and 2021) for Main Contractor only • Average Annual Turn-over equal to or greater than the cost of the project ----- • Average Annual Turn-over above 50% but below100%of the cost of the project ----- • Average Annual Turn-over below 50% of the cost of the project - ----- • No audited Financial Statements attached-----		15930	15	15
	b) Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc)- Bank/Creditors/Letters dated not earlier than January 2022) • Has financial resources to finance the projected monthly Cash flow *for three months----- • Has financial resources equal to the projected monthly cash flow*----- • Has financial resources less the projected monthly cash flow*-- ----- • Has not indicated sources of financial resources -----		107.550	10	10
vi.	A Detailed Works Program outlining the methodology of completing and delivering the contract works on or before expiry of the contract period • Resourced work program in the form of a Gantt chart prepared using MS project or similar computer software----- • A detailed Work Methodology----- • Mobilization Schedule----- • None of the Above -----		2210	5	5

Item	Description	Points			
		Main Contractor			
		Scored	Score /Item	Max. score	Total score
vii.	A Site Organization Plan and construction safety plan SPECIFIC to this Project <ul style="list-style-type: none"> • Site Organization Plan----- • Construction Safety Plan----- • None of the Above ----- 		2 1 0	2	2
viii.	Bank Details and letter of authorization to seek authority from the bank <ul style="list-style-type: none"> • Attached ----- • Not Attached----- 		2 0	2	2
ix.	Litigation History/Affidavit signed and Stamped by an Attorney/ Commissioner for Oaths <ul style="list-style-type: none"> • Has <i>NO</i> construction related litigation or arbitration in the last five years ----- • Has <i>Less than Three</i> construction related litigation or arbitration in the last five years ----- • Has <i>More than Three</i> construction related litigation or arbitration in the last five years ----- 		3 1 0	3	3
TOTAL				100	

Any bidder who scores 70 points and above shall be considered for further evaluation

Notes on evaluation

1. **Monthly Cash Flow = Tender Sum/Contract Period*

C. FINANCIAL EVALUATION

Upon completion of the technical evaluation a detailed financial evaluation for the bidder (and all their joint venture partners) shall follow.

(The financial evaluation shall proceed in the manner described in the Public Procurement and Disposal Act (2015) of the laws of Kenya and the Public Procurement and Disposal Regulations, 2020.

The evaluation shall be in three stages

- a) Determination of Arithmetic Errors for the bidder (and all their joint venture partners);
- b) Comparison of Rates for the bidder (and all their joint venture partners); and
- c) Consistency of the Rates for the bidder (and all their joint venture partners);

A) Determination of the Arithmetic Errors

Arithmetic Errors will be corrected by the Procuring Entity as follows:

- i) In the event of a discrepancy between the amount as stated in the form of Tender and the corrected tender figure in the Main summary of the Bills of Quantities, the amount as stated in the Form of tender shall prevail. Pursuant to Section 82 of the Public Procurement and Asset Disposal Act 2015, the tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity;
- ii) Error correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected contract works
- iii) The Error correction factor shall be applied to all contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuations of variations.

B) Comparison of rates for the bidder

Items that are underpriced or overpriced may indicate potential for non-delivery and front loading respectively. The committee shall promptly write to the tenderer asking for detailed breakdown of costs for any of the quoted items, relationship between those prices, proposed construction/installation methods and schedules.

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

- a) Recommend no adverse action to the tenderer after a convincing response;
- b) Employer requiring that the amount of the performance bond be raised at the expense of the successful tenderer to a level sufficient to protect the employer against potential financial losses;
- c) Recommend non-award based on the response provided and the available demonstrable evidence that the scope, quality, completion timing, administration of works to be undertaken by the tenderer, would adversely be affected or the rights of the employer or the tenderers obligations would be limited in a substantial way.

C) Consistency of the Rates

The evaluation committee will compare the consistency of rates for similar items and note all inconsistencies of the rates for similar items.

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

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

30 TENDER EVALUATION (ITT 35)

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

- (i) Alternative Completion Times, if permitted under ITT 13.2, will be evaluated as follows:
.....
- (ii) Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows:.....
- (iii) Other Criteria; if permitted under ITT 35.2(j):
.....

40 MULTIPLE CONTRACTS

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

OPTION 1

- (i) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.
- (ii) If a tenderer wins more than one Lot, the tender will be awarded a contract for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots. The tenderer will be awarded only the combinations for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION 2

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

5.0 ALTERNATIVE TENDERS (ITT 13.1)

An alternative if permitted under ITT 3.1, will be evaluated as follows:

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

60 MARGIN OF PREFERENCE

- 61** If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of the foreign tenderers, where the percentage of share holding of Kenyan citizens is less than fifty- one percent (51%).
- 62** Contractors 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.
- 63** After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:
 - i) *Group A:* tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
 - ii) *Group B:* tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

- 64** 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 of contract. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 6.1 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.

7. POST QUALIFICATION AND CONTRACT AWARD (ITT 39), 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 pre-qualification data, if so required.
- b) Incase the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.
 - i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings **25,000,000.00**.
 - ii) Minimum average annual construction turnover of Kenya Shillings **300,000,000.00**, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last **three (3)** years.
 - iii) Atleast **Three (3)** of contract(s) of a similar nature executed within Kenya, or the East African Community or a broad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings **80,000,000.00** equivalent.
 - iv) Contractor's Representative and Key Personnel, which are specified as

No.	Position	Qualification	Total Work Similar Experience (years)
1	Project Manager	Bachelor's degree in Architecture, Quantity Surveying, Construction Management or Equivalent	5
2	Site Agent	Higher Diploma in Building Construction or equivalent	5
3	Foremen	Certificate- Building Construction, Electrical, Mechanical	5
4	Artisan	Trade test certificate in relevant field	5

The Tenderer shall provide details of the Key Personnel and such other Key Personnel that the Tenderer considers appropriate, together with their academic qualifications and work experience. The Tenderer shall complete the relevant Forms in Section IV, Tendering Forms.

- v) Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as *[specify requirements for each lot as applicable]* _____
- vi) Other conditions depending on their seriousness.
 - a) **History of non-performing contracts:**

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

b) Pending Litigation

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

c) Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last **3 years**. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or on going under its execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

QUALIFICATION FORM SUMMARY – BIDDERS TO USE THE CRITERIA GIVEN IN NO.2 ABOVE IN CONJUNCTION WITH THE BELOW SUMMARY AND ALL THE TENDERING FORMS REFERRED HEREIN

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI - 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by Kenya Revenue Authority in accordance with ITT 3.14.	Attachment	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.8	Forms ELI - 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI - 1.1 and 1.2, with attachments	
7	History of Non-- Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1 st January 2018.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	FormCON-2	

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
10	Litigation History	No consistent history of court/arbitral award decisions against the tenderer since 1st January 2015	Form CON - 2	
11	Financial Capabilities	<p>(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings 25,000,000.00 equivalent for the subject contract(s) net of the Tenderer's other commitments.</p> <p>(ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.</p> <p>(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 three (3) years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.</p>	Form FIN - 3.1, with attachments	
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings 300,000,000.00 , equivalent calculated as total certified payments received for contracts in progress and/or completed within the last three (3) years , divided by three (3) years	Form FIN - 3.2	

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last three (3) years , starting 1st January 2019	4. Form EXP - 4.1 Experience	
14	Specific Construction & Contract Management Experience	<p>A minimum number of five (5) similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2016 and tender submission deadline i.e.</p> <p>.. .. (number) contracts, each of minimum value Kenya shillings 80,000,000.00 equivalent.</p> <p><i>[In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]</i></p> <p>The similarity of the contracts shall be based on the following: <i>[Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITT 34.3]</i></p>	Form EXP 4.2(a)	

SECTION IV - TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE

Pursuant to ITT 3.9, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of work item	Description of location of source	COST IN K.Shillings	Comments, If any
A	LOCAL LABOR			
1				
2				
3				
4				
5				
B	SUB CONTRACTS FROM LOCAL SOURCES			
1				
2				
3				
4				
5				
C	LOCAL MATERIALS			
1				
2				
3				
4				
5				
D	USE OF LOCAL PLANT AND EQUIPMENT			
1				
2				
3				
4				
5				
E	ADD ANY OTHER ITEM			
1				
2				
3				
4				
5				
6				
	TOTAL COST OF LOCAL CONTENT			
	PERCENTAGE OF CONTRACT PRICE			

2. **FORM EQU: EQUIPMENT**

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current	Current location	
	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 Tenderer.	
Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
2.	Title of position: [_____]	
	Name of candidate :	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
3.	Title of position: [_____]	
	Name of candidate :	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
4.	Title of position: [_____]	
	Name of candidate :	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
5.	Title of position: [insert title]	
	Name of candidate	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]

4. **FORM PER - 2:**

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

Name of Tenderer		
Position[#1]{title of position from Form PER-1}		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
Details	Address of Procuring Entity:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Jobtitle:	Years with present Procuring Entity:

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:

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

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

Signature: _____

Date: (day month year): _____

Counter signature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

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

51 FORM ELI -1.1

Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: <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"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Tenderer 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.

52 FORM ELI -1.2

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

Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6. <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 3.5. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

53 FORM CON –2**Historical Contract Non-Performance, Pending Litigation and Litigation History**

Tenderer's Name: _____ Date: _____

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

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
<input type="checkbox"/> Contract(s) withdrawn since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and Kenya Shilling 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 Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.			
<input type="checkbox"/> 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 (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
<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 (currency), Kenya Shilling Equivalent (exchange rate)
<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 "Procuring Entity" or "Contractor"]</i> Reason(s) for Litigation and award decision <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Include details relating to potential bid-rigging practices such as previous occasions where tenders were withdrawn, joint bids with competitors, subcontracting work to unsuccessful tenderers, etc.

5.4 FORM FIN – 3.1:

Financial Situation and Performance

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

5.4.1. Financial Data

Type of Financial information in _____ (currency)	Historic information for previous _____ years, _____ (amount in currency, currency, exchange rate*, USD equivalent)				
	Year1	Year2	Year 3	Year4	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					

**Refer to ITT 15 for the exchange rate*

542 Sources of Finance

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

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

543 Financial documents

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

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

☐ Attached are copies of financial statements¹ for the _____ years required above; and complying with the requirements.

¹If 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.

5.5 FORM FIN – 3.2:

Average Annual Construction Turnover

Tenderer's Name: _____

Date: _____

JV Member's Name: _____

ITT No. and title: _____

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

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

5.6 FORMFIN–3.3:

Financial Resources

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

Financial Resources		
No.	Source of financing	Amount (Kenya Shilling equivalent)
1		
2		
3		
4		

57 FORMFIN-3.4:

Current Contract Commitments / Works in Progress

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

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

58 FORM EXP -4.1

General Construction Experience

Tenderer's Name: _____ Date: _____

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

Page _____ of _____ pages

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

59 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name: _____

ITT No. and title: _____

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

510 FORM EXP - 4.2 (b)

Construction Experience in Key Activities

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

Sub-contractor's Name² (as per ITT 34): _____

ITT No. and title: _____

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

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"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	Kenya Shilling			
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1				
Year 2				
Year 3				
Year 4				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:				

²If applicable

OTHER FORMS

6. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

- 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 CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER attached to this Form of Tender.*
- iv) *The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.*
 - *Tenderer's Eligibility- Confidential Business Questionnaire*
 - *Certificate of Independent Tender Determination*
 - *Self-Declaration of the Tenderer*

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

for Tender No.: *[insert identification]* **Name and description of Tender** *[Insert as per ITT]*

Alternative No.: *[insert identification No if this is a Tender for an alternative]*

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

Dear Sirs,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct and complete the Works and remedy any defects there in for the sum³ of Kenya Shillings *[[Amount in figures]*_____ Kenya Shillings *[amount in words]*_____

The above amount includes foreign currency⁴ amount(s) of *[state figure or a percentage and currency]* *[figures]* _____ *[words]* _____

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

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Architect notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.
3. We agree to adhere by this tender until _____ *[Insert date]*, and it shall remain binding upon us and may be accepted at any time before that date.
4. We understand that you are not bound to accept the lowest or any tender you may receive.
5. We, the under signed, further declare that:
 - i) No reservations: We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
 - ii) Eligibility: We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
 - iii) Tender - Securing Declaration: We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;

- iv) **Conformity:** We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works]*;
- v) **Tender Price:** The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*
- vi) **Option 1,** incase of one lot: Total priceis: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]*; or
- Option2,** in case of multiple lots:
- (a) **Total price of each lot** *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and
- (b) **Total price of all lots** (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]*;
- vii) **Discounts:** The discounts offered and the methodology for their application are:
- viii) The discounts offered are: *[Specify in detail each discount offered.]*
- ix) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts]*;
- x) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- xi) **Performance Security:** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
- xii) **One Tender Per Tender:** We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a sub-contractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;
- xiii) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, Engineer, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.
- xiv) **State-owned enterprise or institution:** *[select the appropriate option and delete the other]* *[We are not a state-owned enterprise or institution]/[We are a state-owned enterprise or institution but meet the requirements of ITT 3.8]*;
- xv) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*.

Name of Recipient	Address	Reason	Amount

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

³This sum should be carried forward from the Summary of the Bills of Quantities.

⁴The percentage quoted above should not include provisional sums, and not more than two foreign currencies are allowed.

- xvi) **Binding Contract:** We understand that this Tender, together with your written acceptance there of included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- xvii) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- xviii) **Fraud and Corruption:** We here by 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; and
- xix) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent Tender Determination” attached below.
- xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from _____ (*specify website*) during the procurement process and the execution of any resulting contract.
- xxi) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:
 - a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are not in any conflict of interest.
 - (b) Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.
 - (a) Self-Declaration of the Tenderer - to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - (d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

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

Name of the Tenderer: *[insert complete name of person signing the Tender]

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: **[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]

Dated signed _____ day of _____, _____

Notes

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

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

(a) **TENDERER'S ELIGIBILITY-CONFIDENTIAL BUSINESS QUESTIONNAIRE**

Instruction to Tenderer

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

(a) Tenderer's details

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

General and Specific Details

(b) Sole Proprietor, provide the following details.

Name in full _____ Age _____
Nationality _____ Country of Origin _____
Citizenship _____

(c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

(d) 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.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

(e) 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.

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

(ii) **Conflict of interest disclosure**

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

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)

b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to the _____

_____ [Name of Procuring Entity] for:
_____ [Name and number of tender] 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 _____
Title _____
Date _____

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

(c) **SELF- DECLARATION FORMS**

FORM SD1

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/Direct or 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 here in above is true to the best of my knowledge, information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

Bidder Official Stamp

FORM SD2

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

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

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of
(insert name of the Company) who is a Bidder in respect of **Tender No.**..... for
..... (*insert tender title/description*) for (*insert name of the Procuring entity*) and
duly authorized and competent to make this statement.
2. THAT theafore said Bidder, its servants and/oragents/subcontractorswillnotengageinanycorruptorfraudulent
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 here in above is true to the best of my knowledge information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

I do here by 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.....

(d) 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

- 2.1 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.

- 2.2 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 as set 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 in to, take part in any decision relating to the procurement or contract; and
 - c) shall not be a subcontractor or for the tender to whom was awarded contract, or a member of the group of tenderers 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 direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

3. In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

- a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
- i) “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; “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;
 - iv) “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 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.

¹For the avoidance of doubt, a party's in eligibility 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.

²Inspections 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.

2. FORM OF TENDER SECURITY-DEMAND BANK GUARANTEE

Beneficiary: _____

Request for Tenders No: _____

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

1. We have been informed that _____ (here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of _____ under Request for Tenders No. _____ ("the ITT").
2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.
3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:
 - (a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or
 - b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.
4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[signature(s)]

4. FORM OF TENDER SECURITY (TENDER BOND)

[The Surety shall fill in this Tender Bond Form in accordance with the instructions

indicated.] BOND NO. _____

1. BY THIS BOND *[name of tenderer]* as Principal (hereinafter called “the Principal”), and *[name, legal title, and address of surety]*, **authorized to transact business in** *[name of country of Purchaser]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[name of Purchaser]* as Obligee (hereinafter called “the Purchaser”) in the sum of *[amount of Bond]* *[amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and as signs, jointly and severally, firmly by these presents.
2. WHERE AS the Principal has submitted or will submit a written Tender to the Purchaser dated the _____ day of _____, 20, for the supply of *[name of Contract]* (herein after called the “Tender”).
3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:
 - a) Has with drawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender (“the Tender Validity Period”), or any extension there to provided by the Principal; or
 - b) Having been notified of the acceptance of its Tender by the Purchaser during the Tender Validity Period or any extension there to provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers (“ITT”) of the Purchaser's Tendering document.then the Surety undertakes to immediately pay to the Purchaser up to the above amount upon receipt of the Purchaser's first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser shall state that the demand arises from the occurrence of any of the above events, specifying which event (s) has occurred.
4. The Surety here by agrees that its obligation will remain in full force and effect upto and including the date 30 days after the date of expiration of the Tender Validity Period set forth in the Principal's Letter of Tender or any extension thereto provided by the Principal.
5. IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this day of _____ 20.

Principal: _____
Corporate Seal (*where appropriate*)

Surety: _____

(Signature)
(Printed name and title)

(Signature)
(Printed name and title)

4. FORM OF TENDER - SECURING DECLARATION

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

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

Tender No.: *[insert number of tendering process]*

To: *[insert complete name of Purchaser]* I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.
2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation(s) under the bid conditions, because we—(a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.
3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
 - a) Our receipt of a copy of your notification of the name of the successful Tenderer; or
 - b) thirty days after the expiration of our Tender.
4. I/We understand that if I am /we are/ in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

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

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

Dated on day of, *[Insert date of signing]* Seal or stamp

5. Appendix to Tender

Schedule of Currency requirements

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 _____	[To be entered by the Procuring Entity]

PART II - WORKS REQUIREMENTS

SECTION V - BILLS OF QUANTITIES

A. Notes and Sample Items for Preparing a Bill of Quantities

1. These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Tender Documents. Priced Bills of Quantities shall be part and parcel of the Contract Documents.
2. The objectives and purpose of the Bills of Quantities are to provide sufficient information on the specifications, descriptions and quantities of Works to be performed to enable tenders to be prepared efficiently and accurately and when a contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed. In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and clear as possible.
3. The Bills of Quantities should be divided generally into the following sections:
 - a) Preambles
 - b) Preliminary items
 - c) Work Items
 - d) Daywork Schedule; and
 - e) Provisional items
 - f) Summary.

4. NOTES TO PREPARING PREAMBLES

- 4.1 The Preambles should include only those items that constitute the cost of the works but would not be priced separately as they are expected to be included in the unit prices. Care should be taken to ensure that these items are not a repetition of the conditions of contract. The Preambles should indicate the inclusiveness of the unit prices and should state the methods of measurement that have been adopted in the preparation of the Bill of Quantities, that are to be used for the measurement of any part of the Works. The units of measurement and abbreviations should be defined and any mandatory national units defined and described. The methods of and procedure for re-measurement should be described in the Preambles.
- 4.2 Units of Measurement - The following units of measurement and abbreviations shall be used, unless other national units are mandatory in Kenya.

Unit	Abbreviation	Unit	Abbreviation
cubic meter	m ³ or cu m	millimetre	mm

- 4.3 The Bills of Quantities shall be read in conjunction with the Instructions to Tenders, General and Special Conditions of Contract, Technical Specifications, and Drawings.
- 4.4 The quantities given in the Bills of Quantities are estimated and partly provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Architect and valued at the rates and prices tendered in the priced

Bills of Quantities, where applicable, and otherwise at such rates and prices as the Architect may fix within the terms of the Contract.

45. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
46. 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.
47. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
48. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documents shall be made before entering prices against each item in the priced Bills of Quantities.
49. Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Architect in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions of contract.
410. In preparing the Bills of Quantities, notes should be removed as they are intended to guide the person preparing the Tender Documents. The Contractor must allow in his rates for any costs associated with and complying with the requirements in the Preambles.
411. Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the item or items will be executed without any additional costs or without being treated like variations.

5. NOTES ON PREPARING BILLS OF QUANTITIES

51. The Preliminary Items should be limited to tangible items that should be priced by the tenderer, are identifiable and can be priced separately and included in the interim valuations precisely. Such items may include such items as site office, notice boards, and other temporary works, otherwise items such as security for the Works which are primarily part of the Contractor's obligations should be included in the Contractor's rates.
52. The work items in the Bills of Quantities should be grouped into sections to distinguish between those parts of the Works which by nature, location, access, timing, or any other special characteristics may give rise to different methods of construction, or phasing of the Works, or considerations of cost. Such groups could be ground excavations, structures, external works, services, etc. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.
53. Quantities should be computed net from the Drawings, unless directed otherwise in the Contract, and no allowance should be made for bulking, shrinkage or waste. Quantities should be rounded up where appropriate.
54. Where the measured items are deemed not to be exact because of the likelihood that the scope can change during the execution of the works, such items could be subject to re-measurement, the word “**provisional**” should be used to identify such cases. Where whole sections of the work items fall in this class, for example foundations, they should be labelled “Provisional Quantities” or “Provisional Items” so that the Tenderer/Contractor is advised up front that such items are subject to re-measurement to be done before such work is cover-up.
55. All items that have not been measured and therefore not subject to tender pricing should be listed in the Bills of Quantities as **Provisional Sums** for particular item or class of Work, which may be subject to a nominated subcontract or separate measurements at a later date during the execution of the works. For example, if it is deemed not possible to measure electrical works before going to tender because detail designs are not ready, a provisional sum can be allowed in the Bills of Quantities for “Installation of Electrical Works” to be executed later when actual design details are completed. To the extent not covered above, there should be in the Bills of Quantities a general provision for physical and financial contingencies made as a “Provisional Sum for

Contingencies” and “Provisional Sum for Fluctuations”. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises.

- 5.6 Provisional sums to cover specialized works normally carried out by Nominated Sub Contractors should be avoided and instead Bills of Quantities of the specialized Works should be included as a section of the main Bills of Quantities to be priced by the Main Contractor. The Main Contractor should be required to indicate the name(s) of the specialized firms he proposes to engage to carry out the specialized Works as his approved domestic sub-contractors. Only provisional sums to cover specialized Works by statutory authorities should be included in the Bills of Quantities.
- 5.7 A Daywork Schedule should be included if the probability of unforeseen work, outside the items included in the Bill of Quantities, is relatively high. To facilitate checking by the Procuring Entity of the realism of rates quoted by the tenderers, the Daywork Schedule should normally comprise:
- i) A list of the various classes of labor, and materials for which basic.
 - ii) Daywork rates and prices for various categories of labor are to be inserted by the tenderer, together with a statement of the conditions under which the Contractor will be paid for Work executed on a Daywork basis.
 - iii) A percent to be entered by the tenderer against each basic Day work item.
 - iv) Subtotal amount for labor, materials and plant representing the Contractor's profit, overheads, supervision and other charges.
- 5.8 The Summary should contain a tabulation of the separate parts of the Bills of Quantities carried forward, with provisional sums for Daywork, Provisional sums and Contingencies, and provision for Total Costing. The last line should allow for tenderer to indicate any discounts before arriving at a total cost carried forward to the Form of Tender.

BILLS OF QUANTITIES

(a) Preambles

1. The method of measurement of completed work for payment shall be in accordance with *[insert the name of a standard reference guide, or full details of the methods to be used]*.
2. The Site is situated in *(provide full description where the site is situated, coordinates from the nearest known landmark like a town and its size)*_____It is approximately_____Kilometers from Nairobi. Access to the site shall be through_____.

Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.

3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.
4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entity or Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.
5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.
6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.
7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub- Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.
9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.
10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progression all important items of each section or portion of the Works.
11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer. The Photographs shall provide a record of the Site and adjacent areas as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.

12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub-Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.
13. Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, waterpipes or other services in the area and he shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging if necessary, to locate precisely the position and details of the services which are likely to affect his operations.
14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.
15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.
16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.
17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub-contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.
18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.
19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Engineer.
20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard-rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.
21. The area as available to the Contractor for workyards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractor shall source them at own cost.
22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.
23. The Contractor must take steps necessary to safeguard and shall be held fully responsible for any damage caused to existing and adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.

24. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.
25. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up of his rates.
26. The Contractor shall provide temporary sheds, offices meshrooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
27. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.
28. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.
29. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.
30. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
31. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
32. The Contractor shall take all necessary precautions such as temporaryf encing, hoarding fans, planked footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.
33. Cover up all and protect from damage, including damage from in clement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion ofthe Contract.
34. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken toleavecleanallfloors and windows and tore move all paint and cement all rubbis hand dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.
35. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
36. The Contractors hall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedurf or submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer.The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.

37. The Contractor's attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments exceeding Kshs..... for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.
38. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.
39. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to over see the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6th June 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.
40. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT 1.19 as instructed elsewhere.
41. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

BILL NO. 1 - PRELIMINARY ITEMS

ITEM No.	DESCRIPTION	AMOUNT
1.	<p>The Contractor shall provide, or erect and maintain an approved lock-up office for the sole use of the Architect and his own site staff. The office, which will have a total floor area of not less than.....square metres, will be divided into two separate interconnected offices. Services to be provided shall include a telephone, water sanitary and electrical supply and drainage. The offices shall be supplied with furniture and equipment that shall include:</p> <p>4 No. desks with chairs; 1 No. large table with sufficient number of chairs; drawing table along the full length of one side with plan drawers and drawing stools; 4 No. waste paper baskets; sufficient number of pin boards; and any additional furniture and fittings as may reasonably be required during the Contract period. The Contractor shall provide the Architect and site staff with computer sets or laptops, printers and telephones all that are necessary for project use.</p> <p>The office furniture and equipment shall all be to the approval of the Engineer. The Contractor shall also provide all labor, equipment and consumable stores equipment throughout the currency of the contract.</p>	
2	[OPTIONAL] Contractor shall provide a house for Engineers site agent, which shall be one bedroomed temporary house with a sitting room, toilet, bathroom and a kitchen complete with electrical and sanitary installations and provide maintenance and paying of bills of water and electricity up to and including end of the contract period.	
3	Provide a signboard notless than_____square meters in size of a design type, and with lettering and coloring and in a position approved by the Engineer. The signboard shall be for the display of the Main Contractor's name and the names of all his Sub-Contractors, with the Procuring Entity's name painted thereon. All Consultants names be printed in letters not exceeding 50 mm high. No other signboard or advertising shall be allowed. The signboard shall be fully maintained during the Contract Period and shall be pulled down and removed at the end of the contract.	
4	Add others (if any)	
5		
6		
TOTAL CARRIED TO GRAND SUMMARY		

BILL NO. 2: WORK ITEMS

(organized appropriately into work sections, such as foundations, walls/structure, finishes, doors and windows, mechanical installations. etc.

Bill No 2 - (Name of Section e.g. Foundations).

<i>Itemno.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
Total for Bill No. 2 (carried forward to Summary, p.____)					

Bill No. 3: Schedule of Daywork Rates - Labor

<i>Itemno.</i>	<i>Description</i>	<i>Unit</i>	<i>Nominal quantity</i>	<i>Rate</i>	<i>Amount</i>
	Subtotal				
	Allow ____ percent ^a of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above.				

a. To be entered by the Tenderer.

Bill No. 4: Schedule of Daywork Rates - Materials

[illegible]

a. To be entered by the Tenderer.

Bill No. 5: Schedule of Daywork Rates - Contractor's Equipment

<i>Itemno.</i>	<i>Description</i>	<i>Nominal quantity (hours)</i>	<i>Basic hourly rental rate</i>	<i>Extended amount</i>
	Allow ____ percent ^a of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 5 above.			
Total for Daywork: Contractor's Equipment (carried forward to Daywork Summary, p. ____)				

a. To be entered by the Tenderer.

Bill No. 6: Daywork Summary

	<i>Amount^a</i>	<i>% Foreign</i>	<i>Currency</i>
1.Total for Daywork:Labor			
2.Total for Daywork:Materials			
3.Total for Daywork:Contractor's Equipment			
Total for Daywork (Provisional Sum) (carried forward to Summary of Bills of Quantities, p. ____)			

Bill No. 7: Provisional Sums

<i>Billno.</i>	<i>Itemno.</i>	<i>Description</i>	<i>Amount</i>
1			
2			
3			
4			
etc.			
Total for Specified Provisional Sums (carried forward to Grand Summary)			

GRAND SUMMARY

SUMMARY ITEMS	<i>Page</i>	<i>Amount</i>
BillNo.1:Preliminary Items		
BillNo.2:Work Items		
Bill No 3: Daywork Summary		
Bill No 4: Provisional Sums		
Subtotal of Bills No 1-4		
Allow for any Discounts ⁱ		
TOTAL TENDER PRICE Carried forward to Form of Tender		

(i) If a percentage used, it should be indicated on which Bill No. items but on Bill No.4 – Provisional Sums.

SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

1. Specifications must be drafted to present a clear and precise statement of the required standards of materials, and workmanship for tenderers to respond realistically and competitively to the requirements of the Procuring Entity and ensure responsiveness of tenders. The Specifications should require that all materials, plant, and other supplies to be permanently incorporated in the Works be new, unused, of the most recent or current models, and incorporating all recent improvements in design and materials unless provided otherwise in the Contract. Where the Contractor is responsible for the design of any part of the permanent Works, the extent of his obligations must be stated.
2. Specifications from previous similar projects are useful and may not be necessary to re-write specifications for every Works Contract.
3. There are considerable advantages in standardizing **General Specifications** for repetitive Works in recognized public sectors, such as high ways, urban housing, irrigation and water supply. The General Specifications should cover all classes of workmanship, materials and equipment commonly involved in constructions, although not necessarily to be used in a particular works contract. Deletions or addenda should then adapt the General Specifications to the particular Works.
4. Care must be taken in drafting Specifications to ensure they are not restrictive. In the Specifications of standards for materials, plant and workmanship, existing Kenya Standards should be used as much as possible, otherwise recognized international standards may also be used.
5. The Procuring Entity should decide whether technical solutions to specified parts of the Works are to be permitted. Alternatives are appropriate in cases where obvious (and potentially less costly) alternatives are possible to the technical solutions indicated in tender documents for certain elements of the Works, taking into consideration the comparative specialized advantage of potential tenderers.
6. The Procuring Entity should provide a description of the selected parts of the Works with appropriate reference to Drawings, Specifications, Bills of Quantities, and Design or Performance criteria, stating that the alternative solutions shall be at least structurally and functionally equivalent to the basic design parameters and Specifications.
7. Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details. Technical alternatives permitted in this manner shall be considered by the Procuring Entity each on its own merits and independently of whether the tenderer has priced the item as described in the Procuring Entity's design included with the tender documents.

SECTION VII - DRAWINGS

Note A list of drawings should be inserted here. The actual drawings including Site plans should be annexed in a separate booklet.

PART III - THE CONDITIONS OF CONTRACT AND CONTRACT

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

[Name of Procuring Entity]

[Name of Contract]

[Architect Name and Address]

General Conditions of Contract

1 GENERAL PROVISIONS

1.1 Definitions

In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated below. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

“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.

“Base Date” means a date 30 day prior to the submission of tenders.

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

“Completion Date” means the date of completion of the Works as certified by the Engineer.

“Contract Price” means the price defined in the contract and there after as adjusted in accordance with the provisions of the Contract.

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

“Contractor's Documents” means the calculations, computer programs and other software, progress reports, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

“Contractor's Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Procuring Entity's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

“Contractor's Personnel” means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labor and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

“Contractor's Representative” means the person named by the Contractor in the Contractor appointed from time to time by the Contractor who acts on behalf of the Contractor.

“Contractor” means the person(s) named as contractor in the Form of Tender accepted by the Procuring Entity.

“Cost” means 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.

“Day” means a calendar day and **“year”** means 365 days.

“Dayworks” means Work inputs subject to payment on a time basis for labour and the associated materials and plant.

“Defect” means any part of the Works not completed in accordance with the Contract.

“Defects Liability Certificate” means the certificate issued by Architect upon correction of defects by the Contractor.

“Defects Liability Period” means the period named in the Special Conditions of Contract and calculated from the Completion Date, within which the contractor is liable for any defects that may develop in the handed over works.

“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 the days stated in the Special Conditions of Contract.

“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 Procuring Entity in accordance with the Contract.

“Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

“Final Statement” means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

“Force Majeure” is defined in Clause 19 [Force Majeure].

“Foreign Currency” means a currency of another country (not Kenya) in which part (or all) of the Contract Price is payable, but not the Local Currency.

“Goods” means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

“Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

“Laws” means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.

“Letter of Acceptance” means the letter of formal acceptance of a tender, signed by Procuring Entity, including any annexed memoranda comprising agreements between and signed by both Parties.

“Local Currency” means the currency of Kenya.

“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.

“Notice of Dissatisfaction” means the notice given by either Party to the other under Sub-Clause 20.3 indicating its dissatisfaction and intention to commence arbitration.

“Special Conditions of Contract” means the pages completed by the Procuring Entity entitled Special Conditions of Contract which constitute Part A of the Special Conditions.

“Party” means the Procuring Entity or the Contractor, as the context requires.

“Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].

“Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

“Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].

“Permanent Works” means the permanent works to be executed by the Contractor under the Contract.

“Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Procuring Entity and relating to the construction or operation of the Works.

“Procuring Entity's Equipment” means the apparatus, machinery and vehicles (if any) made available by the

Procuring Entity for the use of the Contract or in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Procuring Entity.

“Procuring Entity's Personnel” means the Engineer, the Engineer, the assistants and all other staff, labor and other employees of the Architect and of the Procuring Entity; and any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as Procuring Entity's Personnel.

“Procuring Entity” means the Entity named in the Special Conditions of Contract.

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

“Engineer” means the person appointed by the Procuring Entity to act as the Architect for the purposes of the Contract and named in the Special Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor

“Provisional Sum” means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

“Retention Money” means the accumulated retention moneys which the Procuring Entity retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

“Schedules” means the document(s) entitled schedules, completed by the Contractor and submitted with the Form of Tender, as included in the Contract.

“Section” means a part of the Works specified in the Special Conditions of Contract as a Section (if any)

“Site Investigation Reports” are those reports that may be included in the tendering documents which a ref actual and interpretative about the surface and sub-surface condition sat the Site.

“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.

“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.

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

“Statement” means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

“Subcontractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works.

“Taking-Over Certificate” means a certificate issued under Clause 10 [Procuring Entity's Taking Over].

“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.

“Temporary works” means works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

“Tender” means the Form of Tender and all other documents which the Contractor submitted with the Form of Tender, as included in the Contract.

“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 Procuring Entity.

“Tests on Completion” means the tests which are specified in the Contract 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 Procuring Entity.

“Time for Completion” means the time for completing the Works or a Section (as the case may be) as stated in the Special Conditions of Contract (with any extension calculated from the Commencement Date.

“Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.

“Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

“Works” means the items the Procuring Entity requires the Contractor to undertake as defined in the Appendix to Conditions of Contract. **“Works” may** also mean the Permanent Works and the Temporary Works, or either of them as appropriate.

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

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

1.3 Communications

1.3.1 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 Special Conditions of Contract; and
- b) delivered, sent, or transmitted to the address or the recipient's communications as stated in the Special Conditions of Contract. 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.

1.3.2 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 Architect or the other Party, as the case may be.

1.4 Law and Language

1.4.1 The Contract shall be governed by the laws of **Kenya**.

1.4.2 The ruling language of the Contract shall be **English**.

1.5 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) The Contract Agreement,
- b) The Letter of Acceptance,
- c) The Special Conditions – Part A,
- d) the Special Conditions – Part B
- e) the General Conditions of Contract
- f) the Form of Tender,
- g) the Specifications and Bills of Quantities
- h) the Drawings, and
- i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Architect shall issue any necessary clarification or instruction.

1.6 Contract Agreement

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Contract Agreement, unless the Special Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Special 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 Procuring Entity.

1.7 Assignment

The Contractor shall not assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, the contractor:

- a) May assign the whole or any part with the prior consent of the Procuring Entity, and
- b) may, as security in favor of a bank or financial institution, assign its right to moneys due, or to become due, under the Contract.

1.8 Care and Supply of Documents

- 1.8.1 The Specifications and Drawings shall be in the custody and care of the Procuring Entity. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawings and Bills of Quantities shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 1.8.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.
- 1.8.3 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 Procuring Entity's Personnel shall have the right of access to all these documents at all reasonable times.
- 1.8.4 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 Timely provision of Drawings or Instructions

- 1.9.1 The Contractor shall give notice to the Architect 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.
- 1.9.2 If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Architect 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 Architect 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 other associated costs accrued, which shall be included in the Contract Price.

1.93 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

1.94 However, if and to the extent that the Architect 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, or costs accrued.

1.10 Procuring Entity's Use of Contractor's Documents

1.10.1 As agreed 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.

1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

1.10.3 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 Procuring Entity for purposes other than those permitted under Sub-Clause 1.10.2.

1.11 Contractor's Use of Procuring Entity's Documents

As agreed between the Parties, the Procuring Entity shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Procuring Entity. 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 Procuring Entity'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

1.12.1 The Contractor's and the Procuring Entity's Personnel shall ensure confidentiality at all times. The confidentiality shall survive termination or completion of the contract. They shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

1.12.2 The Contractor's and the Procuring Entity's Personnel shall also 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 Special Conditions of Contract:

- a) The Procuring Entity 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 Specifications as having been (or to be) obtained by the Procuring Entity; and the Procuring Entity shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Procuring Entity 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 Procuring Entity for the performance of the Contract;
- b) these persons shall notify the Procuring Entity 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 Procuring Entity.

1.15 Inspections and Audit by the Procuring Entity

Pursuant to paragraph 2.2(e). of Appendix B to the General Conditions, the Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Public Procurement Regulatory Authority, Procuring Entity and/or persons appointed or designated by the Government of Kenya to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Procuring Entity if requested by the Procuring Entity. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 15.6 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Procuring Entity's prevailing sanctions procedures).

2 THE PROCURING ENTITY

2.1 Right of Access to the Site

- 2.1.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Special Conditions of Contract**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Procuring Entity is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Procuring Entity shall do so in the time and manner stated in the Specification. However, the Procuring Entity may withhold any such right or possession until the Performance Security has been received.
- 2.1.2 If no such time is stated in the Special Conditions of Contract, the Procuring Entity 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].
- 2.1.3 If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Procuring Entity to give any such right or possession within such time, the Contractor shall give notice to the Architect 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.
- 2.1.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 2.1.5 However, if and to the extent that the Procuring Entity'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.

22 Permits, Licenses or Approvals

22.1 The Procuring Entity 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 Kenya which are relevant to the Contract but are not readily available, and
- b) any permits, licenses or approvals required by the Laws of Kenya:
 - 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.

23 Procuring Entity's Personnel

The Procuring Entity shall be responsible for ensuring that the Procuring Entity's Personnel and the Procuring Entity'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].

24 Procuring Entity's Financial Arrangements

The Procuring Entity shall make and maintain all necessary financial arrangements which will enable the Procuring Entity to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment].

3 THE ENGINEER

3.1 Architect Duties and Authority

3.1.1 The Procuring Entity shall appoint the Architect who shall carry out the duties as signed to him in the Contract. The Architect staff shall include suitably qualified Assistants and other professionals who are competent to carry out these duties. The Architect Name and Address shall be provided in the **Special Conditions of Contract**.

3.1.2 The Architect shall have no authority to amend the Contract.

3.1.3 The Architect May exercise the authority attributable to the Architect as specified in or necessarily to be implied from the Contract. If the Architect is required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the **Special Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

3.1.4 However, whenever the Architect exercises a specified authority for which the Procuring Entity's approval is required, then (for the purposes of the Contract) the contractor shall require the Architect to provide evidence of such approval before complying with the instruction.

3.1.5 Except as otherwise stated in these Conditions:

- a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Architect shall be deemed to act for the Procuring Entity;
- b) the Architect 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 Architect (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
- d) any act by the Architect in response to a Contractor's request shall be notified in writing to the Contractor within 14 days of receipt.

3.1.6 The following provisions shall apply:

The Architect shall obtain the specific approval of the Procuring Entity before taking action under the following Sub-Clauses of these Conditions:

- a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
- b) Sub-Clause 13.1: instructing a Variation, except;
 - i) In an emergency situation as determined by the Engineer, or
 - ii) If such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the **Special Conditions of Contract**.
- c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.
- d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable three currencies.

3.1.7 Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the 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 forth with comply, despite the absence of approval of the Procuring Entity, with any such instruction of the Engineer. The Architect shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Procuring Entity.

32 Delegation by the Engineer

3.2.1 The Architect 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 Architect shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

3.2.2 Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- a) Any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Architect 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.

33 Instructions of the Engineer

3.3.1 The Architect may issue to the Contractor (at anytime) 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 Clause 3.2.1.

3.3.2 The Contractor shall comply with the instructions given by the Architect or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Architect 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 Architect or delegated assistant (as the case may be).

34 Replacement of the Engineer

If the Procuring Entity intends to replace the Engineer, the Procuring Entity shall, in 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 person to replace the Engineer.

35 Determinations

- 3.5.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Architect shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Architect shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.
- 3.5.1 The Architect shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4 THE CONTRACTOR

4.1 Contractor's General Obligations

- 4.1.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Architect instructions, and shall remedy any defects in the Works.
- 4.1.2 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.
- 4.1.3 All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country.
- 4.1.4 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.
- 4.1.5 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.
- 4.1.6 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Special Conditions:
 - a) The Contractor shall submit to the Architect 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 Architect 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 Architect the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the

Specification and in sufficient detail for the Procuring Entity 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.

42 Performance Security

- 42.1 The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **Special Conditions of Contract** and denominated in the currency (ies) of the Contract or in a freely convertible currency acceptable to the Procuring Entity. If an amount is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.
- 42.2 The Contractor shall deliver the Performance Security to the Procuring Entity within 30 days after receiving the Notification of Award and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the Special Conditions, as stipulated by the Procuring Entity in the Special Conditions of Contract, or in another form approved by the Procuring Entity.
- 42.3 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.
- 42.4 The Procuring Entity shall not make a claim under the Performance Security, except for amounts to which the Procuring Entity is entitled under the Contract.
- 42.5 The Procuring Entity 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 Procuring Entity was not entitled to make the claim.
- 42.6 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 42.7 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Architect determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Architect request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

43 Contractor's Representative

- 43.1 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. The Contractor's Representative's Name and Address shall be provided in the **Special Conditions of Contract**.
- 43.2 Unless the Contractor's Representative **is named in the Contract**, the Contractor shall, prior to the Commencement Date, submit to the Architect 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 an other suitable person for such appointment.
- 43.3 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 43.4 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 Architect prior consent, and the Architect shall be notified accordingly.
- 43.5 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

- 436 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 Architect has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.
- 437 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 interpreter available during all working hours in a number deemed sufficient by the Engineer.

44 Sub-contractors

- 441 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.
- 442 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were acts or defaults of the Contractor. Unless otherwise stated in the Special 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 Procuring Entity shall be obtained to other proposed Subcontractors;
 - c) the Contractor shall give the Procuring Entity not less than 14 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 Procuring Entity to require the subcontract to be assigned to the Procuring Entity 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 Procuring Entity].
- 443 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.
- 444 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

45 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 Procuring Entity, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Procuring Entity for the work carried out by the Subcontractor after the assignment takes effect.

46 Co-operation

- 461 The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:
- a) The Procuring Entity's Personnel,
 - b) Any other contractors employed by the Procuring Entity, 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.
- 462 Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or 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.
- 463 If, under the Contract, the Procuring Entity 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 Architect in the time and manner stated in the Specification.

47 Setting Out of the Works

- 4.7.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract 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.
- 4.7.2 The Procuring Entity 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.
- 4.7.3 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 Architect 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 costs accrued, which shall be included in the Contract Price.
- 4.7.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this.

48 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 [Procuring Entity's Taking Over], and
- e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

49 Quality Assurance

- 4.9.1 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 Architect shall be entitled to audit any aspect of the system.
- 4.9.2 Details of all procedures and compliance documents shall be submitted to the Architect before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor itself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

4.10 Site Data

- 4.10.1 The Procuring Entity shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Procuring Entity's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Procuring Entity shall similarly make available to the Contractor all such data which come into the Procuring Entity's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
- 4.10.2 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 Kenya, 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

4.11.1 The Contractor shall be deemed to:

- a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
- b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

4.11.2 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

4.12.1 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.

4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Architect as soon as practicable.

4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Architect 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 Architect may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

4.12.4 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.

4.12.5 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Architect 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.

4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Architect 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.

- 4.12.7 The Architect 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 Procuring Entity 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

- 4.14.1 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 foot paths, irrespective of whether they are public or in the possession of the Procuring Entity or of others.
- 4.14.2 The Contractor shall indemnify and hold the Procuring Entity 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

- 4.15.1 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.
- 4.15.2 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 Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
 - d) the Procuring Entity 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 Special Conditions:

- a) the Contractor shall give the Architect 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 Procuring Entity 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

- 4.18.1 The contractor shall comply with the applicable environmental laws, regulations and policies.
- 4.18.2 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.
- 4.18.3 The Contractors 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

- 4.19.1 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.
- 4.19.2 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 Specifications. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
- 4.19.3 The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

4.20 Procuring Entity's Equipment and Free-Issue Materials

- 4.20.1 The Procuring Entity shall make the Procuring Entity'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 Procuring Entity shall be responsible for the Procuring Entity's Equipment, except that
 - b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- 4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.
- 4.20.2 The Procuring Entity shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Procuring Entity 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 Architect of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defect or default.
- 4.20.3 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 Procuring Entity of liability for any shortage, defect or default not apparent from a visual inspection.

4.21 Progress Reports

- 421.1 Unless otherwise stated in the Special Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Architect 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.
- 421.2 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 [NominatedSubcontractors]),
 - 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 [Procuring Entity'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) comparison so factual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.22 Security of the Site

Unless otherwise stated in the Special Conditions:

- a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b) authorized persons shall be limited to the Contractor's Personnel and the Procuring Entity's Personnel; and to any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as authorized personnel of the Procuring Entity's other contractors on the Site.

4.23 Contractor's Operations on Site

- 423.1 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 Architect 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 adjacentl and.
- 423.2 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.
- 423.3 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

- 424.1 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 Procuring Entity. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.
- 424.2 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 Architect 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 Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

5 NOMINATED SUBCONTRACTORS

5.1 Definition of “nominated Sub contractor.”

In this Contract, “nominated Subcontractor” means a Subcontractor:

- a) Who is nominated by the Procuring Entity, or
- b) Contractor has nominated 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 Procuring Entity 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 Procuring Entity 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 Procuring Entity 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 Architect 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

- 54.1 Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Architect 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 Architect in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - ii) Submits to the Architect reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement, then the Procuring Entity may (at his sole discretion) pay, directly 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 Procuring Entity, the amount which the nominated Subcontractor was directly paid by the Procuring Entity.

6 STAFF AND LABOR

6.1 Engagement of Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within Kenya.

6.2 Rates of Wages and Conditions of Labor

6.2.1 The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by Procuring Entity's whose trade or industry is similar to that of the Contractor.

6.2.2 The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in Kenya in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of Kenya for the time being in force, and the Contractor shall perform such duties in regard to such deductions there of as may be imposed on him by such Laws.

6.3 Persons in the Service of Procuring Entity

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Procuring Entity's Personnel.

6.4 Labor Laws

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, employment of children, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

6.5 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **Special Conditions of Contract**, unless:

- a) Otherwise stated in the Contract,
- b) The Architect 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, provided that work done outside the normal working hours shall be considered and paid for as overtime.

6.6 Facilities for Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities on site for the Contractor's Personnel. The Contractor shall also provide facilities for the Procuring Entity's Personnel as stated in the Specifications. 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.

67 Health and Safety

- 67.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 67.2 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 what ever is required by this person to exercise this responsibility and authority.
- 67.3 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 Architect may reasonably require.
- 67.4 The Contractor shall conduct an awareness programme on HIV and other sexually transmitted diseases via an approved service provider and shall undertake such other measures taken to reduce the risk of the transfer of these diseases between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

68 Contractor's Superintendence

- 68.1 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 super intendence to plan, arrange, direct, manage, inspect and test the work.
- 68.2 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.

69 Contractor's Personnel

- 69.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractor's Key personnel shall be named in the Special Conditions of Contract. The Architect 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:
- Persists in any misconduct or lack of care,
 - Carries out duties incompetently or negligently,
 - fails to conform with any provisions of the Contract,
 - persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
 - based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.
- 69.2 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

610 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.

611 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

6.12 Foreign Personnel

- 6.12.1 The Contractor shall not employ foreign personnel unless the contractor demonstrates that there are no Kenyans with the required skills.
- 6.12.2 The Contractor shall be responsible for the return of any foreign personnel to the place where they were recruited or to their domicile. In the event of the death in Kenya of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

6.13 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

6.14 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

6.15 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of Kenya, onsite, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.

6.16 Prohibition of Forced or Compulsory Labour

The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

6.17 Prohibition of Harmful Child Labor

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of Kenya have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

6.18 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 summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

6.19 Workers' Organizations

The Contractor shall comply with the relevant labor laws that recognize workers' rights to form and to join workers' organizations of their choosing without interference.

6.20 Non-Discrimination and Equal Opportunity

The Contractor shall base the labour employment on the principle of equal opportunity and fair treatment and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment, retirement, and discipline.

7. PLANT, MATERIALS AND WORKMANSHIP

7.1 Manner of Execution

The Contractor shall carry out the manufacture/assemble of plant, the production and manufacture of Materials, and all other execution of the Works:

- a) In the manner (if any) specified in the Contract,
- b) in a proper workman like and careful manner, in accordance with recognized good practice, and
- c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2 Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Architect for consent prior to using the Material sin 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 Architect as a Variation.

Each sample shall be labeled as to origin and intended use in the Works.

7.3 Inspection

7.3.1 The Procuring Entity'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.

7.3.2 The Contractor shall give the Procuring Entity'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.

7.3.3 The Contractor shall give notice to the Architect whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Architect shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Architect 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 there after reinstate and make good, all at the Contractor's cost.

7.4 Testing

7.4.1 This Sub-Clause shall apply to all tests specified in the Contract.

7.4.2 Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labor, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

7.4.3 The Architect 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.

7.4.4 The Architect shall give the Contractor not less than 24 hours' notice of the Architect intention to attend the tests. If the Architect 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 Architect presence.

- 7.4.5 If the Contractor suffers delay and/ or incurs Cost from complying with these instructions or as a result of a delay for which the Procuring Entity is responsible, the Contractor shall give notice to the Architect 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.

7.4.6 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

7.4.7 The Contractor shall promptly forward to the Architect duly certified reports of the tests. When the specified tests have been completed, the Architect shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Architect has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5 Rejection

7.5.1 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 Architect 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.

7.5.2 If the Architect 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 Procuring Entity to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity.

7.6 Remedial Work

7.6.1 Notwithstanding any previous test or certification, the Architect 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, unforeseen event or otherwise.

7.6.2 The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).

7.6.3 If the Contractor fails to comply with the instruction, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity all costs arising from this failure.

7.6.4 If the contractor repeatedly delivers defective work, the Procuring Entity may consider termination in accordance with Clause 15.

7.7 Ownership of Plant and Materials

Except as otherwise provided in the Contract, each item of Plant and Materials shall become the property of the Procuring Entity 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 are as within the Site are specified in the Contract.

8 COMMENCEMENT, DELAYS AND SUSPENSION

81 Commencement of Works

- 8.1.1 Except as otherwise specified in the Special Conditions of Contract, the Commencement Date shall be the date at which the following precedent condition shave all been fulfilled and the Architect notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:
- a) Signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of Kenya;
 - b) except if otherwise specified in the Special Conditions of Contract, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works.
 - c) Receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.
- 8.1.2 If the said Architect instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].
- 8.1.3 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.

82 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 Test 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].

83 Programme

- 8.3.1 The Contractor shall submit a detailed time programme to the Architect within 14 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.
- 8.3.2 Unless the Engineer, within 14 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 Procuring Entity's Personnel shall be entitled to rely upon the programme when planning their activities.
- 8.3.3 The Contractor shall promptly give notice to the Architect of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works.

- 834 If, at anytime, the Architect gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contractor to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Architect in accordance with this Sub-Clause.

8.4 Extension of Time for Completion

- 841 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 Procuring Entity, the Procuring Entity's Personnel, or the Procuring Entity's other contractors.
- 842 If the Contractor considers itself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Architect in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Architect 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 Kenya,
- 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

- 861 If, at anytime:
- 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 Architect 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.
- 862 Unless the Architect 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 Procuring Entity to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity, in addition to delay damages (if any) under Sub-Clause 8.7 below.
- 863 Additional costs of revised methods including acceleration measures, instructed by the Architect to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Procuring Entity, without generating, however, any other additional payment benefit to the Contractor.

8.7 Delay Damages

- 871 If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to the Procuring Entity for this default. These delay damages shall be the sum stated in the **Special Conditions of Contract**, which shall be paid for everyday 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 Special Conditions of Contract.

- 872 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

8.8 Suspension of Work

- 881 The Architect may at anytime 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.

- 882 The Architect 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

- 891 If the Contractor suffers delay and/or incurs Cost from complying with the Architect instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Architect 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.

- 892 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

- 893 The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10 Payment for Plant and Materials in Event of Suspension

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/ or Materials which have not been delivered to Site, if:

- a) The work on Plant or delivery of Plant and/ or Materials has been suspended for more than 30 days, and
- b) the Contractor has marked the Plant and/or Materials as the Procuring Entity's property in accordance with the Architect 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 Architect permission to proceed. If the Architect does not give permission within 30 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12 Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Architect 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 Architect an instruction to this effect under Clause 13 [Variations and Adjustments].

9 TESTS ON COMPLETION

9.1 Contractor's Obligations

- 9.1.1 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].
- 9.1.2 The Contractor shall give to the Architect 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 Architect shall instruct.
- 9.1.3 In considering the results of the Tests on Completion, the Architect shall make allowances for the effect of any use of the Works by the Procuring Entity 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

- 9.2.1 If the Tests on Completion are being unduly delayed by the Procuring Entity, Sub-Clause 7.4 [Testing] (fifth paragraph) and/ or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.
- 9.2.2 If the Tests on Completion are being unduly delayed by the Contractor, the Architect 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.
- 9.2.3 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Procuring Entity'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 of related works

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Architect 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

- 9.4.1 If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Architect shall be entitled to:
- Order further repetition of Tests on Completion under Sub-Clause 9.3; or
 - if the failure deprives the Procuring Entity of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Procuring Entity shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects].

10 PROCURING ENTITY'S TAKING OVER

10.1 Taking Over of the Works and Sections

- 10.1.1 Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Procuring Entity 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.
- 10.1.2 The Contractor may apply by notice to the Architect 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.

- 10.13 The Architect shall, within 30 days after receiving the Contractor's application:
- 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
 - 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 his Sub-Clause.
- 10.14 If the Architect fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

102 Taking Over of Parts of the Works

- 10.21 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.
- 10.22 The Procuring Entity 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 Architect has issued a Taking-Over Certificate for this part. However, if the Procuring Entity does use any part of the Works before the Taking-Over Certificate is issued:
- The part which is used shall be deemed to have been taken over as from the date on which it is used,
 - the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Procuring Entity, and
 - if requested by the Contractor, the Architect shall issue a Taking-Over Certificate for this part.
- 10.23 After the Architect 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.
- 10.24 If the Contractor incurs Cost as a result of the Procuring Entity taking over and/or using a part of the Works, other than such use as is specified in the Contract agreed by the Contractor, the Contractor shall (i) give notice to the Architect and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such accrued costs, which shall be included in the Contract Price. After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this accrued cost.
- 10.25 If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages there after 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 Architect 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.

103 Interference with Tests on Completion

- 10.31 If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Procuring Entity is responsible, the Procuring Entity 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.
- 10.32 The Architect 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 Architect 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.

- 1033 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 Architect 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 accrued costs, which shall be included in the Contract Price.

- 1034 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

104 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

- 11.1.1 In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fairwear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable there after, 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 Procuring Entity on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

- 11.1.2 If a defect appears or damage occurs, the Contractor shall be notified accordingly by the Engineer.

11.2 Cost of Remedying Defects

- 11.2.1 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.

- 11.2.2 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 Procuring Entity, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3 Extension of Defects Notification Period

- 11.3.1 The Procuring Entity shall be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.
- 11.3.2 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

- 11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

- 11.4.2 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 Procuring Entity may (at his option):
- (a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity the costs reasonably incurred by the Procuring Entity in remedying the defect or damage;
 - (b) Require the Architect 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 Procuring Entity 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 otherwise, the Procuring Entity 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 Procuring Entity 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

- 11.6.1 If the work of remedying of any defect or damage may affect the performance of the Works, the Architect may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 14 days after the defect or damage is remedied.
- 11.6.2 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 Completion 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 Procuring Entity's reasonable security restrictions.

11.8 Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect or parts of the works that have already accepted, 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 Architect in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

11.9 Completion Certificate

- 11.9.1 Performance of the Contractor's obligations shall not be considered to have been completed until the Architect has issued the Completion Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
- 11.9.2 The Architect shall issue the Completion Certificate within 30 days after the latest of the expiry dates of the Defects Liability Period, 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 Completion Certificate shall be issued to the Procuring Entity.
- 11.9.3 Only the Completion Certificate shall be deemed to constitute acceptance of the Works.

11.10 Unfulfilled Obligations

After the Completion 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

- 11.11.1 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- 11.11.2 If all these items have not been removed within 30 days after receipt by the Contractor of the Completion Certificate, the Procuring Entity may sell or otherwise dispose of any remaining items. The Procuring Entity shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 11.11.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Procuring Entity's costs, the Contractor shall pay the outstanding balance to the Procuring Entity.

12 MEASUREMENT AND DEVALUATION

12.1 Works to be Measured

- 12.1.1 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.
- 12.1.2 Whenever the Architect 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 Architect in making the measurement, and
 - b) supply any particulars requested by the Engineer.
- 12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.
- 12.1.4 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 her records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.
- 12.1.5 If the Contractor examines and disagrees the records, and/ or does not sign them as agreed, then the Contractor shall give notice to the Architect of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Architect 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 Architect 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:

- 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

- 12.3.1 Except as otherwise stated in the Contract, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of work done 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.

- 1232 For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contractor, if there is no such item, specified for similar work.
- 1233 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.
- 1234 However, for a new item of work, a new rate or price shall be appropriate for such item of work if:
- a) The work is instructed under Clause 13 [Variations and Adjustments],
 - b) no rate or price is specified in the Contract for this item, and
 - c) 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.
- 1235 Each new rate or price shall be derived from any relevant rates or prices in the Contract. If no rates or prices are relevant for the new item of work, it shall be derived from the reasonable Cost of executing such work, prevailing market rates, together with profit, taking account of any other relevant matters.
- 1236 Until such time as an appropriate rate or price is agreed or determined, the Architect shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.
- 1237 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: $(\text{corrected tender price} - \text{tender price}) / \text{tender price} \times 100$.

124 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 Architect accordingly, with supporting particulars. Upon receiving this notice, the Architect 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

- 13.1.1 Variations may be initiated by the Architect 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. No Variation instructed by the Architect under this Clause shall in any way vitiate or invalidate the Contract.
- 13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Architect stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Architect shall cancel, confirm or vary the instruction.
- 13.1.3 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.

- 13.14 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Architect instructs after obtaining approval of the Procuring Entity.

132 Variation Order Procedure

- 132.1 Prior to any Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

- a) A description of work, if any, to be performed and a programme for its execution, and
- b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and
- c) the Contractor's proposals for adjustment to the Contract Price.

Following the receipt of the Contractor's submission the Architect shall, after due consultation with the Employer and the Contractor, decide as soon as possible whether or not the variation shall be carried out. If the Architect decides that the variation shall be carried out, he shall issue a Variation Order clearly identified as such in accordance with the Contractor's submission or as modified by agreement.

If the Architect and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause 13.2.2 shall apply.

132.2 Disagreement on Adjustment of the Contract Price

If the Contractor and the Architect are unable to agree on the adjustment of the Contract Price, the adjustment shall be determined in accordance with the rates specified in the Bills of Materials or Schedule of Daywork Prices. If the rates contained in the Bills of Materials or Daywork Prices are not directly applicable to the specific work in question, suitable rates shall be established by the Architect reflecting the level of pricing in the Daywork Prices. Where rates are not contained in the said Prices, the amount shall be such as is in all the circumstances reasonable, reflecting a market price. Due account shall be taken of any over- or under-recovery of overheads by the Contractor in consequence of the variation. The Contractor shall also be entitled to be paid:

- a) The cost of any partial execution of the Work rendered useless by any such variation,
- b) The cost of making necessary alterations to Plant already manufactured or in the course of manufacture or of any work done that has to be altered in consequence of such a variation,
- c) any additional costs incurred by the Contractor by the disruption of the progress of the Works as detailed in the Programme, and
- d) the net effect of the Contractor's financial costs, including interest, caused by the variation.

The Architect shall on this basis determine the rates or prices to enable on-account payment to be included in certificates of payment.

132.3 Contractor to Proceed

On receipt of a Variation Order, the Contractor shall forthwith proceed to carry out the variation and be bound to these Conditions in so doing as if such variation was stated in the Contract. The work shall not be delayed pending the granting of an extension of the Time for Completion or an adjustment to the Contract Price under Sub-Clause 13.3.

133 Value Engineering

- 133.1 The Contractor may, at any time, submit to the Architect written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Procuring Entity of the completed Works, or (iv) otherwise be of benefit to the Procuring Entity.
- 133.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].
- 133.3 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 Architect 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 13.8 [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 Procuring Entity of the varied works, taking account of any improvement in quality, anticipated life or operational efficiencies.

13.3.4 However, if the amount established in item 13.2.3 (c) (i) is less than amount established in item 13.2.3 (c) (ii), there shall not be a fee. However, if the if the amount established in item 13.2.3 (c) (i) is more than amount established in item 13.2.3 (c) (ii), it shall result in a price variation to the Procuring Entity.

134 Variation Procedure for Value Engineering proposal

- 134.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:
- a) A description of the proposed work to be performed and a programme for its execution,
 - b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
 - c) the Contractor's proposal for evaluation of the Variation.
- 134.2 The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst waiting a response.
- 134.3 Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Architect to the Contractor, who shall acknowledge receipt.
- 134.4 Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Architect instructs or approves otherwise in accordance with this Clause.

135 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.

136 Provisional Sums

- 136.1 Each Provisional Sum shall only be used, in whole or in part, in accordance with the Architect 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 Architect shall have instructed. For each Provisional Sum, the Architect 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 Special Conditions of Contract** shall be applied.
- 136.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

137 Dayworks

- 137.1 For work of a minor or incidental nature, the Architect 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.
- 137.2 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.
- 137.3 Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Architect accurate statements induplicate 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.
- 137.4 One copy of each statement will, if correct, or when agreed, be signed by the Architect 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].

138 Adjustments for Changes in Legislation

- 138.1 The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of Kenya (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.
- 138.2 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 Architect 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.
- 138.3 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 138.4 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 13.8 [Adjustments for Changes in Cost].

139 Adjustments for Changes in Cost

- 139.1 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.
- 139.2 If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.
- 139.3 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:

Price Adjustment Formula

Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies:

$$P = A + B \text{ Im/Io}$$

where:

P is the adjustment factor for the portion of the Contract Price payable.

A and **B** are coefficients **specified in the SCC**, representing then on adjustable and adjustable portions, respectively, of the Contract Price payable and

I m is the index prevailing at the end of the month being invoiced and **Ioc** is the index prevailing 30 days before Bid opening for inputs payable.

NOTE: The sum of the two coefficients A and B should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient A, for the non adjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price.

- 1394 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.
- 1395 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 Kenya, of this relevant currency on the above date for which the index is required to be applicable.
- 1396 Until such time as each current cost index is available, the Architect 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.
- 1397 If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to the Procuring Entity.
- 1398 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

14.1.1 Unless otherwise stated in the Special Conditions:

- The value of the payment certificate shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- 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];
- any quantities which may be set out in the Bill of Materials or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities;

- i) of the Works which the Contractor is required to execute, or
 - ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Architect may take account of the break down when preparing Payment Certificates but shall not be bound by it.

14.12 Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall not be exempt from the payment of import duties and taxes upon importation.

14.2 Advance Payment

14.2.1 The Procuring Entity shall make an advance payment, as an interest-free loan for mobilization and cashflow support, when the Contractor submits a guarantee in accordance with this 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 **Special Conditions of Contract**.

14.2.2 Unless and until the Procuring Entity receives this guarantee, or if the total advance payment is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.

14.2.3 The Architect shall deliver to the Procuring Entity 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 Procuring Entity 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 institutions elected by the Contractor and shall be in the form annexed to the Special Conditions or in another form approved by the Procuring Entity.

14.2.4 The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

14.2.5 Unless stated otherwise in the **Special Conditions of Contract**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Architect in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

- a) Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount less Provisional Sums; and
- b) deductions shall be made at the amortization rate stated in the **Special Conditions of Contract** 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.

14.2.6 If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 14.2.7 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

143 Application for Interim Payment Certificates

- 143.1 The Contractor shall submit a Statement (in number of copies indicated in the **Special Conditions of Contract**) to the Architect after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers itself to be entitled, together with supporting documents which shall include there portion the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].
- 143.2 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 **Special Conditions of Contract** to the total of the above amounts, until the amount so retained by the Procuring Entity reaches the limit of Retention Money (if any) stated in the **Special Conditions of Contract**;
 - 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 otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
 - g) the deduction of amounts certified in all previous Payment Certificates.

144 Schedule of Payments

- 144.1 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 Architect 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.
- 144.2 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.

145 Plant and Materials intended for the Works

- 145.1 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].
- 145.2 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.

- 1453 The Architect 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 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 Kenya, enroute to the Site, in accordance with the Contract; and
 - iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Architect 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 Procuring Entity 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.
- 1454 The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Architect 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.
- 1455 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.
- 146 Issue of Interim Payment Certificates**
- 1461 No amount will be certified or paid until the Procuring Entity has received and approved the Performance Security. Thereafter, the Architect shall, within 30 days after receiving a Statement and supporting documents, deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate which shall state the amount which the Architect fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Architect on the Statement if any.
- 1462 However, prior to issuing the Taking-Over Certificate for the Works, the Architect 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 Special Conditions of Contract**. In this event, the Architect shall give notice to the Contractor accordingly.
- 1463 An Interim Payment Certificate shall not be withheld for any other reason, although:
- a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
 - b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.
- 4.6.4 The Architect 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 Architect acceptance, approval, consent or satisfaction.

14.7 Payment

14.7.1 The Procuring Entity shall pay to the Contractor:

- a) The advance payment shall be paid within 60 days after signing of the contract by both parties or within 60 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 60 days after the Architect Issues Interim Payment Certificate; and
- c) the amount certified in the Final Payment Certificate within 60 days after the Procuring Entity Issues Interim Payment Certificate; or after determination of any disputed amount shown in the Final Statement in accordance with Sub-Clause 16.2 [Termination by Contractor].

14.7.2 Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (forth is currency) specified in the Contract.

14.8 Delayed Payment

14.8.1 If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges (simple interest) 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.

14.8.2 These financing charges shall be calculated at the annual rate of three percentage points above the mean rate of the Central Bank in Kenya of the currency of payment, or if not available, the inter bank offered rate, and shall be paid in such currency.

14.8.3 The Contractor shall be entitled to this payment without formal notice and certification, and without prejudice to any other right or remedy.

14.9 Payment of Retention Money

14.9.1 When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Architect 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.

14.9.2 Promptly after the latest of the expiry dates of the Defects Liability Periods, the outstanding balance of the Retention Money shall be certified by the Architect 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.

14.9.3 However, if any work remains to be executed under Clause 11 [Defects Liability], the Architects shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

14.9.4 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].

14.9.5 Unless otherwise stated in the Special Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a Retention Money Security guarantee, in the form annexed to the Special Conditions or in another form approved by the Procuring Entity and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money.

- 14.9.6 The Procuring Entity shall return the Retention Money Security guarantee to the Contractor within 14 days after receiving a copy of the Completion Certificate.

14.10 Statement at Completion

- 14.10.1 Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Architect three 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.
- 14.10.2 The Architect shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11 Application for Final Payment Certificate

- 14.11.1 Within 60 days after receiving the Completion Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:
- a) The value of all work done in accordance with the Contract, and
 - b) Any further sums which the Contractor considers to be due to him under the Contractor otherwise.
- 14.11.2 If the Architect disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Architect may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Architect the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".
- 14.11.3 However, if, following discussions between the Architect and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Architect shall deliver to the Procuring Entity (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 Procuring Entity (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

- 14.13.1 Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall deliver, to the Procuring Entity 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 Procuring Entity for all amounts previously paid by the Procuring Entity and for all sums to which the Procuring Entity is entitled, the balance (if any) due from the Procuring Entity to the Contractor or from the Contractor to the Procuring Entity, as the case may be.
- 14.13.2 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 Architect shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Architect shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14 Cessation of Procuring Entity's Liability

- 14.14.1 The Procuring Entity 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].
- 14.14.2 However, this Sub-Clause shall not limit the Procuring Entity's liability under his in demnification obligations, or the Procuring Entity's liability in any case of fraud, deliberate default or reckless misconduct by the Procuring Entity.

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 Special Conditions of Contract, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
- c) other payments to the Procuring Entity by the Contractor shall be made in the currency in which the sum was expended by the Procuring Entity, or in such currency as may be agreed by both Parties;
- d) if any amount payable by the Contractor to the Procuring Entity in a particular currency exceeds the sum payable by the Procuring Entity to the Contractor in that currency, the Procuring Entity 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 Kenya.

15 TERMINATION BY PROCURING ENTITY

15.1 Notice to correct any defects or failures

If the Contractor fails to carry out any obligation under the Contract, the Architect may by notice require the Contractor to make good the failure and to remedy it within 30 days.

15.2 Termination by Procuring Entity

- 15.2.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor breaches the contract based on following circumstances which shall include but not limited to:
- 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 30 days after receiving it,
- d) subcontracts the major part or whole of the Works or assigns the Contract without the consent of the Procuring Entity,
- 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 induce mentor reward:
 - i) for doing or for bearing to do any action in relation to the Contract, or
 - ii) for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
 - iii) if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such induce mentor reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or
- g) If the contract or repeatedly fails to remedy delivers defective work,
- h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, incompetently for or in executing the Contract.

1522 In any of these events or circumstances, the Procuring Entity may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f) or (g) or (h), the Procuring Entity may by notice terminate the Contract immediately.

1523 The Procuring Entity's election to terminate the Contract shall not prejudice any other rights of the Procuring Entity, under the Contract otherwise.

1524 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.

1525 After termination, the Procuring Entity may complete the Works and/ or arrange for any other entities to do so. The Procuring Entity and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

1526 The Procuring Entity 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 Procuring Entity, these items may be sold by the Procuring Entity in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

153 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Architect 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.

154 Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Procuring Entity may:

- a) Proceed in accordance with Sub-Clause 2.5 [Procuring Entity's Claims],
- b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Procuring Entity, have been established, and/ or

- c) recover from the Contractor any losses and damages incurred by the Procuring Entity 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 Procuring Entity shall pay any balance to the Contractor.

155 Procuring Entity's Entitlement to Termination for Convenience

The Procuring Entity shall be entitled to terminate the Contract, at any time at the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

156 Fraud and Corruption

The Contractor shall ensure compliance with the Kenya Government's Anti-Corruption Laws and its prevailing sanctions.

157 Corrupt gifts and payments of commission

15.7.1 The Contractor shall not;

- a) Offer or give or agree to give to any person in the service of the Procuring Entity any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for borne to do any act in relation to the obtaining or execution of this or any other Contract for the Procuring Entity or for showing or for bearing to show favor or disfavor to any person in relation to this or any other contract for the Procuring Entity.
- b) Enter into this or any other contract with the Procuring Entity in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Procuring Entity.

15.7.2 Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement and Asset Disposal Act (2015) and the Anti-Corruption and Economic Crimes Act (2003) of the Laws of Kenya.

16 SUSPENSION AND TERMINATION BY CONTRACTOR

16.1 Contractor's Entitlement to Suspend Work

16.1.1 If the Architect fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], or not receiving instructions that would enable the contractor to proceed with the works in accordance with the program, the Contractor may, after giving not less than 30 days' notice to the Procuring Entity, 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.

16.1.2 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].

16.1.3 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.

16.1.4 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 Architect 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.

162 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

163 Termination by Contractor

163.1 The Contractor shall be entitled to terminate the Contract if:

- a) the Architect fails, within 60 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
- b) the Contractor does not receive the amount due under an Interim Payment Certificate within 90 days after the expiry of the time stated in Sub-Clause 4.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),
- c) the Procuring Entity 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,
- d) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- e) the Procuring Entity 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.
- f) the Contractor does not receive the Architect instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

163.2 In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Procuring Entity, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

163.3 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract otherwise.

164 Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- a) cease all further work, except for such work as may have been instructed by the Architect 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.

165 Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Procuring Entity 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

- 17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity'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 what so ever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity'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 arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.
- 17.1.2 The Procuring Entity shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity'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], unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the contractor, the contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

17.2 Contractor's Care of the Works

- 17.2.1 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 Procuring Entity. 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 Procuring Entity.
- 17.2.2 After responsibility has accordingly passed to the Procuring Entity, 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.
- 17.2.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.
- 17.2.4 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 Procuring Entity's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Procuring Entity's Risks] below, in so far as they directly affect the execution of the Works in Kenya, are:

- a) War hostilities (whether war be declared or not),
- b) rebellion, riot, commotion or disorder, terrorism, sabotage by persons other than the Contractor's Personnel,
- c) explosive materials, ionizing gradiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such explosives, radiation or radio-activity,
- d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,

- e) use or occupation by the Procuring Entity of any part of the Permanent Works, except as may be specified in the Contract,
- f) design of any part of the Works by the Procuring Entity's Personnel or by others for whom the Procuring Entity is responsible, and
- g) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

174 Consequences of Procuring Entity's Risks

- 174.1 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 Architect and shall rectify this loss or damage to the extent required by the Engineer.
- 174.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect 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 TimeforCompletion], and
 - (b) Payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (e)and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.
- 174.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

175 Intellectual and Industrial Property Rights

- 175.1 In this Sub-Clause, “infringement” shall refer to 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” shall refer to a claim (or proceedings pursuing a claim) alleging an infringement.
- 175.2 Whenever a Party does not give notice to the other Party of any claim within 30 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.
- 175.3 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:
- a) An un avoidable result of the Contractor's compliance with the Contract, or
 - b) A result of any Works be ingused by the Procuring Entity:
 - i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.
- 175.4 The Contractor shall indemnify and hold the Procuring Entity harmless again stand 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.
- 175.5 IfaPartyisentitledtobeindemnified 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.
- 175.6 For operation and maintenance of any plan to requipment installed, the contractor shall grant a non-exclusive and non-transferable license to the Procuring Entity under the patent, utility models ,or other intellectual rights owned by the contractor or a third party from whom the contract or has received the rights to grant sub-licenses and shall also grant to the Procuring Entity a non-exclusive and non-transferable rights (without the rights to sub-license) to use the know how and other technical information disclosed to the contract or under the contract. Nothing contained here-in shall be construed as transferring ownership of any patent, utility model, trademark, design, copy right, know-how or other intellectual rights from the contractor or any other third party to the Procuring Entity.

17.6 Limitation of Liability

- 17.6.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any 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 Procuring Entity's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].
- 17.6.2 The total liability of the Contractor to the Procuring Entity, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in **the Special Conditions of Contract**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.
- 17.6.3 This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

17.7 Use of Procuring Entity's Accommodation/Facilities

- 17.7.1 The Contractor shall take full responsibility for the care of the Procuring Entity provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).
- 17.7.2 If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Procuring Entity is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

18 INSURANCE

18.1 General Requirements for Insurances

- 18.1.1 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.
- 18.1.2 Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Procuring Entity. 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.
- 18.1.3 Wherever the Procuring Entity 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.
- 18.1.4 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 Procuring Entity shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.
- 18.1.5 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.

- 18.16 The relevant insuring Party shall, within the respective periods stated in **the Special Conditions of Contract** (calculated from the Commencement Date), submit to the other Party:
- a) Evidence that the insurances described in this Clause have been affected, and
 - b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.17 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.
- 18.18 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.
- 18.19 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.
- 18.110 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, 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.
- 18.111 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contract otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.
- 18.112 The Procuring Entity shall comply 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.
- 18.113 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.
- 18.114 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to in Clause 18) with insurers from any eligible source country.

18.2 Insurance for Works and Contractor's Equipment

- 18.21 The insuring Party shall insure the Works, Plant, Material and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.
- 18.22 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]).
- 18.23 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.
- 18.24 Unless otherwise stated in the Special 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 [Procuring Entity's Risks],
- d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Special Conditions** of Contract (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) apart 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) apart of the Works which has been taken over by the Procuring Entity, except to the extent that the Contractor is liable for the loss or damage, and
 - iv) Goods while they are not in Kenya, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

1825 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 Procuring Entity, with supporting particulars. The Procuring Entity shall then (i) be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

183 Insurance against Injury to Persons and Damage to Property

183.1 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.

183.2 This insurance shall be for a limit per occurrence of not less than the amount stated in **the Special Conditions of Contract**, with no limit on the number of occurrences. If an amount is not stated in the **Special Conditions of Contract**, this Sub-Clause shall not apply.

183.3 Unless otherwise stated in the Special 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 Procuring Entity'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 Procuring Entity's right to have the Permanent Works executed on, over, under, in or
 - ii) through any land, and to occupy this land for the Permanent Works,
 - iii) damage which is an unavoidable result of the Contractor's obligations to execute the
 - iv) Works and remedy any defects, and
 - v) a cause listed in Sub-Clause 17.3 [Procuring Entity's Risks], except to the extent that cover is available at commercially reasonable terms.

184 Insurance for Contractor's Personnel

- 184.1 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.
- 184.2 The insurance shall cover the Procuring Entity and the Architect 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 Procuring Entity or of the Procuring Entity's Personnel.
- 184.3 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

- 19.1.1 In this Clause, "Force Majeure" means an exceptional event or circumstance:
- Which is beyond a Party's control,
 - Which such Party could not reasonably have provided against before entering into the Contract,
 - which, having arisen, such Party could not reasonably have avoided or overcome, and
 - which is not substantially attributable to the other Party.
- 19.1.2 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:
- war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
 - rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
 - riot, commotion, disorder, strike or lock out by persons other than the Contractor's Personnel,
 - munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
 - natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

- 19.2.1 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.
- 19.2.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.
- 19.2.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3 Duty to Minimize Delay

Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

19.4 Consequences of Force Majeure

- 19.4.1 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 Kenya, 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].

194.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

195 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.

196 Optional Termination, Payment and Release

196.1 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].

196.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:

- a) the amount 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 Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity'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 lab or employed wholly in connection with the Works at the date of termination.

197 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 Procuring Entity 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 SETTLEMENT OF CLAIMS AND DISPUTES

20.1 Contractor's Claims

- 20.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 20.1.3 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.
- 20.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at an other location acceptable to the Engineer. Without admitting the Procuring Entity's liability, the Architect 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 Architect to inspect all these records and shall (if instructed) submit copies to the Engineer.
- 20.1.5 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 Architect 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 Architect may reasonably require; and
 - c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.
- 20.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Architect and approved by the Contractor, the Architect 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.
- 20.1.7 Within the above defined period of 42 days, the Architect 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.
- 20.1.8 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.
- 20.1.9 If the Architect does not respond within the time frame defined in this Clause, either Party may consider that the claim is rejected by the Architect and any of the Parties may refer the dispute for amicable settlement in accordance with Clause 20.3.
- 20.1.10 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 20.3.

202 Procuring Entity's Claims

- 202.1 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.
- 202.2 The notice shall be given as soon as practicable and no longer than 30 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.
- 202.3 The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Procuring Entity considers itself to be entitled in connection with the Contract. The Architect shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].
- 202.4 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

203 Amicable Settlement

Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 20.1 above should move to commence arbitration after 60 days from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

204 Matters that may be referred to arbitration

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

- a) Whether or not the issue of an instruction by the Architect is empowered by these Conditions.
- b) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- c) Any dispute arising in respect of risks arising from matters referred to in Clause 17.3 and Clause 19.
- e) All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

205 Arbitration

- 205.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration.
- 205.2 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 205.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 205.4 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

- 2055 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision require mentor notice had been given.
- 2056 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Architect from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.
- 2057 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.
- 2057 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Architect shall not be altered by reason of any arbitration being conducted during the progress of the Works.
- 2058 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

20.6 Arbitration with National Contractors

- 2061 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;
- i) Architectural Association of Kenya
 - ii) Institute of Quantity Surveyors of Kenya
 - iii) Association of Consulting Engineers of Kenya
 - iv) Chartered Institute of Arbitrators (Kenya Branch)
 - v) Institution of Engineers of Kenya
- 2062 The institution written to first by the aggrieved party shall take precedence over all other institutions.

20.7 Arbitration with Foreign Contractors

- 2071 Arbitration with foreign contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.
- 2072 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

20.8 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

20.9 Failure to Comply with Arbitrator's Decision

- 2091 The award of such Arbitrator shall be final and binding upon the parties.
- 2092 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

20.10 Contract operations to continue

Notwithstanding any reference to arbitration herein,

- 1.1.1 the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- 1.1.2 the Procuring Entity shall pay the Contractor any monies due the Contractor.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions shall supplement the GCC. Whenever there is a conflict, the provisions here in shall prevail over those in the GCC.

Part A - Contract Data

Conditions	Sub Clause	Data
Procuring Entity's name and address	Heading	Alupe University College
Name and Reference No. of the Contract	Heading and 3.1.1	
Engineer's Name and Address	Heading and 3.1.1	The Works Secretary, State Department for Public Works of P.O.Box 30734-00100
Contractor's Representative Name	4.3.1	To be agreed with the Engineer
Key Personnel names	16.9.1	To be agreed with the Engineer
Time for completion	1.1	356 Days
Defects Notification Period	1.1	180 Days
Time for parties to enter into a contract agreement	1.6	Within 30 Days
Commencement date	8.1.1	To be agreed with the Engineer
Time for access to the site	2.1	No later than the commencement date, and not later than 14 days after commencement date
Architect Duties and Responsibilities	3.1.6 (b) (ii)	Any Variations resulting in an increase of the accepted contract Amount in excess of 0% shall require approval from the procurement entity
Performance Security	4.2.1	Performance Security will be in form of either; - <ol style="list-style-type: none"> 1) Bank Demand Guarantee of 5% 2) Performance Bond from Insurance Company of 15% and in the same currency of the Accepted Contract Amount.
Normal Working Hours	6.5	To be agreed with the Engineer
Delay damages for the Works	8.7 & 14.15 (b)	0.005 % of the Contract price per day
Maximum amount for Delay Damages	8.7	5% of the final contract price

Conditions	Sub Clause	Data
Provisional Sums	13.5. (b)(ii)	25%
Adjustments for Changes in Cost	13.8	Period "n" applicable to the adjustment multiplier "Po": <i>12 months</i>
Total advance payment	14.2.1	Not applicable
Repayment amortization rate of advance payment	14.2.5 (b)	Not applicable
Percentage of Retention	14.3.2 (c)	10%
Limit of Retention Money	14.3.2 (c)	<u>5</u> % of the Accepted Contract Amount
Plant and Materials	14.5(b)(i) 14.5(C)(i)	Not applicable Not applicable
Minimum Amount of Interim Payment Certificates	14.6	Not applicable
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	annual rate of three percentage points above the mean lending rate of the Central Bank in Kenya of the currency of payment
Maximum total liability of the Contractor to the Procuring Entity	17.6	As per applicable laws
Periods for submission of insurance: a. evidence of insurance. b. Relevant policies	18.1	14 days <u>14</u> days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	The minimum insurance covers shall be; 1. Works, Plant & Materials in respect of the contractor's faulty design – The Entire Contract 2. Loss or Damage to Equipment – Kshs. 1,000,000 3. Third Party Liability (Property or Injury) – Kshs. 1,000,000.00 4. Personal Injury or death • Contractor's Employees – As per Applicable Laws • Other People – Kshs. 100,000,000
Minimum amount of third-party insurance	18.3	<i>As captured Above</i>
The place of arbitration	20.7.2	<i>Nairobi County, Kenya</i>

SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM NO. 2 – REQUEST FOR REVIEW

FORM No. 3-LETTEROF AWARD

FORM No. 4 - CONTRACT AGREEMENT

FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]

FORM No. 6- PERFORMANCE SECURITY [Option 2– Performance Bond]

FORM No. 7 - ADVANCE PAYMENT SECURITY

FORM No. 8 - RETENTION MONEY SECURITY

FORM NO. 9 - BENEFICIAL OWNERSHIP DISCLOSURE FORM

FORM No 1: NOTIFICATION OF INTENTION TO AWARD OF CONTRACT

This Notification of Award shall be sent to each Tenderer that submitted a Tender and was not successful. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative

- i) Name: *[insert Authorized Representative's name]*
- ii) Address: *[insert Authorized Representative's Address]*
- iii) Telephone: *[insert Authorized Representative's telephone/fax numbers]*
- iv) 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.]

2. Date of transmission: *[email]* on *[date]* (local time)

This Notification is sent by *(Name and designation)* _____

3. Notification of Award

- i) Procuring Entity: *[insert the name of the Procuring Entity]*
- ii) Project: *[insert name of project]*
- iii) Contract title: *[insert the name of the contract]*
- iv) ITT No: *[insert ITT 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:

4. Request a debriefing in relation to the evaluation of your tender by submitting a Procurement-related Complaint in relation to the decision to award the contracts.

a) The successful tenderers

i) Name of successful Tender _____

ii) Address of the successful Tender _____

iii) Contract price of the successful Tender Kenya Shillings _____
(in words _____)

b) The reasons for your tender being unsuccessful are as follows:

c) Other Tenderers

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.

SNo	Name of Tender	Tender Price as read out	Tender's evaluated price (Note a)	One Reason Why Not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

- a) DEADLINE: The dead line to request a debriefing expires at midnight on *[insert date]* (local time).
- b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
 - i) Attention: *[insert full name of person, if applicable]*
 - ii) Title/position: *[insert title/position]*
 - iii) Agency: *[insert name of Procuring Entity]*
 - iv) Email address: *[insert email address]*
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) 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 (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, *[insert date]* (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - i) Attention: *[insert full name of person, if applicable]*
 - ii) Title/position: *[insert title/ position]*
 - iii) Agency: *[insert name of Procuring Entity]*
 - iv) Email address: *[insert email address]*
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website www.ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

- e) There are four essential requirements:
 - i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process and is the recipient of a Notification of Intention to Award.
 - ii) The complaint can only challenge the decision to award the contract.
 - iii) You must submit the complaint within the period stated above.
 - iv) You must include, in your complaint, all of the information required to support your complaint.

7. Standstill Period

- i) DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

FORM NO. 2- REQUEST FOR REVIEW

FORM FOR REVIEW (r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

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

BETWEEN

.....APPLICANT

AND

.....RESPONDENT (Procuring Entity)

Request for review of the decision of the..... (Name of the Procuring Entity ofdated the...day of20.....in the matter of Tender No.....of20..... for (Tender description).

REQUEST FOR REVIEW

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

- 1.
- 2.

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

- 1.
- 2.

SIGNED(Applicant) Dated on.....day of/...20.....

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on.....day of20.....

SIGNED

Board Secretary

FORM NO. 3: LETTER OF AWARD

letterhead paper of the Procuring Entity]
[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 here by accepted by..... *(name of Procuring Entity)*.

You are requested to furnish the Performance Security within in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:

Name and Title of Signatory:

Name of Procuring Entity:

Attachment: *Contract Agreement*:

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the day of..... 20....., between.....
.....of..... (hereinafter “the Procuring
Entity”), of the one part, and..... of..... (hereinafter
“the Contractor”), of the other part:

WHEREAS the Procuring Entity desires that the Work 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 there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - a) the Notification of Award
 - b) the Form of Tender
 - c) the addenda Nos..... (if any)
 - d) the Special Conditions of Contract
 - e) the General Conditions of Contract;
 - f) the Specifications
 - g) the Drawings; and
 - h) the completed Schedules and any other documents forming part of the contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor here by covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity here by covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects there in, 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 where of the parties here to have caused this Agreement to be executed in accordance with the
Laws of Kenya on the day, month and year specified above.

Signed and sealed by..... (for the Procuring Entity)

Signed and sealed by..... (for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: [insert name and Address of Procuring Entity]

Date: _____ [Insert date of issue]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with (name of Procuring Entity) _____ (the Procuring Entity as the Beneficiary), for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (in words),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.
4. This guarantee shall expire, no later than the Day of , 20.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹The 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 of the Contract or a freely convertible currency acceptable to the Beneficiary.

²Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity 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.

FORM No. 6- PERFORMANCE SECURITY

[Option 2– Performance Bond]

[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

PERFORMANCE BOND No.: _____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond _____ as Principal (hereinafter called “the Contractor”) and _____] as Surety (hereinafter called “the Surety”), are held and firmly bound unto _____] as Obligee (hereinafter called “the Procuring Entity”) in the amount of _____ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the _____ day of _____, 20_____, for _____ in accordance with the documents, plans, specifications, and amendments there to, which to the extent here in provided for, are by reference made part here of and are here in after referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
 - a) Complete the Contract in accordance with its terms and conditions; or
 - b) Obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make a vailable as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
 - c) Pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions upto a total not exceeding the amount of this Bond.
4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.
5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named here in or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.
6. In testimony whereof, the Contractor has here unto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly at tested by the signature of his 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 _____

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ [Insert name and Address of Procuring Entity]

Date: _____ [Insert date of issue]

ADVANCE PAYMENT GUARANTEE No.: [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (in words _____) is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (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 either that the Applicant:
 - a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
 - b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____.
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, on the _____ day of _____, 20____, 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.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.

²Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity 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.

FORM NO. 8 – RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys upto the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[insert the second half of the Retention Money]* is to be made against a Retention Money guarantee.
3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* _____ (*[insert amount in words* _____ *])*¹ upon receipt by us of the Beneficiary's complying demands supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number _____ at _____ *[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the Day of 20.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: *All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

¹The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.

²Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity 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.

FORM NO. 9 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 tenderer. In case of joint venture, the tenderer 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 Tenderer is any natural person who ultimately owns or controls the Tenderer 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 directors or equivalent governing body of the Tenderer.*

Tender Reference No.: _____ [insert identification no]

Name of the Assignment: _____ [insert name of the assignment] to:
_____ [insert complete name of Procuring Entity]

In response to your notification of award dated _____ [insert date of notification of award] to furnish additional information on beneficial ownership: _____ [select one option as applicable and delete the options that are not applicable]

I) We 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 Tenderer (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 Tenderer.*

OR

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 Tenderer 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 Tenderer]"

Name of the Tenderer:[insert complete name of the Tenderer]_____*

*Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ** [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]

PREAMBLES

PART EIGHT: STRUCTURAL STEELWORK AND OTHER METAL

WORK SPECIFICATIONS

A. STEEL QUALITY

Structural steel shall comply with the requirements of B.S.4360 and shall be new and unused. It shall be free of imperfections, distortion, rust, scales of other deterioration or contamination by grease, paint and similar items.

B. TESTING

The Engineer may, where he so desires call manufacturer's work test certificates in respect of all steel, which tests shall have been performed in accordance with B.S.18. The Engineer may also carry out such further tests as he may consider necessary.

C. SECTIONS

The dimensions and properties of hot rolled structural steel sections and hollow sections shall be in accordance with B.S.2, part 1 and 2, or B.S.4848 for metric sized sections.

D. MINIMUM THICKNESS

All steelwork sections other than gauge metal sections, including cleats, gusset plates, etc. shall be not less than 8mm thick unless specifically indicated on the Drawings.

E. FORGING

All steel for forging and all forgings shall comply with the requirements of B. S. 29, and shall be subject to inspection and approval of the Engineer.

F. CASTING

All material used in the manufacture of castings and all castings shall comply with the requirements of B.S. 309, 1452 and 3100 and shall be subject to inspection and approval of the Engineer.

G. GAUGE METAL SECTIONS

Sections shall be manufactured from continuously hot dipped galvanised steel coil to B.S.2989 using steel to B.S.1449, part 1A and 1B, classification CR4 with a guaranteed minimum yield stress of 280 N/mm².

The sections shall be cold formed to the basic shapes given in B.S 2994 with the design and details conforming to Addendum No. 1 to B.S.449 (PD4064).

Section shall be sawn and holes may be punched so as to produce a neat round hole with no distortion. Holes and cut ends shall be painted with zinc rich paint as soon as possible after cutting.

H. "Z" PURLINS

"Z" purlins shall be fabricated in the longest practicable lengths with staggered joints. All connections shall have a minimum of four bolts. Sag rods and apex ties shall be provided where indicated.

STRUCTURAL STEELWORK AND OTHER METAL WORK SPECIFICATIONS

I. TUBULAR SECTIONS

For tubular construction, due allowance is to be made for sealing the ends of all tubes and hollow square or rectangular sections with welding or welded plates. Where end make connections to other members, they shall be welded on true and square.

Shop joints required in tubular members shall be full penetration but welds on to split backing rings.

J. STORAGE

Steel shall be stored at least 150mm above the ground and protected against rust and corrosion.

K. FABRICATION

Structural steelwork shall be fabricated in accordance with B.S.449.

L. SHOP DRAWINGS

The contractor shall prepare fully detailed working drawings of the structural steelwork and obtain the Engineer's approval before commencing any fabrication. The drawing to be submitted at least one week before it is planned to start fabrication.

M. EDGE PREPARATION

The longitudinal edges of all plates and cover plates forming plate girders or builtup girders and columns and all edges of gusset plates over 12mm thick shall be machined. Edges which are subsequently wholly incorporated in weld may be machine flame cut. The abutting ends of the parts of all compression members including the caps and bases of stanchions, built-up columns and stiffeners transmitting load through direct contact shall be machined after the members have been fabricated so that all the parts shall be in close contact when the joint is made. The edges of the other members may be machine flame cut, sawn, sheared or cropped but hand flame cutting will not be permitted. All burrs shall be removed by grinding, and sheared and cropped edges shall be dressed.

N. STRAIGHTENING

All plates, bars and rolled sections shall be carefully trued, straightened and taken out of winding by pressure before they are drilled. Heating or hammering rolled sections and plates will not be permitted.

O. TEMPLATES

The templates throughout the work shall be mild steel. In cases where actual members have been used as templates for drilling similar pieces, the engineer will decide whether they are fit to be used in the finished structure.

P. HOLES

All holes in the steelwork shall be drilled out and not punched. Whenever holes are drilled in one operation through two or more separate parts the parts shall be separated after drilling and the burrs removed by grinding. All slotted holes shall be finished with sides of the holes straight and parallel.

Q. JOINTS

No joints shall be made in any plate, bar or rolled sections except where shown on the Drawings or described in the specification.

R. ASSEMBLING AND MARKING

All steelwork shall be inspected in the fabricator's yard by the Engineer and where directed the steelwork shall be assembled to check the accuracy and interchangeability of the work. Before despatch from the fabricator's yard all steelwork shall be cleaned down and clearly marked in paint or stencilled and stamped to facilitate sorting at the site. The markings shall be in conformity with the approved working and erection drawings.

S. WELDING GENERALLY

No welds will be permitted in any part of the permanent work except where shown or described on the approved working Drawings.

All welding of steel shall be executed in accordance with the provisions of B.S.5135 and the workmanship shall be of the highest quality in all respects throughout. All welds shall be of the appropriate dimensions, they shall be sound, free from porosity, slag inclusion, undercutting and other defects, and shall be of clean and regular appearance throughout, and the execution shall be such as to ensure that the parts connected are properly aligned and positioned, free from distortion and so fixed together as to produce a homogeneous section of the correct dimensions. As much of the welding as is practicable shall be executed by means of automatic or semi-automatic processes and manual welding shall be kept to a minimum.

All welders shall have completed the tests described in part 6 or B.S.449 and may be required to carry out any of those tests in the presence of the Engineer.

T. ELECTRODES

All covered electrodes for the manual metal arc welding of grades of steel to B.S.4360 shall comply with the requirements of B.S.639 and B.S.1719: part 1. All electrode wires and fluxes for the submerged arc welding of grades of steel to B.S.4360 shall comply with the requirements of B.S. 4164.

All electrodes shall be of a type, size and quality appropriate to the class of work for which they are intended and shall be supplied by approved manufacturers and shall be of the heaviest gauge consistent with obtaining adequate penetration. Each batch of electrodes shall be accompanied by the manufacturer's certificates stating the date of manufacture, together with certificates giving the results of the initial test and of the most recent periodic check tests.

All electrodes shall be stored in their original unbroken bundles or packages in a warm dry and well ventilated place to which the Engineer shall have access.

All electrodes for welding shall be used strictly in accordance with manufacturer's instructions and shall be so chosen that the properties of the deposited metal are in no way inferior to those of the parent metal. Under no circumstances shall electrodes be used in a damp condition and any electrodes which have parts of the flux covering broken away or damaged in any respect whatsoever shall be discarded.

U. WELDING TRIALS

Whenever so directed by the Engineer and prior to the commencement of fabrication, welding and flame cutting procedure trials shall be carried out on typical examples of the various types and categories of welded members and joints using representative samples of the materials to be employed in the work. These trials shall demonstrate to the satisfaction of the Engineer the suitability and adequacy of the methods and procedures to be adopted in the fabrication.

The samples of material to be used in the aforesaid trials shall be selected and marked by the Engineer when the materials are inspected at the rolling mills and the various types and categories of members and joints shall be welded in a manner simulating the most unfavourable conditions that will be experienced during fabrication or

assembly. After completion of welding the various examples shall be sectioned for subsequent examination and testing.

Any approval by the Engineer of the welding methods and procedures shall in no way limit or restrict the right and authority of the Engineer to subsequently reject any welds or welded joints that in his opinion fall below the standard appropriate to the class of work.

V. WELD TESTING

The contractor, his subcontractor and/or his fabricator shall be responsible for the preparation of all welded test pieces as and when required by the Engineer and for the provision, maintenance and efficiency of all apparatus and equipment necessary to the conducting of such tests in accordance with the procedure laid down in B.S.709.

Non-destructive testing of welds on completed member and joints shall be carried out by the Engineer during the course of fabrication as required and any length of weld or any welded joints exhibiting any defects shall be rejected and all such defects shall be cut out and replaced with sound work. The entire cost of making good or replacing any such rejection shall be borne by the contractor.

The contractor, his sub-contractor and/or his fabricator, shall be responsible for all preparations necessary for the carrying out of non-destructive testing of welds on completed members and completed members and joints to the satisfaction of the Engineer and shall provide all assistance required for conducting such tests

W. WELDING PLANT

All plant used for shop and site welding shall be capable of maintaining at the fusion face the voltage and current specified by the manufacturer of the electrodes and the contractor, his sub-contractor and/or his fabricator shall provide the necessary instruments for measuring the voltage and current as and when required by the engineer.

X. BOLTS

Black bolts and nuts shall be in accordance with B.S. 4190 and shall have their bearing faces machined. Close tolerance bolts and nuts shall be in accordance with B.S.3692 and shall have their bearing faces machined, be turned on the shank and shall be screwed with unified coarse threads to B.S.1580. Flat and taper steel washers shall be in accordance with B.S.4320. Washers shall be provided under the nuts of all black bolts and close tolerance bolts so that the nut, when screwed up tight, does not bear on the shank of the bolt.

Taper washers of correct angle of taper shall be provided under all bolt-heads and nuts that are required to bear on bevelled surfaces.

Y. HIGH STRENGTH FRICTION GRIP BOLTS

High strength friction grip (H.S.F.) bolts, nuts and washers shall be of either high strength load indicating bolts and nuts of an approved pattern or shall be provided with load indicators of an approved pattern under the heads of the bolts. The dimension of high strength friction grip bolts and nuts shall be in accordance with B.S.4395 except only for the dimensions of the load indicating washers shall be supplied by manufacturers approved by the Engineer.

Non load indicating bolts or washers may be used with prior approval of the Engineer. The part-turn method of tightening shall be used with these bolts.

All bolts shall have clear distinctive marks to identify them. The bolts and washers shall be electro-zinc plated or zinc coated sheradizing and the nuts cadmium plated by the manufacturer to ensure that the nuts do not cease under tension.

USE OF HIGH STRENGTH FRICTION GRIP BOLTS

The use of high Strength friction Grip Bolts shall be in accordance with B.S.4604.

A. SURFACES

Surfaces of plates in joints shall be free of paint or any other applied finish (except galvanising), oil, dirt, rust, loose scale, burrs or other defects which would prevent solid seating of the parts or would interfere with the development of friction between them.

B. MINIMUM PLY THICKNESS

General Grade Bolts - no outer ply, and wherever possible no inner ply, shall be smaller in thickness than half the bolt diameter or 10mm whichever is the less.

High Grade Bolts - no outer ply, and wherever possible no inner ply, shall be less than 10mm.

C. SPACING OF BOLTS

This shall be as shown on the Drawings or otherwise in accordance with B.S.449. The tool to be used for tightening should be taken into account when arranging the disposition of bolts in a joint.

D. ASSEMBLY OF JOINT

Holes shall be lined up with draft pins until bolts in the remaining holes are fully tightened. Driving of bolts will not be permitted. The ends of the bolts and nuts shall be clear and lightly lubricated. No lubricant shall come into contact with the ply faces. Each bolt and nut shall have a flat round washer and taper washer as necessary. Load indicating washers shall be fitted with the protrusions against the bolt head or against a special nut face washer when fitted at the nut end.

E. TIGHTENING

Tightening shall be in a staggered pattern agreed with the Engineer before hand, working from the centre of joint outwards. Each bolt tightening operation shall be carried out speedily until the required gap under the load indicating washer is reached. This shall be measured using a feeler gauge.

Appropriate allowance shall be made in the gap for the location of the indicating washer relative to the bolt. Tightening may be carried out using manual or power wrenches but not torque wrenches and must be carried out until the bolt reaches the minimum specified tension.

Full details must be obtained from the manufacturer regarding details of the installation, tightening and use of load indicating washer to confirm the correct tension has been developed in the bolts.

F. BOLT FAILURE

If after final tightening a nut or bolt is slackened off for any reason, or becomes slack, the nut, bolt and washer must be discarded and not used again.

G. PAINTING

The gap under the load indicating device shall be filled with paint.

H. PART TURN TIGHTENING

In certain circumstances the part turn method may be permitted. The sequence tightenin bolts in a group shall be agreed before hand with the Engineer. The bolts shall be tightened initially with a standard podger spanner to bring the joint surfaces into close contact. This must be checked before the tightening process is completed.

A permanent mark shall be cut on the nut and protruding end of the bolt using a cold chisel and the nut finally tightened with an impact wrench to turn it relative to the bolt and specified amount to produce the required minimum tension.

I. SHOULDERED BOLTS AND NUTS

Shouldered bolts and nuts shall be black bolts and nuts in accordance with B.S.2078 and shall be screwed with unified coarse threads to B.S. 1580 and shall be of the dimensions shown on the Drawings. Shouldered bolts shall be provided at all expansion and other sliding joints and shall be supplied with all necessary washers.

J. ANCHOR BOLTS AND NUTS

Anchor bolts and nuts for setting in concrete shall be as shown on the Drawings or as approved by the Engineer and shall be fixed in accordance with the manufacturer's technical information sheets giving full particulars of the bolts including the mechanical properties of the bolts, the safe working loads and methods of fixing and usage.

K. PACKING FOR SHIPMENT

All cleats, gussets, stiffeners, brackets and other projecting material arising out of fabrication shall be protected from damage while being transported in such a manner as to prevent distortion. All machine surfaces shall be suitably protected. All straight bars, except small pieces, shall be shipped in bundles of convenient size and shall be temporarily bolted together or bound with annealed steel wire.

All bolts, nuts, washers, screws, small pieces and other small articles shall be adequately packed in crate or other suitable containers. Each piece, packing, bundle and crate shall be clearly marked with its weight and with the appropriate shipping marks before despatch from the fabricator's yard.

L. ERECTION OF STRUCTURAL STEELWORK

The erection of all structural steelwork at the site shall be in accordance with the provision of B.S.449. When lifting and fitting steelwork into position care shall be taken that the members are not twisted, bent or damaged.

Suitable slings, blocks, tackles, shear legs, derrick, cranes and other types of lifting appliances and equipment shall be provided and every care and precaution shall be taken to ensure the safety of all persons engaged in such work.

The erection of the steelwork shall be carried out in such a manner as not to subject any of the members to overstressing, or reversal of loading, which the members are not designed to support. During erection the steelwork shall be securely braced, propped or otherwise temporarily supported until such time as the steelwork is lined, levelled and braced and bolted in its final position.

M. BEDDING OF BASE PLATES

Steel stanchions with base plates shall be supported on steel shims or wedges to obtain the correct line and level of the stanchions and the holding down bolts tightened by hand. Prior to bedding the base plates, the space under the plates shall be cleaned out.

The base plates shall be bedded using cement/sand 1:2 mortar with sufficient water to make the mortar flow under pressure or by vibration or by rodding until the whole space under the base is completely filled. The steel shims or wedges shall be left in. After hardening of the mortar the holding down bolt shall be tightened by spanner as required.

N. CONCRETING IN OF MEMBERS

Where any portion of a steel member is designed to be cast into concrete, the surfaces in contact with concrete shall be thoroughly cleaned of paint or other adherent matter.

When members are to be concrete in, whether supplied with temporary positioning bolts or otherwise, they shall be lined and levelled and plumbed and firmly supported before concreting in.

If base plates are shown on the drawings, these shall be grouted in as above prior to concreting.

P. NAILS, SCREWS AND BOLTS

Nails, screws and bolts shall be of best quality mild steel of lengths and weights approved by the Architect. Nails shall be to B.S.1202 and bolts to B.S.916.

Bolts shall project at least two threads through nuts and all bolts passing through timber shall have washers under heads and nuts.

Q. FIXING METAL WINDOWS, DOORS, ETC

The contractor's prices for fixing metal windows, doors, etc., shall include for assembling and fixing, including screwing to wood frames and cutting mortices for lugs in concrete or walling and running with cement mortar (1:4), bedding frames in similar mortar and pointing in mastic, bedding sills, transomes, mullions in mastic, making good plaster around both sides, and fixing , oiling and adjusting all fittings and frames.

R. METAL WINDOWS

Metal windows shall be steel standard section windows supplied and installed by the contractor or an approved specialist, sub-contractor. In the case of a specialist subcontractor, the contractor shall provide any general or special attendance as may be required by the sub-contractor.

PART NINE: FINISHES SPECIFICATIONS

GENERAL

A. OTHER SPECIFICATIONS

All other specifications of this contract where applicable are deemed to apply equally to the finishings specifications.

B SAMPLES

The contractor shall prepare at his own cost sample areas of the paving, plastering and rendering as directed until the quality, texture and finish required is obtained and approved by the Architect after which all work executed shall conform with the respective approved samples.

C FINISHED THICKNESSES

The thicknesses of floor finishes quoted in this section of the specification shall be the minimum requirements.

Suspended floors shall have a constant structural thickness and have level top surfaces. The finished floor surface will equally have constant level and any adjustment needed to achieve this effect with the varying floor finish materials is to be made in the screeds beneath the same.

Slabs bearing on the ground may be cast to varying levels, and be of constant thickness with varying formation levels, or have varying thicknesses at the option of the contractor. This stipulation in no way relieves the contractor of the requirements of the specifications for the structural work.

D MATERIALS GENERALLY

All materials shall be of high quality, obtained from manufacturer's to be approved by the Architect. Cement, sand and water shall be as described under concrete work and Blockwork.

E BONDING

Bonding compounds, etc., for use in applying plaster and similar finishes direct to surfaces without the use of backings or screeds are only to be used if approved by the architect and are to be used strictly in accordance with the manufacturer's printed instructions.

F. CHASES, OPENINGS AND HOLES

All chases, holes and the like which were not formed in the concrete or walling shall be cut, and all service pipes shall be fixed and all holes and chases filled with mortar before paving and plaster work is commenced. In no circumstances will the contractor be permitted to cut chases, holes and the like in finishes pavings or plasterwork..

INSITU FINISHINGS

G GENERALLY

The term plastering refers to the operation internally and rendering to the same operation externally but for ease of reference the term plastering has generally been used in this specification to describe both operations.

H MIXES

The methods of measuring and mixing plaster shall be as laid down under concrete work and the proportions and minimum thickness of finished plaster shall be in accordance with the following:-

Item of work	Mix	Minimum Thickness and finish
Internal Plaster	1 part cement ¼ part lime wood float finish unless otherwise specified 4 parts sand.	16mm finish to walls and ceilings.
External Render	1 part cement 4 parts sand	12mm finish in two coats
Tyrolean finish	Ditto	6mm finished thickness in two coats on 10mm plastered backing

To obtain greater plasticity a small quantity of lime may be added to the mixes for external plastering at the Architect's discretion but in any case this is not to exceed ¼ part lime to 1 part cement.

With regard to the lime mortars gauged with cement, of the cement to small quantities of the lime/sand mix shall preferably take place in a mechanical mixer and mixing shall continue for such time as will ensure uniform distribution of materials and uniform colour and consistency. It is important to note that the quality of water used shall be carefully controlled. Plaster may be mixed either in a mechanical mixing machine or by hand.

Hand mixed plaster shall first be mixed in the dry state being turned over at least three times. The required amount of water should then be added and the mix again turned over three times or until such time as the mass is uniform in colour and homogeneous.

The plaster shall be completely used within thirty minutes of mixing and hardened plaster shall not be remixed but removed from the site.

I PREPARATION OF SURFACES FOR PLASTER ETC.

Irregularities in the surfaces to be plastered or rendered shall be filled with mortar, without lime, twenty four hours before plastering is commenced. Joints in blockwork etc., are to be well raked out before plastering to form a good key. Smooth concrete surfaces to be plastered shall be treated with an approved proprietary bonding agent or hacked to provide an adequate key for the plaster.

All surfaces to be plastered or rendered shall be clean and free from dust, loose mortar and all traces of salts. All surfaces shall be thoroughly sprayed with water and all free water allowed to disappear before plaster is applied.

As far as practical plastering shall not be commenced until all mechanical and electrical services, conduits, pipes and fixtures have been installed.

Before plastering is commenced all junctions between differing materials shall be reinforced. This shall apply where walls join columns and beams, particularly where flush and similar situations where cracks are likely to develop and as directed by the Architect. The reinforcement shall consist of a strip of galvanised wire mesh. Expanse or equal approved 15cm wide which shall be plugged, nailed or stapled as required at intervals not exceeding 45mm at both edges. The surfaces to which such mesh shall be applied shall be painted with one coat bituminous paint prior to fixing the mesh.

J APPLICATION OF PLASTER AND RENDER

After preparation of the surfaces a key coat of cement slurry shall be applied to the wetted surface to be plastered. When this coat is dry the plaster coat shall be applied, by means of a trowel between screeds laid, ruled and plumbed as necessary. This coat which shall be to the required thickness shall be allowed to be so hard and then cured as described. Surfaces are to be finished with a wood or steel float to a smooth flat surface free from all marks.

Tyrolean finish shall be applied with an approved machine to give a finish of even texture and thickness. The sprayed finish shall be applied in two separate coats allowing time for drying between coats.

Application in one continuous operation to build up a thick layer will not be permitted. The total finished thickness of the two sprayed coats shall be not less than 6mm.. the sprayed finish shall not be applied until all repairs and making good to the undercoat are completed. any plaster which adheres to pipes, doors, windows and the like shall be carefully removed before it has set. Curing shall take place after the application of the second coat. The pressed finish as directed by the Architect. Where coloured tyrolean is required this shall be obtained by the addition to the mix of any approved colour pigment.

All plastering and rendering shall be executed in a neat workman like manner. All faces except circular work shall be true and flat and angles shall be straight and level or plumb. Plastering shall be neatly made good around pipes or fittings. Angles shall be rounded to 6 mm radius.

All tools, implements, vessels and surfaces shall be at all times kept scrupulously clean and strict precautions shall be taken to prevent the plaster or other materials from being contaminated by pieces of partially set material which would tend to retard or accelerate the setting time.

K CURING OF PLASTER

Each coat of plaster is to be maintained in a moist condition for at least three days after it has developed enough strength not to be damaged by water.

They shall be securely plugged, nailed or stapled as required at intervals not exceeding 450mm at both edges.

C ANGLE BEADS

Where required by the Architect, salient external angles of plastered walls shall be protected with galvanised mild steel angle beads complying with BS 1246 Fig.7 profile C3.

They shall be securely plugged, nailed or stapled as required at intervals not exceeding 450mm at both edges.

A PLASTER STOPS

Where shown on details, plasterwork shall be stopped against “expamet” galvanized steel plaster stop reference 565 which shall be securely nailed to wall in the positions indicated on the drawings.

B CEMENT AND SAND SCREEDS

Screed shall be mixed and formed as described.

C GRANOLITHIC PAVING

The granolithic paving shall be laid by a specialist floor layer and constructed as follows:-

Curing compounds if specified or approved by the Architect shall be used in strict accordance with the manufacturer's instructions.

Surface hardening solutions of sodium silicate if purchased as liquid shall be of the grade sold for this purpose. Fourteen days after curing the surface shall be sprayed with three coats of sodium silicate solution and spread evenly with a mop or soft brush.

Unabsorbed silicate left on the surface after the last application is to be washed off.

Solution is to 1:4 by volume for first coat, 1:3 for second, 1:2 for third, applied at 24 hour intervals.

The base concrete structural floor shall be finished with a tamped surface. Shortly before the granolithic topping is to be laid the surface of the base concrete is to be thoroughly prepared to provide a good bond. The base concrete shall be hacked by hand or mechanically so that its laitance is completely removed to expose clean coarse aggregate. All traces of dust formed as a result of hacking etc., shall be removed. The base concrete shall be thoroughly wetted prior to laying. Any excess water shall be removed prior to the grouting.

The prepared surface of the base concrete shall be covered with a grout consisting of one part cement and one part sand mixed to the consistency of thick cream and it shall be scrubbed into the surface with a stiff broom.

The granolithic topping shall be mixed in the following proportions by weight:-

1 part cement, 1 part fine aggregate and 2 parts coarse aggregate.

The water content of the granolithic topping shall be kept as low as possible consistent with obtaining full compaction of the topping with the plant available in order to avoid segregation of excessive laitance and in no circumstances must water/cement ratio exceed 0.42 by weight.

The granolithic topping shall be mixed for a period of not less than 1½ minutes after all the materials have been placed in the mixer drum. No concrete shall be removed from the drum so that some water will enter the drum before the cement and aggregates.

Each batch shall be discharged completely before the next batch is introduced. No extra water or other material shall be added to the mix after it has left the mixer.

If electrical conduit, trunking or any other items are required to be buried within the granolithic topping and the thickness is reduced at any point the contractor is to ensure that steps are taken to eliminate the possibility of cracking in the granolithic topping by means of galvanised wire mesh reinforcement in the flooring or other approved method. The extent of buried conduits, etc., should be ascertained prior to tendering and allowance for complying with this requirement will be deemed to be included in the rates for granolithic flooring.

The granolithic topping shall be laid in areas not exceeding 14M². The length of any bay should not exceed 1½ times the width of that bay. Joints shall be made in the granolithic topping over all joints in the base concrete and over all supporting beams for suspended floors.

D INSITU TERRAZZO WORK

The terrazzo pavings and screeds under are to be laid and polished complete by an approved specialist firm.

Where the screed is to be bonded to the concrete structural sub-floor, the latter shall be finished with a tamped surface and left clean and free from dust and grease.

Before laying the screed the surface shall be covered with a grout of one part sand and one part cement brushed in with stiff broom. The screed is to be laid before the grout has set.

All screeds under in-situ and precast terrazzo paving are to be laid by the approved specialist firm. The screeds shall consist of one part ordinary Portland cement to three parts sharp washed sand. This mix may be varied by agreement on the responsibility of the approved specialist firm.

The screed is to be reinforced with 22 gauge galvanised steel wire netting with mesh not exceeding 1" laid direct on the sub-floor of bays exceeding 1 square metre.

The screed backing in-situ skirtings is to be such as to adhere firmly to the various materials of the walls.

The thickness of in-situ terrazzo finishes are minimal and they may be increased if the specialist considers it necessary with corresponding reductions to the screed thicknesses providing the overall thickness of the finished flooring is maintained and without adjustment to the price quoted. The following thicknesses are assumed in measuring the terrazzo:-

Finish	Bedding Screed		Total
In-situ paving	25	-	40
In-situ margins	25	-	40
In-situ skirtings	8	-	12

If electrical conduit, trunking or other items are required to be buried within the depth of the screed and flooring and the total thickness is reduced at any point the flooring specialist is to ensure that steps are taken to eliminate the possibility of cracking in the screed and consequent damage to floor finish by means of galvanised wire mesh reinforcement in the screed and flooring or other approved method. The extent of buried conduit, etc., should be ascertained prior to tendering and allowance for complying with this requirement will be deemed to be included in the rates for terrazzo pavings and screeds under.

The in-situ terrazzo paving is to consist of two parts of white marble chippings to one part of white Portland Cement to B.S.1014.

The marble chippings to be fine (graded 3mm to 6mm in equal proportions) rounded granular clean and free from dust and impurities.

In-situ terrazzo paving should be laid on the screed as soon as practicable and not more than three days after the laying of the screed. After laying the surfaces are to be kept moist until ready for polishing.

The in-situ terrazzo paving should be laid in panels separated by dividing strips in the positions shown on the drawings. Dividing strips are to be white plastic the full depth of the paving and screed and bedded into the screed with the top edges truly levelled with the finish polished floor level. The thickness of the dividing strips is to be 5mm.

Polishing of in-situ terrazzo paving is to be carried out by a mechanical polisher with graded abrasives and any necessary water.

Making good of any defects during polishing is to be done with cement grout matching in colour that used in the terrazzo paving.

The finish of in-situ terrazzo pavings is to be smooth and imperforable and is to be approved by the Architect.

The terrazzo pavings is to be washed clean on completion and covered with a thick bed of sawdust or other approved protective layer. This should be maintained and renewed as necessary and cleared away on completion.

Lay in-situ skirtings to match paving or of approved colour and finish coved at junction with paving of floor finish to 20mm radius.

Execute all required angles and stopped or fair returned ends.

Vertical dividing strips to match those used in paving are required at not more than three feet intervals. A diving strip is required between paving and skirting at the commencement of the coving.

Facing of diving strip nearest to wall to be 200mm from face of skirting.

A horizontal diving strip is required at top skirting finished flush with wall finish over.

Where in-situ terrazzo skirtings are required under door frames, etc., a pencil round junction is to be made threshold paving in lieu of coving as shown on drawings.

In-situ margins shall have dividing strips to match those used in pavings. They shall be positioned at junctions with paving and skirting and transversely at not more than three feet intervals to continue vertical strip in skirting.

All internal angles and coves are to be rubbed by hand with carborundum block to be polished finish matching the finish of the paving to the Architect's approval.

E GLAZED WALL TILES

Glazed wall tiles shall be in accordance with B.S1281 and shall be 150mm x 150mm x 6mm tiles from the standard colour range with cusion edges. Wall tiling shall be carried out in accordance with C. P.212.

F PRECAST CONCRETE PAVING SLAB

To be all in accordance with B.S.368. The slabs are to be of the sizes given herein and bedded, jointed and pointed in cement lime mortar. (1:2:9).

G RATES

The rates for tile, slab and block finishings shall include for rounded edge tiles and angles, cutting and fitting up to boundaries and around pipes, brackets, etc., and waste; for work in narrow widths, small and isolated areas and for all other incidental labours.

PART TEN: GLAZING

A GENERAL

Glass used in glazing and for mirrors shall be best quality clear glass free from visible defects so as to afford uninterrupted vision or reflection as appropriate, and without obvious distortion.

B STANDARDS

Glass for glazing and mirrors shall be of approved manufacture and is to comply with B.S.952 in all respects free from flaws, bubbles, specks and other imperfections.

C CLEAR SHEET GLASS ETC.

The clear sheet glass shall be ordinary glazing (OG) quality.

D PLATE GLASS

To be of type described and as approved by the Architect.

E OBSCURED GLASS

To be of type described and as approved by the Architect.

F Putty

- a) The putty for glazing to wood sashes is to be linseed oil putty all as B.S.544.
- b) The putty for glazing to metal windows is to be gold size metal window putty specially designed for tropical use, or patent mastic putty if approved by the Architect.
- c) All putty shall be delivered on site in the original manufacturer's sealed cans or drums and used direct therefrom, with the addition only of pure linseed oil if necessary. No mineral or other oils may be used in the putty except genuine linseed oil.

A MIRRORS

Mirrors shall be polished float glass silverin quality, protected at back with electro-copper backing coated with shellac varnish and paint. The mirrors are to be fixed with chromium plated dome headed mirror screws with plastic or rubber distance pieces and washers unless otherwise stated and rates shall include for this.

WORKMANSHIP B GENERAL

Glazing of all types and in all locations shall be carefully executed by artisans skilled in this type of work and in conformance with recommendations of C.P.152. Glazing shall be carefully fitted so that it is not subject to pressure and stress imposed by being an overtight fit within the framing.

C MEASUREMENTS

Each element (door, window etc.) to receive glass shall be accurately measured to ensure a perfect fit subsequently.

D SINGLE GLAZING

Single glazing shall be executed with glass of the various types described herein. Ordinary (non –safety) glass may be pre-cut or cut on site.

E WIRED GLASS

Wired glass shall be cut so that the wires embedded are truly vertical and horizontal (i.e at right angles to the cut edges).

F SAFETY GLASS

Safety glass shall be factory cut before delivery to site. Site cutting will not be permitted.

G STORAGE AND HANDLING

Glass shall be delivered to site in stout containers and clearly marked. The containers shall incorporate sling attachment points for lifting bridles. Glass shall be stored under cover so that the panes are truly vertical.

H PROTECTION

After fixing glass shall be boldly marked with paper or whitewash so that it is clearly visible. In positions where damage due to construction traffic or activity is likely to occur stout screens composed of hardboard or fibreboard on battens shall be arranged to protect the glass.

A DAMAGE

Should any glass delivered to site be found to be damaged it shall not be incorporated into the works without the express permission of the Architect. Should glazing installed be damaged for any reason it shall be removed and replaced free of charge to the satisfaction of the Architect. Should any adjacent works be damaged this shall equally be reinstated free of charge to the satisfaction of the Architect.

B DEFECT WORK

All glass shall be checked before installation to ensure that defective glass is not installed. Notwithstanding this, if in the opinion of the Architect, any installed glazing is defective it shall be removed and replaced free of charge to the satisfaction of the Architect.

C GLAZING TO WOOD

Glazing shall be secured to wood framing with hardwood beads. Edges shall be wrapped in washleather so that the washleather finishes just below the surface of the bead. No adhesives shall be used.

D GLAZING TO METAL

Glazing shall be secured to metal framing with clip in butyl rubber gaskets.

E GLASS THICKNESS

Glass thickness shall conform to the recommendations of C.P.152 and the manufacturer's recommendations for sizes of panes relative to the position in the building and the effects of wind pressure (both negative and positive).

PART ELEVEN : SPECIFICATIONS PAINTING & DECORATING

PAINTING AND DECORATING

MATERIALS

A MANUFACTURERS

Except where stated all materials shall be obtained from approved manufacturers. The contractor shall state the name and address of the manufacturer whose materials he proposes to use. Once approval has been given the contractor shall not obtain materials from other sources without the prior written agreement of the Architect.

B GENERAL

Each succeeding coat of priming, undercoating and finishing (pigment) or clear coating shall be sufficiently different in colour as to be readily distinguishable.

All primers and paints in one system upon a particular surface shall be obtained from the same manufacturer.

The mixing of paints, etc, of difference brands before or during application will not be permitted.

C EMULSION PAINTS

Emulsion paints shall be matt to satin finish vinyl emulsion paint. The first (mist) coat shall be thinned in accordance with the manufacturer's instructions.

D GLOSS PAINT

Gloss paint shall be hard gloss finish oil paint.

E LEAD BASED PAINT

The use of lead based paints will not be permitted.

F CLEAR FINISHES

Clear finishes internally shall be clear polyurethane varnish (one pack).

G PRIMERS AND UNDERCOATS

Unless otherwise specified, primers and undercoats shall be the type recommended by the manufacture of the finishing coats specified for a particular surface. Primer for external bare metalwork surfaces shall comply with B.S 2523.

H KNOTTING

Shellac knotting shall comply with B.S 1336

A WHITE SPIRIT

The white spirit shall comply with B.S. 245.

B TIMBER STAIN

Timber stain shall be oil based pigmented stain. The application of this materials shall be strictly in accordance with the manufacturers written instructions. Tint and degree of application shall be to the approval of the Architect.

C STOPPING

The stopping shall be as follows:-

- a) plasterwork shall be plaster based filler.
- b) Concrete and brick work shall be similar material to the background and finished in a similar texture.
- c) Internal woodwork, plywood and blockboard shall be putty complying with B.S.544.
- d) External woodwork shall be white lead paste complying with B.S 2029.
- e) Internal clear wood finishes: the stopping shall be that recommended by the clear lacquer manufacturer.

D FILLERS

The fillers for internal joinery shall be the type recommended by the paint manufacturer for use with his type of paint or lacquer.

Stopper and fillers shall be tinted to match the under coat, and shall be compatible with both undercoats and primers.

All materials shall be used strictly in accordance with manufacturer's instructions.

E TEXTURED COATING

Textured coating is to be of proprietary manufacture approved by the architect and of an approved colour.

Technical information concerning the coating is to be submitted to the Architect before ordering, but the minimum qualities of the coating are to as follows:-

- a) Suitable for application internally and externally, plastered, rendered, concrete, block stone, brick, asbestos and timber surfaces.
- b) Minimum durability of 10 years even in exposed conditions
- c) Maintenance free
- d) Built- in mould resistant fungicide.

WORKMANSHIP

A GENERAL

Workmanship generally shall be carried out in accordance with B.S.C.P 231, unless otherwise specified. Before painting is commenced floors shall be swept and washed over; surfaces to be painted shall be cleaned before applying paint as specified, and all precautions taken to keep down dust whilst work is in progress. No paint shall be applied to surfaces structurally or superficially damp and all surfaces must be ascertained to be free from condensation, efflorescence, etc., before the application of each coat. No painting shall be carried out externally during humid, rainy, damp, foggy or freezing conditions, or conditions where surfaces have attained excessively high temperatures or during dust storms. No new primed or undercoated woodwork and metal work shall be left in an exposed or unsuitable situation for an undue period before completing the process.

No dilution of paint materials shall be allowed except strictly as detailed by the manufacturer's own direction, either on the containers, or their literature, and with special permission of the Architect. For external work dilution of paints will not be allowed whatsoever. For internal work, where permitted by the Architect, undercoats may be thinned by the addition of not more than 5% thinners. Gloss finish shall not be thinned at all.

Metal fittings such as ironmongery etc., not required to be painted shall first be fitted and then removed before the preparatory processes are commenced. When all painting is completed the fittings shall be cleaned as necessary and refixed in position.

B BRUSHWORK

Unless otherwise specified, all primers and paints shall be brush applied. Written permission must be obtained from the Architect's if an alternative method of application is to be used.

C STOPPING AND FILLING

Unless otherwise specified by the manufacturer all primers and undercoats shall be stopped flush and rubbed down to a smooth surface with an abrasive paper and all dust removed before each succeeding coat is applied. Care shall be taken to prevent burnishing of the surface.

D STIRRING

Unless otherwise specified by the paint manufacturer all paint materials shall be thoroughly mixed and/or stirred before and during use, and suitably strained as and when necessary.

E INSPECTION

No priming coats shall be applied until the surfaces have been inspected and the preparatory work has been approved by the Architect. No undercoats of finishing coats shall be applied until the previous coat has been similarly inspected and approved.

A. PAINT APPLICATION

Each coat of paint shall be so applied as to produce a film of uniform thickness. All paint shall be applied in accordance with the manufacturer's instructions. Special attention shall be given to ensure that all surfaces including edges, corners, crevices, welds and rivets receive a film thickness equivalent to that of adjacent painted surfaces.

B DRYING

All coats shall be thoroughly dried before succeeding coats are applied. Allow a minimum of 24 hours between application on any one surface, unless otherwise specified by the manufacturer.

C UPRIMED WOODWORKS

Unprimed woodwork scheduled to be painted shall be rubbed down with abrasive paper and dusted off. Care shall be taken to prevent 'burnishing' of the surface. All knots and resinous areas shall be coated with two coats of knotting. Pitch on large, open unseasoned knots and all other beads or streaks of pitch shall be scrapped off, or if still soft, shall be removed with white spirit before applying the knotting.

Apply one coat of priming to all surface, two coats to all end grain, to be subsequently painted. Backs of all wood frames in contact with concrete, brickwork, blockwork, and metalwork or similar materials shall be primed before fixing. After priming all joints, holes, cracks shall be stopped and filled, rubbed down and dusted off.

D PRIMED WOODWORK

Woodwork delivered primed shall be lightly rubbed down with abrasive paper, and dusted off. Touch up bare areas with a similar priming including open grained ends. After touch priming all joints holes, cracks and open grained ends shall be stopped and filled, rubbed down and dusted off.

E PLYWOOD AND BLOCKBOARD

Edges of exterior plywood and blockboard shall be sealed with two coats of aluminium primer and the backs treated with a lead primer.

F CLEAR FINISHED WOODWORK

All woodwork scheduled to receive a clear finish shall be well sanded with the grain removing all dirt etc., to give as smooth a surface as possible. Resinous timber shall be swabbed down with white spirit and dried thoroughly.

Split or end grain shall be filled with suitable filler recommended by the clear lacquer manufacturer in accordance with their instructions, and of the appropriate shade.

G BARE METALWORK

Bare metalwork shall be thoroughly cleaned off all dirt, grease, rust and scale by means of chipping, scrapping and wire brushing; particular attentions should be given to the cleaning of welded, brazed and soldered joints. Wash down with white spirit and wipe dry with clean rags. Apply a coat of metal primer immediately the cleaned surfaces have been approved by the Architect.

A GALVANIZED METALWORK

Galvanized metalwork scheduled for painting shall be thoroughly cleaned of dirt, grease dusted and washed down with white spirit and wiped dry with clean rags. Any minor areas of rust shall be removed by wire brushing and spot primed with a zinc rich primer. Apply at least one coat of calcium plumbate primer at all surfaces subsequently to be painted.

B PRIMED METALWORK

If the priming coat of pre-primed metalwork has suffered damage in transit, or during erection on site, the affected areas shall be cleaned off by wire brushing abrading and dusting off, the bared patches touched up with a primer of a similar type to that already applied.

C COPPER

Copper scheduled for painting shall be lightly abraded with emery cloth, washed with white spirit and wiped dry with clean rags.

Apply a coat of each primer immediately the cleaned surfaces have been approved.

D BRICKWORK, CONCRETE ETC.

All brickwork, blockwork, concrete, rendered and plaster surfaces scheduled to be painted shall be brushed down, all holes and cracks filled, all projections such as plaster or mortar splashes etc., removed to leave a suitable dust free surface. All traces of mould oil shall be removed from concrete surfaces by scrubbing with water, detergent and rinsing with clean water. All these surfaces shall be thoroughly dry before any primer or paints are applied. Apply a coat of alkali resisting primer where surfaces are to be finished with oil paints or alkyd type emulsion.

Asbestos cement surfaces scheduled for painting shall be brushed down to remove powdery deposits, and a coat of alkali resisting primer applied where such surfaces are to be finished with oil paints or alkyed resin type emulsion.

E COLOURS

The colour will, be selected by the Architect from the paint manufacturer's standard colour range.

F TOXIC WASH

Concrete, blockwork, plaster and timber surfaces which are to be painted shall be washed down prior to painting with a toxic wash applied by brush or spray. A second wash shall be applied two days after the first wash. The surfaces shall be then allowed to dry out completely before application of paint.

G PROTECTION

Proper care must be taken to protect surfaces while still wet by use of screens and 'wet paint' signs where necessary.

A DAMAGE

Care must be taken when preparing surfaces, or painting etc., not to stain or damage other work. Dust sheets and covers to the satisfaction of the Architects shall be used to protect adjacent work. Any such stains or damage shall be removed and made good at the Contractor's expense.

B CLEANLINESS

All brushes, tools, pails, kettles and equipment shall be clean and free from foreign matter. They shall be thoroughly cleaned after use and before being used for different colours, types of classes of material. Painting shall not be carried out in the vicinity of other operations that may cause dust. Waste liquids, oil soaked rag etc., shall be removed from the building each day. Waste liquids shall not be thrown down in any sanitary fittings or drains.

C PERFORMANCE

If, while the work is in progress, the paint appears to be faulty, such as consistency of colour, drying time, or quality of finish, the work shall be stopped at once and the manufacturer consulted.

The manufacturer's of the materials shall be given every facility for inspecting the work during progress in order to ascertain that the materials are being used in accordance to their directions, and to take samples of their products from the site if they so desire for tests.

The finishing coats of the various paints or surface finishings shall be free from sags, brush marks, runs, wrinkling, dust, bare or 'starved patches, variations in colour and texture, and other blemishes.

When the work has been completed, the finished surfaces shall not be inferior in quality, colour and finish to the samples approved by the Architect, and imperfections in manufacture shall not be apparent through these finished surfaces.

In the event that the Architect is not satisfied that the quality of finish does not comply with the required standards and/or the sample panel the contractor will be required to repaint at his own expense, such work to the satisfaction of the Architect. If in the opinion of the Architect it is necessary to remove completely the unsatisfactory paintwork this shall also be done under the direction of the Architect at the expense of the contractor.

D Packaging, Delivery and Storage

All paints and surface coatings shall be delivered in sound sealed containers, labelled clearly by the manufacturers, the label or decorated container must state the following:-

- a) The type of product
- b) The brand name and colour
- c) The use for which it is intended
- d) The manufacturer's batch number
- e) The B.S number if applicable
- f) All labels shall be printed – containers bearing type written labels will not be acceptable

Materials shall be stored under cover in accordance with the manufacturer's instructions, and with local fire and safety regulations.

The store itself must be maintained at temperature of not less than 50 degrees f (10 degrees C) and must not be subjected to extreme changes of temperature.

A VINYL EMULSION PAINT

Surfaces to be painted shall receive one mist coat followed by two full coats of vinyl emulsion paint. Application may be by means of rollers or brushes.

B GLOSS FINISH PAINT

Surfaces to be painted shall be primed then painted with two undercoats followed by one coat gloss finish paint.

C CLEAR POLYURETHANE VARNISH

Surface to be clear varnished shall be treated with two coats polyurethane varnish

D TEXTURED COATING

The manufacturer's instructions concerning application of the coating are to be strictly followed under the direction of the Architect.

All surfaces to receive textured coatings are to be clean and dry with surfaces scrapped and brushed before application of the coating.

Application of the coating is to be with textured roller or fibre brush as directed by the Architect with a minimum spreading capacity of 1 kilogramme per square metre. Under no circumstances is the coating to be thinned.

PART TWELVE: SPECIFICATIONS DRAINAGE

GENERAL

A. REGULATIONS ETC.

The whole of the drainage is to be executed by a registered plumber and drainlayer in strict accordance with the Regulations of local Authorities and to the satisfaction of the Architect.

B. CEMENT, SAND ETC

The description of material and workmanship contained in the foregoing sections shall apply equally hereto.

MATERIALS

C. PITCH FIBRE PIPES

All pitch fibre pipes and fittings for external services shall be manufactured in accordance with the requirements of B.S 2760. Pipes shall be connected by means of purpose made tapered joints manufactured in accordance with B.S 2760.

D. PRECAST CONCRETE PIPES

Precast concrete pipes for surface water and sewage shall comply with the requirements of B.S. 556 class 1.

Where flexible spigot and socket type of flexible rebated type joints are specified, rubber gaskets complying with the requirements of B.S 2494 shall be used except where oil products are likely to be present, in which case gaskets shall comply with the requirements of B.S 3514.

Where ordinary spigot and socket type ordinary rebated type joints are specified, the joints shall be made with a cement mortar mix.

Porous concrete pipes shall comply with the requirements of B.S 1194.

E ASBESTOS CEMENT PIPES

Asbestos cement sewerage pipes and fittings shall comply with the requirements of B.S 3656 with asbestos cement sleeve joints with rubber rings complying with the requirement of B.S 2494 class C.

F. CAST IRON PIPES

Cast iron drain pipes for building drainage shall comply with the requirements of B.S 437. Fittings for cast iron pipes shall comply with the requirements of B.S 78 or B.S 2035. Pipes and fittings will be coated internally and externally with an approved bituminous composition, except those parts to be encased in concrete which shall be coated internally only in the concrete area.

A CLAY PIPES

Clay pipes and fittings for sewerage or surface water shall comply with the requirements of B.S 65 and B.S 540 with Type 1 sockets and supplied complete with the manufacturer's flexible joint.

Clay pipes for use in the construction of french drains shall be British surface water pipes glazed or unglazed manufacture in accordance with B.S 65 and B.S 540 with Type 2 sockets or plain ended and supplied with sleeve couplings. Type 1 socketed and sleeve coupled pipes shall be perforated.

B P.V.C DRAIN PIPES

P.V.C drain pipes and fittings shall comply with the requirements of B.S 4660:1973.

C PRECAST CONCRETE MANHOLES

Concrete manhole ring sections shall be unreinforced ogee jointed complying with the requirements of B.S. 556. Shaft and chambers slabs shall be either mild steel reinforced heavy or light duty type, as specified.

D PRECAST CONCRETE OPEN CHANNELS

Precast concrete invert and sideblocks shall be of dense precast concrete free from cracks and spalls. The concrete used shall be nominal 1:2:4 mix.

Precast concrete invert and side blocks shall be cast in steel moulds. All arrises shall be true well defined.

E GULLIES

Precast concrete gullies shall be unreinforced and shall comply with the requirements of B.S 556.

Glazed ware gullies shall comply with the requirements of B.S 539. Cast iron gullies shall be of approved manufacture and shall conform with the dimensions and weight specified.

Gulley gratings and frames shall comply with the requirements of B.S 497.

F MANHOLE COVERS AND FRAMES

Manhole covers and frames shall be of cast iron in accordance with the requirements of B.S 497.

G MANHOLES LADDERS

Manhole ladders and fixings shall be of galvanised mild steel. The steel shall be mild steel grade 43 in accordance with B.S 4360 and shall be galvanised after manufacturer has been completed.

H MANHOLE SAFETY CHAINS

Manhole safety chains shall be of 10 mm galvanised mild steel short link chain and will comply with the requirements of B. S. 590. One end of the chain shall securely attached to 16 mm diameter galvanised mild steel eyebolt and the other end shall have a galvanised hook of attaching to a similar eyebolt.

MANHOLE STEP IRONS

Manhole step irons shall comply with the requirements of B.S 1247. For brick or block manholes, step irons shall be of galvanised malleable cast iron general purpose pattern with 230 mm long tails complying with the requirements of B.S 556.

B FILTER BACKFILL MATERIAL

Filter backfill material for field or french drains shall consist of hard clean rock, crushed slag or gravel having a grading within the limits given below for Type 'D' or 'E'. The aggregate crushing value of the material as determined by the tests in B.S 8.2 shall not exceed 30%. The material passing 420 microm sieve shall be non-plastic when tested in accordance with B.S 1377.

Sieve Sized Weight	Percentage by passing	
	Type 0	Type E
63 mm	-	100
37.5mm	100	85 – 100
20mm	-	0 - 20
10mm	45 - 100	0 - 5
3.35mm	25 - 80	-
600 microns	8 - 45	
75 microns	0 - 10	

WORKMANSHIP

C UNDERGROUND PIPELINES

The contractor shall construct the pipelines using the designs of pipe, bed, haunch and surround details on the drawings.

‘Rigid pipes’ shall mean pipes of cast or spun iron concrete, asbestos cement, clay or similar materials.

‘Flexible pipes’ shall mean pipes of steel PVC or other plastic, pitch fibre, ductile iron or similar materials.

‘Rigid joints’ shall mean joints made by bolting together flanges intergral with the barrels of the pipes, by welding together the barrels of the pipes by caulking sockets with non-deformable materials, such as cement mortar, run lead or by similar techniques.

‘Flexible joints’ shall mean joints made with factory made jointing materials, loose collars, rubber rings etc., and which allow some degree of flexing, however small, between adjacent pipes.

TRENCH EXCAVATION

Trenches for pipes other than those forming part of a field or french drain shall be excavated to a sufficient depth and width, subject to the following restrictions, to enable the pipe, joints, bed, haunch and surround to be accommodated.

From the bottom of the trench to a level 300 mm above the crown of the pipe trench widths shall not be less than the minimum nor greater than the maximum figures shown in the Table A.

Battering the sides of trenches shall only be permitted above this level where approved.

The minimum width of trench shall be used for measurement purposes.

Table A- pipe Trench widths

Nominal Interna Max.Trench		Min.Trench
Diameter (mm)	Width(mm)	Width (mm)
630	100	430
700	150	500
750	200	550
780	225	580
880	300	680
1150	375	950
1200	400	1000
1230	450	1030
1320	525	1120
1440	600	1240
1530	675	1330
1600	750	1400
1690	825	1490
2120	900	1920
2300	1250	2100
1200	2290	2490
Above 1200 Outside Dia	Outside dia. Of Above 1200 of pipes plus 1000mm	Pipes plus 800 mm

All sheeting and supports are to be out with the minimum width stated.

The contractor shall provide whatever additional pipe protection is directed should the specified maximum width be exceeded due to his method of working.

The contractor shall fill up with well compacted granular bedding material with 1:2:4 mix concrete where ordered by the Architect, any excessive depth or trench arising from his method of working.

Where the trench formation is in ground that, in the opinion of the Architect, is too soft to afford proper support to the pipes, either

- i The trench shall be excavated down to solid ground and the extra shall be refilled with lean mix concrete, granular bedding material, gravel or broken stone, as the Architect directs, well compacted to form even bed or:
- ii The pipe shall be supported by facines, piles or such other means as the Architect may direct.

The contractor shall avoid unduly disturbing the finished trench formation and shall make good disturbed areas and excavate any wet or puddled material which might result from his failure to do so. Voids shall be made good as the previous clause.

Where directed trenches close to existing structures be opened in short lengths and refilled or partly filled with lean mix concrete or other approved material.

The material excavated in forming pipelines shall if unsuitable be run to spoil and replaced with suitable materials as so defined.

Suitable material shall be set aside for use as backfill. Unsuitable material shall comprise all material such as material from bogs, marshes, swamp peat, logs, stumps, perishable material, clays having a liquid limit exceeding 80 or a plasticity content greater than 30% of the dry weight.

All surplus excavated material shall be disposed of to spoil tips provided by the contractor.

A PIPELAYING – GENERAL

On arrival at the site, pipes shall be carefully inspected for damage ends, cracks or other defects and any found to be faulty shall be marked and set aside for a decision from the Architect as to their acceptability.

Pipes with damaged ends shall be either completely replaced or have the ends to the extent, and trimmed, as directed by the Architect.

The contractor shall ensure that all pipes are properly hauled both by his staff and by any cartage contractor employed by him.

During transport, pipes shall not be allowed to rest on narrow cross members of vehicles or anything else that might give concentrated loads due to the weight of the pipe or bumping of the vehicle but must be properly supported on soft material. Sufficient labour and equipment must be handed before unloading is commenced and under no circumstances must any pipes be dropped or thrown from a vehicle. The Architect shall have the right to reject consignments or stocks of piping from which failed pipes have been drawn, or order them to be pressure tested outside the pipelines at the contractor's expense even though no defects are apparent, if there is reason to believe that mishandling has taken place.

Flat braided wire slings or band slings shall be used for slinging all pipes except externally coated pipes and plastic pipes for which only special band slings not less than 300 mm wide shall be used. Chain or rope slings, hooks or other devices working on scissors or grab principles must not be used.

Subject to the requirements of inspection before acceptance protective bolsters, caps or discs on the ends of flanges, specials or fittings shall not be removed until the pipes, special or fittings are about to be lowered into the trench.

Before a pipe is lowered into the trench it shall be thoroughly examined to ensure that the internal coating or lining and the outer coating or sheathing are undamaged. Where necessary the interiors of pipes, specials and fittings shall be carefully brushed clean.

Any damaged parts of the coatings or lining shall, before a pipe is used, be made good as directed. Pipelaying shall not commence until the bottom of the trench and the pipe bed have been approved. Flexible pipes, rigidly jointed, may be joined on the ground surface before lowering into the trench. All joints shall be supported by slings as the pipes are lowered and the pipe-line must not be deformed to a greater extent than recommended by the manufacturer.

Pipes must be brought to the correct alignment and inclination, concentric with the pipes already laid.

All pipes less than 600 mm in diameter with flexible joints must be accurately marked prior to laying to ensure that the correct gap is left in the joint. An indelible mark shall be made on the spigot end on top of the pipe barrel to the depth of the socket less the detailed or specified joint gap. After correct jointing the mark should be flush with the face of the socket.

PVC pipes must be stored and handled carefully and must be in accordance with the manufacturer's recommendations.

A WITHDRAWAL OF SUPPORTS

During the placing of bedding, haunching, surrounding or anchoring material, temporary side supports and sheeting shall be removed except where directed to be left in and the full width of the trench will be infilled with bedding haunching, surrounding or anchoring materials.

B BEDDING AND PROTECTING PIPES – GENERAL

Bedding, haunching, surrounding and anchoring pipes shall be to the arrangement and dimensions shown on the drawings. A cavity of adequate size shall be excavated in the sides and bottom of the trench or left in the pipes bed at each joint and at each sling position.

The bottom of the trench or surface of the bed shall be finished to a smooth even surface at the correct levels to permit the barrel of the pipe to be solidly and evenly bedded throughout its whole length between joint and sling holes.

The preparation of the trench bottom or surface of the bed shall be completed for at least one full pipe length in advance of the pipe laying, except where in exceptional circumstances another arrangement is approved. No bedding material shall be placed in trenches containing water.

Where granular bedding is to be used, stones, bricks or similar materials shall not be used below or against the pipe to locate them in position in the trench or to level the pipes. Sufficient infill materials shall be placed around the barrels of pipes to prevent movement.

Where directed, puddle clay dams 500 mm thick shall be constructed around the pipe and across the trench as haunching and surrounding proceeds. The dams shall be at intervals not exceeding 30 metres or as directed and their height shall be determined by the Architect.

Where directed by the requirements for testing pipelines the method of haunching and surrounding pipes shall be modified to leave pipe joints exposed. Where there is a high ground water table all pipes shall be surrounded in an approved free drainage material.

A CONCRETE BEDDING, HAUNCHING, SURROUNDING AND ANCHORING

Concrete for bedding, haunching or surrounding pipes shall be 1:2:4 nominal mix concrete and no back filling of the trench shall be done until the concrete has reached a strength of 15 N/mm².

Before placing concrete, pipes shall be supported near each joint on a precast concrete block or on engineering bricks with a padding of two layers of hessian based damp proof course or material of similar yield between the barrel of the pipe and the supporting block. The surface of the support shall be perfectly smooth for at least 75 mm by 75 mm under the pipe, and the size of the blocks shall be as directed.

Concreting of bedding, haunching or surrounding shall not be done until the pipes have been jointed and inspected. The concrete shall be vibrated into place under the pipe and concrete shall be in full contact with the underside of the pipe throughout its length.

The concrete shall be placed in one operation and shall be well worked form a homogeneous mass. There shall be no horizontal construction joint in the concrete below the level of the half pipe. The pipe shall be carefully anchored against flotation. Concrete beds, haunches and surrounds of pipes with rigid joints shall be formed in lengths not exceeding 10.0 metres which shall be separated by a soft wood joint filter 25 mm thick.

Concrete bedding, haunching pipes shall be discontinuous at flexible pipe joints. Shaped formwork made from fibreboard or other equally compressible material of the thickness stated in the contract and of size and shape equal to the next section of the concrete protection to the pipes shall be used and left at the pipe joint as shown on the drawings. The formwork shall be neatly cut and properly supported by temporary strut and rails where necessary.

PVC pipes shall be wrapped in polythene sheet or roofing felt about 2 mm thick before being haunched or anchored in concrete.

Nominal 1:2:4 mix concrete shall be placed at all bends, tees, junctions, changes of direction and gradients to prevent movements of pipelines due to thrust from water pressure, in such positions and quantities as directed.

Concrete pipe anchorages and thrust blocks in trench shall be placed against undisturbed ground. Any loose or disturbed material shall be removed immediately before the concrete is placed.

Concrete anchorages to PVC pipes shall be placed to support half the circumference of the pipe. The pipe must not be encased. Where compliance with the requirement would result in concrete above the pipe, the anchorage concrete shall be placed beneath the pipe and the pipe will be restrained by straps as shown on the drawings.

A PLUG

Immediately after laying, the open end of a pipe shall be sealed with wooden plug or approved stopper of appropriate size to prevent the entry of material which might contaminate the pipelines, damage the linings, obstruct the waterway or effect the working of valves, meter etc. Plugs shall be unperforated and shall be shaped to fit exactly so that water from the trench excavations shall not be allowed to gain access to the pipeline.

The plugs in sewers may, with the Architects approval, be provided with small holes for drainage purposes, but water from the trench excavation which is heavily charged with silt shall not be allowed to gain access to the pipe.

Where work is interrupted for a period, the plug left in position shall be regularly inspected for their fixing to ensure that there has been no tampering by unauthorised persons. Whenever any plug is removed, the immediate length of pipe shall be examined for dirt or obstructions and shall be cleaned as required.

Adequate precautions must be taken by way of backfilling or other means to anchor each pipe securely to prevent flotation of the pipeline in the event of the trench being flooded. No equipment, clothing or apparel must be left or sorted inside pipelines.

B JOINTING PIPES

Joints shall be made strictly in accordance with the manufacturer's instructions. The contractor shall make use of the technical advisory services offered by manufacturers for instructing pipe jointers in the methods of assembling joints. Where manufacturers recommend the use of special jointing tackles, the contractor shall use these for the assembly of all joints to pipes. Sockets shall be laid looking uphill unless otherwise approved.

Before making any joints, all jointing surfaces shall be thoroughly cleaned and dried and maintained in such condition until the joints have been completely made or assembled. Notwithstanding any flexibility provided in the pipe joints, pipes must be securely positioned to prevent avoidable movement during and after the making of the joint.

The space between the end of the spigot and the shoulder of the socket of flexibly jointed pipes when jointed shall be as recommended by the manufacturer or ordered by the architect. After flexibility jointed pipes, other than

PVC pipes have been jointed the gaps between the barrel of the pipes and the internal face of the socket shall be sealed with puddle clay, uncaulked rope yarn or other approved material. The rope yarn or other material must have been treated so as not to support bacterial growth.

Where loose collars are used to join pipes cut for closers, special tools shall be employed to keep the inside of the pipes flush and the collar concentric with the pipe while the joint is being made. Pipes provided with spigot and socket joints of the selfcentering, instantaneous joint type, such as the rubber ring push fit joint, shall be laid and jointed strictly in accordance with the makers instructions. Generally the joint ring shall be cleaned and inspected for cuts and defect, and socket spigot examined to ensure free recommended lubricant will be used.

A CAST IRON JOINT FITTINGS

Cast iron detachable joint collars and flanges shall be tested by striking lightly with a spanner immediately before they are placed and if they fail to ring true shall be set aside and not incorporated in the work until proven sound. The flanges shall be correctly positioned and the component parts including any insertion ring cleaned and dried.

Insertion rings shall be fitted smoothly to the flange without folds or wrinkles. The face and bolt holes shall be brought fairly together and the joints shall be made by gradually and evenly tightening bolts on diametrically opposed positions. Only standard length spanners shall be used to tighten the bolts. The protective coating, if any, of the flange shall be made good when the joint is completed. Bolts threads shall be wrapped with PTFE tape where directed before use.

No washers shall be used on flanged pipework to be laid below ground. Bolts shall be as specified and shall be the correct length, leaving a maximum of two threads exposed.

B CEMENT MORTAR JOINTS

The spigots and sockets of concrete pipes shall be thoroughly moistened before cement mortar joints are made. In making ogee joint to concrete pipes a thick layer of cement shall be applied to the butting faces, the pipe being laid shall be well driven against the other, and the jointed finished off inside, flush with the pipe wall. The outside of the joint shall be pointed up with a 75mm wide x 25mm thick mortar fillet all round and central about the joint. In making yarn and mortar joints for concrete and clay pipes, the spigot of the last pipe laid until it bears on the back face of the socket and shall be centred in the socket. Two turns of tarred yarn shall then be firmly caulked into the back of the socket with a proper caulking tool. Mortar consisting of 2 parts of sand to 1 part of cement shall then be pressed firmly into the joint to fill the socket completed and shall be neatly bevelled off at 45 degrees from the outside edge of the socket. Joints made with cement mortar shall remain exposed for at least 3 hours to allow for the initial set of the cement.

All joints shall be examined and approved before the refilling of the trench is commenced

C BACKFILLING TRENCHES

If the contractor allows material to become unsuitable, which when excavated was suitable for re-use, and it is unsuitable when required for backfilling, he shall run it to spoil and make good by replacing with suitable material.

Where required to meet the specification for testing pipelines, trenches shall be partially backfilled to provide anchorage, but joints shall be left exposed.

Backfilling shall whenever practicable be undertaken immediately the specified operations preceding it have been completed. No backfill material shall be placed in trench containing water.

In trenches in roads, verges and where shown on the drawings above 300mm over the crown of the pipe backfill, material shall be deposited in layers each not exceeding 225mm thickness and each compacted to 100% with a moisture content between with the moisture content between 0.8 and 1.05. M.C. Power rammers or vibrating plate compactors shall be used to compact the backfilling from one metre above the crown level of the pipe to the surface.

In trenches in fields or open country backfill material above 300mm over the crown of the pipe may be placed by machines provided the method of operation ensure that the materials slides or rolls into position and does not drop from a height.

The backfill material must not include any stones or boulder of dimensions exceeding 150mm in any position. Sufficient space shall be left to receive the original thickness of solid, turf or other materials removed from the surface. The surfaces shall be restored by replacing the materials in their proper order and form, and by compacting then to such a level as shall ensure that after settlement is complete the surface level of refilled trenches shall be within 30mm of that of the adjacent undisturbed ground.

Where directed, trenches shall be backfilled with lean mix concrete made with 1kg cement to 12 kg aggregate. The aggregate will be as, clinker, gravel, stone or other hard material, approved by the architect, and free from sulphates, dust and other deleterious material.

A FIELD OR FRENCH DRAINS

Trenches for drains up to 150mm in diameter shall be excavated to a width of at least four times the normal diameter of the pipe; above 150mm diameter the width shall be the diameter plus 450mm.

Where shown on the drawings pipes for drains shall be bedded on a 75mm thickness of lean mix concrete which shall also be brought up until at least one-third of the depth of the pipe is supported and in the case of perforated pipes, no line of operations is thereby blocked. Non-circular pipes shall be bedded as shown on the drawings. Socketed pipes shall be laid with a space of about 12mm between the spigot and the inner end of the socket. Ogee jointed porous concrete and perforated clay pipes with rebated joints shall be dry jointed. Perforated pitch fibre pipes may be jointed with any of the joints specified in B.S.2760.

Trenches for drains shall be backfilled with materials approved by the architect.

The pipes, the filter materials and the surface over drains shall at all times be kept free of obstructions.

B OPEN SURFACE WATER CHANNELS

Excavation shall be carried out generally as described for pipework. The invert shall be finished to a true line and fall and sides shall be trimmed to the slopes indicated.

Invert blocks and sides slabs shall be laid on a 100mm thick bed of suitable approved granular material formed and well compacted. They shall be jointed by thickly covering the joint face with mortar and driving the next unit firmly against that previously laid. The excess mortar squeezed out of the joint shall be neatly trowelled off. Channels ends shall be saturated with water and newly completed joints shall be protected and cured as for concrete pipes.

C MANHOLE INSITU CONCRETE

Manholes of insitu concrete will be formed as for blockwork manholes, the blockwork being replaced by nsitu mass 1:2:4 nominal mix concrete.

Precast concrete manholes for sewers of up to 1200mm diameter shall be constructed as detailed on drawings using precast concrete component.

Manhole cover slabs may be cast insitu using reinforced nominal 1:2:4 mix concrete precast using reinforced nominal 1:1½:3 mix concrete.

Unreinforced precast concrete chamber rings shall be surrounded with a minimum thickness of 150mm nominal 1:3:6 mix mass concrete as detailed on the drawings.

Step irons 230mm long shall be set into the external concrete surround to the manhole and the slots through the chamber rings filled with cement mortar.

A CHAMBERS

Chambers for access to valves and fittings on pressure pipelines for water or sewage, unless otherwise directed shall be constructed in concrete blockwork.

B SEPTIC TANKS

Septic tanks shall be constructed to the dimensions and general arrangement detailed on the drawings and in the contract. Tanks with blockwork shall be constructed as for manholes.

C TESTING FOR SEPTIC TANKS

Septic tanks and other chambers shall be tested by filling with water after completion of backfilling.

The first 1.0 metre of depth may be filled as quickly as the supply permits. Between this and top water level the rate of filling must not exceed 1.0 metre in 24 hours. After filling to top water level no further water shall be introduced for 2 days. At the end of this period the tanks shall be topped up to top water level and allowed to stand for 24 hours. The test shall be considered satisfactory if the fall in water level in 24 hours does not exceed 15mm.

In the event of a fall exceeding the above tank will be emptied and any defects made good prior to retest as before, all at the contractor's expense.

D CONNECTION TO SEWER

All connections to sewers are to be made with angle junctions set at the correct angle to minimize the use of bends. All angles shall not exceed 45 degrees.

The open ends of all house connections and other pipes not required for immediate use shall be sealed up with purpose made stoppers secured in position. The ends of connections and all junction positions will be clearly marked by posts and painted boards of a type and size to be approved by the Architect and the board shall be plainly marked with the letter 'S' and the size and depth below kerb level or ground level. A length of 4.5 mm galvanised iron wire shall be fixed to the face of the last pipe and the marking post.

Every care shall be taken to prevent the marking boards being disturbed and the contractor shall take responsibility for their safety.

The information shall also be painted on the kerbs in an approved manner when all works are complete and the contractor shall record the position of all branches fixing distances from the manhole immediately downstream of the branch.

A TESTING SEWER

Wherever possible, testing shall be carried out from manhole to manhole. Short branch drains connected to main sewer between manholes shall be tested as one system with the main sewer. Long branches shall be tested separately.

Pipes not exceeding 750mm nominal diameter shall be tested in one of the following ways:-

I. WATER TEST

A test pressure of 1.2 metres head of water above the soffit of the sewer shall be applied at the high end but not more than 6 metres at the low end by means of a stand-pipe. Steeply graded sewers shall be tested in stages where the above maximum head shall be exceeded if the whole section is tested in stages where the above maximum head shall be exceeded if the whole section is tested at once. A period of one hour shall be allowed for absorption. The loss of water over a period of 30 minutes shall be measured by adding water from a measuring vessel at regular intervals of 10 minutes and noting the quantity required to maintain the original water level in the standpipe. The average quantity of water added for sewers up to 300mm nominal bore must not exceed 0.06 litre per hour per 100 linear metres per mm of nominal bore of sewer. For sewers exceeding 300mm nominal bore the average quantity of water added must not exceed 0.12 litre per hour per 100 linear metres per mm of nominal bore of the sewer.

II. AIR TEST

The length of sewer under test shall be effectively plugged and air pumped in by suitable means e.g. a hand pump, until a pressure of 100mm head of water is indicated in a U-tube connected to the system. The air pressure must not fall to less than 75mm head of water during a period of 5 minutes, without further pumping, after a period of 2 minutes for requisite stabilization.

Sewers will be tested:

- i after laying and placing concrete if any but before backfilling over joints and after backfilling has been completed.

Sewers constructed of steel, spun iron or other materials designed for high pressure shall be tested in accordance with the provisions of clause 33.00 below. Pipes exceeding 750mm nominal diameter shall be tested as required by the contract.

Where required by the contract the sewer shall be tested for obstruction by the insertion and pulling through of twin-coupled rubber plunges of the same diameter as the sewer.

Sewer shall be tested for infiltration after backfilling. All inlets to the system shall be effectively closed and the residual flow shall be deemed to be infiltration. The following limits of infiltration must be exceeded:-

- ii for sewers not exceeding 750mm nominal internal diameter, 0.08 litre per hour per 100 linear metres per mm of nominal bore of the sewer.
- iii for sewer exceeding 750mm nominal internal diameter 0.16 litre per hour per 100 linear metres per mm of nominal bore of the sewer.

Infiltration to manhole must not exceed 5 litres per hour per manhole

A MANHOLES AND CHAMBERS

Manholes and chambers shall be constructed in accordance with the drawings and specifications and in the positions as detailed on the drawings or directed by the Architect.

Pipes in and out of manholes are to be as short as practicable and shall be built in monolithically with the manhole and the manhole made watertight. Where line, level and pipe diameter permit and where approved by the architect, the pipeline may be laid broken through the manhole position subject to the pipe joints external to the manhole not exceeding 600mm from the inner face of the manhole wall.

The depth of the main channel must not be less than the diameter of the largest pipe. Where pipes have been laid unbroken through the manhole position the crown of the pipe shall be broken out to the half diameter over the full length of the manhole and the benching completed as directed by architect.

Branch bends shall be curved in the direction of flow and will be trowelled smooth with a steel float finish. Spaces between branch bends shall be completely filled with concrete and the faces above the main and branch channel inverts shall be trowelled smooth with a steel float finish.

Bases and benching shall be formed in 1:2:4 nominal mix concrete trowelled smooth with a steel float finish

Manholes inside buildings and elsewhere as shown in the contract shall have cast iron pipes with access openings and bolted cover plates with the requisite branches in lieu of open channels and branch bends. The bottom of the manhole shall be brought up in concrete to the underside of the cast iron cover plate of the access pipe and benched up at slope of 1:12 and trowelled smooth.

Manhole covers and frames shall be fixed in the position shown, the frame shall be solidly bedded in cement mortar so that generally the cover when in position are fair and even with the adjacent surfaces except where directed by the architect when they shall be kept 75mm above the adjacent surfaces. Where shown or directed frames shall be bedded on one or two courses of blockwork in cement mortar.

Step irons are not required where the depth to benching is less than 900mm and the diameter of the largest pipe is less than 450mm. Channels more than 450mm in depth shall have one or more step irons in a recess, or toe holes and hand rail or post within easy reach, as detailed. A manhole shaft (excluding the 1-2 courses of blockwork under the cast iron cover) shall not be constructed unless the complete length shall exceed 1.0 metres.

Where depth from ground level to top of benching exceeds 4.5 metres a ladder may be used instead of a step iron where directed.

Manhole ladders shall have brackets (not less than two pairs per ladder) of material equal to the stingers built into the blockwork or concrete at intervals of not more than 2.0 metres.

In deep manholes suitable rest chambers shall be provided at about 6 metre intervals, each with a landing platform incorporating a hinged trap door immediately under the ladder as detailed in the contract.

Cover slabs of manholes shall be reinforced as shown on the drawings, minimum cover to steel 40mm, and the concrete shall be as detailed in the contract. All manholes on sewers of 600mm diameter and over shall be provided with safety chains across the mouth of the sewer on the downstream side and handholds or a 25mm solid bar handrail shall be provided on the edges of all benching platforms etc., as detailed or directed. The contractor shall supply two sets of lifting keys for each pattern of manhole cover incorporated in the work. General Specifications All manholes and chambers when completed must be watertight and to the satisfaction of the architect.

A CONCRETE BLOCKWORK MANHOLES

Concrete blockwork manholes for sewers up to 750 mm diameter shall be constructed as detailed on the drawings, using concrete blocks as specified laid in English bond beds and vertical joints shall be completely filled with mortar as the blocks are laid. External joints shall be flush pointed and internal joints shall be raked out to receive rendering as work proceeds. Cuts blocks shall only be incorporated when necessary for closures.

Where built into manhole walls, pipes of 375mm diameter and above shall have 150mm thick concrete relieving arches turned over to the full thickness of the blockwork. Where the depth of the invert exceeds 5.0 metres below the finished ground level the arch shall be 300mm thick. Walls of manholes up to 2.0 metres deep and up to 4.0 metres shall be increased in thickness to 400mm blockwork. Walls over 4.0 metres deep and upto 7.0 metres shall be 600mm blockwork and over 7.0 metres deep manholes shall be precast concrete or insitu concrete as directed by the architect. Overall manhole deep manholes shall be adjusted to the nearest half block size with the approval of the architect.

Manhole shafts shall be 750mm by 675mm and where ladders are used this size shall be increased to 825mm by 675mm with the shaft top corbelled as necessary.

Step iron having tail 230mm long shall be built in at 300mm vertical intervals as shown with the uppermost step iron from 60mm to 900mm from the top of the manhole cover as detailed.

PARTICULAR PRELIMINARIES

Item	Description	Amount KSh
	<u>PARTICULAR PRELIMINARIES</u>	
A	EMPLOYER The Employer is Alupe University College The term "Employer" and "Government" wherever used in the contract document shall be synonymous.	
B	PROJECT MANAGER The term "PM" wherever used in these Bills of Quantities shall be deemed to mean the "The Engineer" as per Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government .	
C	ARCHITECT The term "Architect" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Public Works, Housing and Urban Development, P.O Box 30743 -00100, NAIROBI.	
D	QUANTITY SURVEYOR The term "Quantity Surveyor" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Public Works, Housing and Urban Development, P.O Box 30743-00100, NAIROBI.	
E	ELECTRICAL ENGINEER The term "Electrical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Public Works, Housing and Urban Development, P.O Box 30743-00100, NAIROBI.	
F	MECHANICAL ENGINEER The term "Mechanical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing and Urban Development, P.O Box 30743-00100, NAIROBI.	
G	STRUCTURAL ENGINEER The term "Structural Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Ministry of Transport, Infrastructure, Housing and Urban Development, Directorate of Public Works, P.O Box 30743 - 00100, NAIROBI.	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
A	<p>PRICING ITEMS OF PRELIMINARIES</p> <p>Prices SHALL BE INSERTED against items of “preliminaries” in the tenderer’s priced Bills of Quantities. The contractor is advised to read and understand all preliminary items.</p>	
B	<p>SCOPE OF CONTRACT</p> <p>The works to be carried out comprises of erection and completion of a state of the art multipurpose hall and associated Electrical and Mechanical Installations works at Kagumo High School, Nyeri County.</p>	
C	<p>DESCRIPTION OF THE WORKS</p> <p>The Works consist of: Erection and completion of a lecture hall on reinforced concrete foundations. The superstructure will be consist of concrete works and natural stone walling with, The roof will consist of box profile prepainted roofing sheets gauge 28 G.C.I sheets box profile on steel structure. The external wall finish will consist of textured paint to walls, columns & beams. The internal wall finish will include plaster and paint & ceramic tiles to all wet areas. Floors to be finished in mahogany floor boards, ceramic tiles and carpet. Ceiling finishes are in plaster and paint, and gypsum/acoustic ceiling on pressed steel brandering system. Doors are in solid core timber flush doors. Windows are in aluminium</p> <p>External and Civil works include; Foul Drainage, Storm water drainage, Driveway / Parking Areas.</p> <p>Electrical works include electrical wiring & fittings</p> <p>Mechanical works including associated fittings</p>	
D	<p>MEASUREMENTS</p> <p>In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER in accordance with the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with the said Conditions.</p> <p>All measurements shall be as per Standard Method of Measurements (SMM) - 2008 Edition</p>	
	Carried to collection	

Item	Description	Amount KSh
A	FLOOR AREAS LECTURE HALL Lecture Hall Ground Floor = 2, 215 SM First Floor = Total floor area = 2, 215 SM Storey height = 6.0 Meters	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
A	<p>LOCATION OF SITE</p> <p>The site of the proposed works is Alupe University College - Busia County.The Contractor is advised to visit the site to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained.</p> <p>SIGNING OF THE TENDER DOCUMENTS</p> <p>The bidder shall append his / her signature and / or company 's rubberstamp on each and every page of tender document.</p> <p>DEMOLITIONS AND ALTERATIONS</p> <p>The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs, etc as directed by the Project Manager and as necessary for the adequate propping and protection of existing property, finishes, workmen employed on the site, employer's agents and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the works and any necessary making good consequent upon this is to be executed to the satisfaction of the Project Manager.</p> <p>The works shall be propped, strutted and supported as necessary before any alteration or demolition work commences. Prices shall include for all cleaning and preparatory work to structure and finishes and for making good to all finishes on completion whether or not specifically described.</p> <p>Unless described as set aside for re-use all arising debris and surplus materials shall be carefully removed from building and carted away from site.</p> <p>The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use during their removal unless it is certified by the Project Manager that such damage or breakage was inevitable as a result of the condition of the item concerned.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>CLEARING AWAY</p> <p>The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Project Manager.</p> <p>The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project Manager.</p>	
B	<p>CLAIMS</p> <p>It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contract period.</p>	
C	<p>PAYMENTS</p> <p>The tenderer's attention is drawn to the fact that the GOVERNMENT DOES NOT MAKE ADVANCE PAYMENTS but pays for work done and materials delivered to sit: Refer with Special Conditions of Contract. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements.</p>	
D	<p>PREVENTION OF ACCIDENT, DAMAGE OR LOSS</p> <p>The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.</p>	
E	<p>WORKING CONDITIONS</p> <p>The Contractor shall allow in his rates for any interference that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed, as the facility will be operating as usual during the course of the contract.</p>	
F	<p>SIGNBOARD</p> <p>Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away a signboard as designed, specified and approved by the Project Manager.</p> <p>The signboard shall give a brief title of the project and image</p> <p>The Signboard and lettering on same for the display of the General and Sub-Contractors' names shall be of an approved size with the Employer's name painted thereon. The Project Manager, and other Consultants' names shall be printed in 50 mm letters all to the Architect's approved design.</p> <p>No other signboard or advertising will be permitted without prior permission from the Architect.</p>	
G	<p>LABOUR CAMPS</p> <p>The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the contract.</p>	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
A	<p>MATERIALS FROM DEMOLITIONS</p> <p>Any materials arising from demolitions and not re-used shall become the property of the client. The Contractor shall allow in his rates the cost of disposing the demolished materials as directed.</p>	
B	<p>PRICING RATES</p> <p>The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.</p>	
C	<p>SECURITY</p> <p>The Contractor shall allow for providing adequate security for the works and the workers in the course of execution of this contract. No claim will be entertained from the Contractor for not maintaining adequate security for both the works and workers.</p>	
D	<p>URGENCY OF THE WORKS</p> <p>The Contractor is notified that these “works are urgent” and should be completed within the period stated in these Particular Preliminaries.</p> <p>The Contractor shall allow in his rates for any costs he/ she deems that he/she may incur by having to complete these works within the stipulated contract period.</p>	
E	<p>PAYMENT FOR MATERIALS ON SITE</p> <p>All materials for incorporation in the works must be stored on site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers.</p>	
F	<p>EXISTING SERVICES</p> <p>Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.</p>	
G	<p>CONTRACT COMPLETION PERIOD</p> <p>The contract completion period in accordance with the Conditions of contract must be adhered to.</p> <p>The ‘PROJECT MANAGER’ shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the ‘PROJECT MANAGER’ shall inform the Contractor in writing that his actual performance on site is not satisfactory. In all such cases the Contractor shall accelerate his rate of performance production and progress by all means such as additional labour, plant, e.t.c and working overtime all at his cost.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>PERFORMANCE BOND</p> <p>A bond of 5% of the contract sum will be required in accordance with the Special Conditions of Contract on award of contract. No payment on account for the works executed will be made to the contractor until he has submitted the Performance Bond to the Project Manager duly signed, sealed and stamped from an approved Bank.</p>	
B	<p>TENDER DOCUMENTS</p> <p>Tender documents are as listed in Page (i) of the Tender Document.</p>	
C	<p>DELIVERY OF TENDER</p> <p>Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement.</p> <p>Tenders will be opened at the time specified in the letter accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the above time will not be</p>	
D	<p>VALUE ADDED TAX</p> <p>The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993 which requires payment of VAT on all contracts. The Contractor should therefore include allowance in his rates and prices for VAT and any other Government taxes currently in force.</p> <p>The tenderer is advised that in accordance with Government public notice No. 35 & 36 Dated 11th September 2003 operational from 1st October 2003, VAT will be deducted against the contract sum at the prevailing rate by the Employer and remitted directly to the Commissioner of VAT through all interim certificates. It should however be noted that this is not additional tax but a new mode of payment for VAT, any excess payment will be refundable once the Contractor has submitted monthly returns to the Commissioner of VAT who will do the refunds when satisfied that the VAT regulations have been complied with.</p> <p>NB: The Contractor should therefore include the VAT tax within the rates.</p>	
E	<p>EXISTING BUILDING MATERIALS</p> <p>NOTE: Any materials found usable for the works shall be given to the contractor on credit with the approval of the client</p>	
	Carried to collection	

Item	Description	Amount KSh
	<p><u>SPECIAL PRELIMINARIES</u></p> <p><u>PROJECT VEHICLES: 1NO.</u></p> <p>The Contractor shall price for supply and provision of One (1No.) Brand New Mitsubishi Xpander together with a licensed competent driver for use and to the satisfaction of the PROJECT MANAGER' all in accordance with the notes and specifications below:-</p> <p>The Contractor shall ensure that the vehicles comply with the all government regulatory requirements in force such as licenses, comprehensively insured, and serviced regularly in accordance with the manufacturer's instructions and maintained in good condition throughout the entire contract period so that the vehicles are available for use in good serviceable condition at all times.</p> <p>In the event of the vehicles being unserviceable when required, the contractor shall provide alternative vehicles of the same model or other equal and approved in compliance with the provisions of this condition.</p> <p>The vehicles shall be privately registered and the log books handed over to the Project Manager for safe keeping. After the contract is over the owner ship of the vehicles shall revert to Alupe University College</p> <p>The rates shall include for the provision of driver, fuels, lubricants and tyres, all maintenance, minor and major repairs including those occasioned by accidental damage from whatever cause arising and everything necessary to satisfy fully the requirements of this conditions.</p> <p>Prior to handing over the vehicles to Alupe University College at the end of the contract, the Engine Chassis and body work of the vehicle shall be re-conditioned to be as new and no excessive wear or use shall be obvious.</p> <p>The vehicle shall be given a final check by the Mechanical and Transport Engineer (M & T.E) Department of Roads, Transport, Public Works and Utilities; certificate of roads worthiness shall then be issued to the 'PROJECT MANAGER' for approval prior to acceptance of the vehicle by the Department of Roads Transport, Public Works and Utilities</p> <p>Reimbursement to the contractor for providing regular servicing fuels,oils,lubricants and tyres will be monthly based on actual kilometres travelled at a rate to be inserted here below</p> <p>Notes: Amount quoted to be for the 1no. vehicles</p> <p>Lump sum for providing 1No. Brand New Mitsubishi Xpandaer including charges thereof in connection with, inspection, licencing and registration</p> <p>Allow for providing a comprehensive insurance as described per year for 1 no. years @ Ksh Per year for each of the 1No. vehicles</p> <p>Allow for providing regular maintenance,lubricants,spare and tyres for the first 100,000 km @ Ksh per km for each of the 1No. vehicles</p> <p>Extra over rate (D) above for the distance travelled in excess of 100,000 km @ Ksh per km for 50,000 km for each of the 1No. Vehicles</p> <p>Allow for fitting each vehicle with five (5No) New tyres at the end of the contract. The old tyres shall remain the property of the contractor.</p> <p>Allow for final inspection by the Mechanical and Transport Engineer (M & T.E) Department of Roads, Transport, Public Works and Utilities for issuance of road worthiness for 1No. Vehicles</p> <p>Allow for change in registration and transfer to employer for the 1No. Vehicles</p>	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
	<p><u>PROJECT MANAGEMENT EXPENSES</u></p> <p>A Provide for facilitation for the project management supervisory team for the duration of the contract worth Kenya Shillings Three Million Thousand (kshs. 3,000,000.00) Only for site visits and inspections for Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works Officers for the duration of the contract period.</p> <p>Allow for Contractor's profit and overheads (-----%)</p> <p>B Provide a provisional sum of Kenya Shillings One Million (Kshs 1,000,000.00) only for Clerk of works expenses.</p> <p>Allow for Contractor's profit and overheads (-----%)</p>	
	Carried to collection	

Item	Description	Amount KSh
	<p><u>PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT</u></p> <p>The following are the insertions to be made in the appendix to the Contract Agreement: -</p> <p>Period of Final Measurement 3 Months From Practical completion</p> <p>Defects Liability Period 6 Months from Practical completion</p> <p>Date for Possession To be agreed with the Project Manager</p> <p>Date for Completion As Stated in the Special Conditions of Contract</p> <p>Liquidated and Ascertained Damages - As Stated in Special Conditions of Contract</p> <p>Prime cost sums for which The Contractor desires to tender.....</p> <p>Period of Interim Certificates Monthly</p> <p>Period of Honouring Certificates 60 days as per Conditions of contract [14.7.1]</p> <p>Percentage of Certified Value Retained 10%</p> <p>Limit of Retention Fund 5%</p>	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
	<p><u>COLLECTION</u></p> <p>Brought forward from page PP/1</p> <p>Brought forward from page PP/2</p> <p>Brought forward from page PP/3</p> <p>Brought forward from page PP/4</p> <p>Brought forward from page PP/5</p> <p>Brought forward from page PP/6</p> <p>Brought forward from page PP/7</p> <p>Brought forward from page PP/8</p> <p>Brought forward from page PP/9</p> <p>Brought forward from page PP/10</p>	
TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY		

GENERAL PRELIMINARIES

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

Item	Description	Amount KSh
A.	<p>EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT</p> <p>Attendance ; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted:-</p> <p>Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work: clearing away rubbish; unloading checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- Contractors' work and being responsible for the accuracy of the same.</p> <p>Fix Only:-</p> <p>"Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.</p>	
B	<p>FORM OF CONTRACT</p> <p>The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building Works (2021 Edition) included herein:</p> <p>The Conditions of Contract are also included herein</p> <p>Conditions of Contract</p> <p>These are numbered from 1 to 20 as set out in the standard tender document</p> <p>Particulars of insertions to be made in the Appendix to the Contract Agreement will be found in the Particular Preliminaries part of these Bills of Quantities</p>	
C	<p>PLANT, TOOLS AND VEHICLES</p> <p>The Contractor shall provide all necessary hoists, tackle, plant, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove same on completion.</p> <p>All materials and workmanship used in the execution of the works shall be of the best quality and description for the due and satisfactory completion of the works and shall remove the same on completion.</p> <p>The Contractor shall provide, erect and maintain all temporary scaffolding, sufficiently strong and efficient for the due performance of the Works, including Sub-contract Works, provide special scaffolding as and when required during the Works including all sub-contracted works and remove on completion and make good.</p> <p>Such scaffolding shall be constructed of tubular steel or timber of sufficient scantlings and be provided with planked footways and guard-rails to approval.No timber used for scaffolding ,formwork or similar temporary works shall be used afterwards in the permanent work.</p> <p>All such plant, tools and scaffolding shall comply with all regulations whether general or local, in force throughout the period of the Contract and shall be altered or adapted during the Contract as may be necessary to comply with any amendments in or additions to such regulations.</p> <p>Scaffolding is not measured hereinafter, and the Contractor must allow here or in his rates for the above.</p>	
D	<p>TRANSPORT.</p> <p>Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>MATERIALS AND WORKMANSHIP.</p> <p>All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.</p>	
B	<p>SIGN FOR MATERIALS SUPPLIED.</p> <p>The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER.</p>	
C	<p>STORAGE OF MATERIALS</p> <p>The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.</p>	
D	<p>SAMPLES</p> <p>The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works.</p> <p>The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.</p> <p>No alternte rate shall be offered on account that the employer has chosen a superior finish unless the bidder had attached the sample he priced.</p>	
E	<p>SETTING OUT</p> <p>The contractor shall set out the works according to drawings and shall be responsible for its correctness and shall be required to amend any errors arising from inaccurate setting out at his own cost and expense. Any discrepancies on the dimensions or levels marked on the drawings should be reported to the architect for their immediate attention and the contractor shall only proceed after the architect's instructions to adjust the same. No claim for extra time, expense or relief from provisions of the conditions of the contract may be made there after</p> <p>Before any works are commenced by sub-contractors or specialist, dimesnions must be checked by and agreed with the contractor. The contractor shall be responsible for the accuracy of such dimensions.</p>	
	Carried to collection	

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

Item	Description	Amount KSh
A	<p>ACCESS TO SITE AND TEMPORARY ROADS.</p> <p>Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads (approximately 70 metres long) for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER.</p>	
B	<p>AREA TO BE OCCUPIED BY THE CONTRACTOR</p> <p>The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER</p>	
C	<p>OFFICE ETC. FOR THE PROJECT MANAGER</p> <p>The Contractor shall provide, erect and maintain where directed on site a properly ventilated lockable office for the consultants, having a minimum floor area of 40 Square Metres complete with adequate furniture (Tables, chairs e.t.c). Provision shall be made for artificial lighting and cleaning facilities for the duration of the works. He shall also provide a strong metal trunk complete with strong hasp and staple fastening and two keys. He shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen tape.</p> <p>In particular, the Contractor is to note that the neighbourhood will continue with operations during the period of the works and the contractor shall ensure that construction activities do not interfere with such operations by way of noise, obstruction, dust, vibrations or trespass.</p> <p>The site office is to be fully supplied with power,with notice boards, and drawers for storage.</p> <p>The contractor to allow for provision of snacks and soft drinks to participants during site inspections and meetings</p> <p>The entire site is a non-smoking area.</p> <p>All such temporary works shall be dismantled and cleared away on completion of the construction.</p>	
D	<p>COMPUTER AND INTERNET CONNECTION</p> <p>The Contractor shall provide and maintain the Project Manager's office with, A3 printer, a high performance desk top computer and a laptop connected with unlimited high speed wifi internet connection. The Contractor is to pay all connection charges and shall allow for any other fees that may become payable during the contract period. The computer specifications shall meet the Project Manager's requirement and shall be for sole use of the Project Manager or his representative.</p>	
E	<p>SANITATION OF THE WORKS</p> <p>The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>WATER AND ELECTRICITY SUPPLY FOR THE WORKS</p> <p>The Contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub-contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use.</p>	
B	<p>SUPERVISION AND WORKING HOURS</p> <p>The works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract.</p> <p>The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement. Such sums are net and no addition shall be made to them for profit.</p>	
C	<p>PRIME COST (OR P.C.) SUMS.</p> <p>The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement. Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods as stated in the Conditions of Contract are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.</p>	
D	<p>PROGRESS CHART.</p> <p>The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.</p> <p>At the end of each month,the contractor shall incorporate actual start and finish dates into the time schedule and produce an update on the programme.The update is to show actual start and finish dates,identify out sequence of activities,critical activities and any constraints which may have or may affect the progress of the works.</p>	
E	<p>ADJUSTMENT OF P.C. SUMS.</p> <p>In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them.</p> <p>Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>NOMINATED SUB-CONTRACTORS</p> <p>When any work is ordered by the PROJECT MANAGER to be executed by nominated sub-contractors, the Contractor shall enter into sub-contracts as described in the Conditions of Contract and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".</p>	
B	<p>DIRECT CONTRACTS</p> <p>Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.</p>	
C	<p>ATTENDANCE UPON OTHER TRADESMEN, ETC.</p> <p>The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills.</p>	
D	<p>REMOVAL OF RUBBISH</p> <p>Removal of rubbish and debris from the Building and the site as it accumulates and at the completion of the works and removal all plant, scaffolding and unused materials at completion.</p>	
E	<p>INSURANCE</p> <p>The Contractor shall insure as required in the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection.</p>	
F	<p>PROVISIONAL WORK</p> <p>All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.</p>	
	<i>Carried to collection</i>	

Item	Description	Amount KSh
A	<p>ALTERATIONS TO BILLS, PRICING, ETC.</p> <p>Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.</p>	
B	<p>BLASTING OPERATIONS</p> <p>Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives.</p>	
C	<p>MATERIALS ARISING FROM EXCAVATIONS</p> <p>Materials of any kind obtained from the excavations shall be the property of the Government. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.</p>	
D	<p>PROTECTION OF THE WORKS.</p> <p>Provide protection of the whole of the works contained in the Bills of Quantities, including casing, casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Government.</p>	
E	<p>WORKS TO BE DELIVERED UP CLEAN</p> <p>Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER.</p>	
F	<p>GENERAL SPECIFICATION.</p> <p>For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.</p>	
	Carried to collection	

Item	Description	Amount KSh
A	<p>TRAINING LEVY</p> <p>The Contractor's attention is drawn to the legal notice which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than KShs. 1,000,000.00 in value.</p>	
B	<p>MATERIALS ON SITE</p> <p>All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers.</p>	
C	<p>HOARDING</p> <p>The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centres with two 75 x 50 mm timber rails. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site.</p> <p>The length of the Hoarding is Approximately 900 Metres</p>	
D	<p>CONTRACTOR'S SUPERINTENDENCE/SITE AGENT</p> <p>The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.</p>	
E	<p>SHOP DRAWINGS</p> <p>The contractor shall prepare for scrutiny and issue to the architect, copies of detailed shop drawings of all specialists works. The contractor shall immediately amend after the architect has checked the drawings and when approved shall issue to the architect four copies for general use. The scrutiny of these drawing shall be for general conformity including conformity with the works of others and to co-ordinate the contract work in pace. Such approvals shall not imply any further indication or correctness.</p>	
F	<p>PROTECTIVE CLOTHING</p> <p>The Contractor shall provide all protective or any other special clothing or equipment for their employees that may be necessary.</p> <p>These shall include, inter-alia, safety helmets, gloves, goggles, earmuffs, gumboots, steel toed boots, overalls, etc according to the type of work. The Contractor shall ensure that all safety and protective gear are worn by all staff on site at all times</p>	
	Carried to collection	

[illegible]

BUILDER'S; LECTURE HALL

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<u>SECTION NO .1. - LECTURE HALL</u>					
<u>ELEMENT NO. 1 - SUBSTRUCTURES (ALL PROVISIONAL)</u>					
Notes. This element includes all structural works up to and including ground floor slab Tenderer to allow for working space in his rates. Reinforcement to BS 4449 / 4461:1997 , Grade 460B high strength type 2 ribbed bars with proof stress of 460 N/mm² All cement to be 32.5, or equal and approved to SE approval Excavations including trimming sides and bottoms of excavations; spoil heaping on site; double handling of excavated materials; maintaining and supporting sides; and keeping free from water, mud and fallen material; with and including destruction of termites nests within site of works, take out and destroy queens, impregnate holes and tunnels with insecticide and fill voids with approved material All excavations shall be measured net and no allowance shall be made for working space as per SMM D5(g) <u>Excavations</u>					
A	Excavate to reduce level not exceeding 1.50 metres deep	CM	894		
B	Excavate for strip footing not exceeding 1.50 metres deep from reduced level	CM	1,066		
C	Excavate for column bases not exceeding 1.50 metres deep from reduced level	CM	132		
D	Extra over excavations for excavating in soft rock [With a Soil Bearing Pressure of 200 - 300 Kilo Newtons / M ²]	CM	836		
E	Extra over excavations for excavating in hard rock [With a Soil Bearing Pressure of above 300 Kilo Newtons / M ²]	CM	335		
<u>Disposal</u>					
F	Load, wheel and deposit surplus excavated material away from site to an approved county government dumping site	CM	288		
G	Return, fill and ram selected excavated material around foundations.	CM	1,803		
<u>Hardcore or other approved filling, as described</u>					
H	300mm thick hardcore bed : hand packed : compacted in layers not exceeding 150mm thick : to the satisfaction of the Structural Engineer:	SM	2,280		
<u>Blinding</u>					
J	50mm Thick (Average) quarry dust or "equal and approved" blinding to surfaces of hardcore	SM	2280		
Total Carried to Collection					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Filling</u>				
A	Providing & laying Approved Fill Material (Natural Gravel), compacted in uniform layers of 200 - 300mm thick with motor grader on a prepared subgrade, compacting with vibratory rollers till 95% of the maximum dry density. Including tests on completion of each GSB layer. The strength of each GSB layer shall be evaluated by conducting CBR load test for obtaining a CBR value greater than 5 as per AASHTO T99	CM	684		
	<u>Thickening</u>				
B	Extra Over in hardcore for forming sinkings average 925mm wide x 300mm deep	LM	4		
	<u>Anti - termite to treatment</u>				
C	Chemical anti-termite treatment, executed complete by an approved specialist under a ten-year guarantee, to surfaces of hardcore and vertical sides of excavated surfaces	SM	2,471		
	<u>Damp-proof membrane</u>				
D	1,000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps)	SM	2,471		
	<u>Mass concrete class 15 (1.3.6) in:-</u>				
E	50mm thick blinding- Strip footing	SM	710		
F	50mm thick blinding - Column bases	SM	88		
G	Isle Steps	CM	10		
	<u>Vibrated reinforced concrete class 25, mix (1:1.5:3) with minimum cube strength of 17N/mm² at 7days and 25N/mm² at 28days with 20mm maximum aggregate size;-</u>				
H	Strip foundation	CM	142		
J	Column bases	CM	31		
K	Stub Columns	CM	9		
L	Steps	CM	8		
M	150mm thick surface bed	SM	2,391		
N	150mm thick sloping ramp complete with treating surface of unset concrete; to produce ribbed, herring bone pattern grooves diagonal to traffic flow	SM	80		
	Reinforcement, as described:-[PROVISIONAL]				
	<u>Reinforcement to BS 4449:1997, Grade 460B high strength type 2 Ribbed bars with proof stress of 460 N/mm²; Including all necessary cutting, bending, fixing, wastage, overlaps and provision of spacer blocks and stools to S.E's detail</u>				
P	16 mm Diameter bars	KG	1682		
Q	12mm Diameter bars	KG	2803		
R	10mm Diameter bars	KG	4260		
S	8mm Diameter bars	KG	2467		
	<u>Steel mesh fabric reinforcement to BS 4483 : including setting in concrete with 300mm laps(measured nett : no allowance for laps)</u>				
T	Mesh reference A142 weighing 2.22 kilograms per square metre in floor beds	SM	2,410		
V	Ditto but DOUBLE Layer	SM	61		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Sawn formwork as described to:-</u>				
A	Vertical sides of column base	SM	88		
B	Vertical sides of strip footing	SM	474		
C	Ditto to stub columns	SM	110		
D	Edge of slab, not exceeding 150mm girth	LM	294		
E	Edge of ramp, not exceeding 150mm girth	LM	48		
F	Step stringers over 225mm but not exceeding 300mm wide	LM	17		
G	Step risers 150mm high	LM	360		
	<u>Natural hard approved quarry stone walling with a crushing strength of 7 N/mm²; walling bedded and jointed in cement and sand (1:4) mortar, reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in:</u>				
H	200mm Thick walling - foundation walling	SM	1,481		
	<u>Construction joint (provisional)</u>				
J	8mm wide x 12mm deep reamed joint with 8mm diameter bond breaking cord and approved polythene sealant as "Nitoseal" or equal and approved; all fixed as per Manufacturer's instruction; all to Engineer's detail and approval	LM	65		
	<u>Expansion joint</u>				
K	25 mm "Flexcell" or other equal and approved joint filler with 10 years guarantee : set vertically between masonry	SM	23		
L	Mastic sealant or other equal and approved filler	LM	15		
	<u>Damp-proof courses, as described, to walls</u>				
M	200mm wide	LM	1,204		
N	150mm wide	LM	46		
	<u>Splash Apron</u>				
P	600x600x50mm PCC slabs on well compacted surface and 50mm thick stone dust blinding and cement sand mix on joints (1:4)	SM	176		
	Plinth				
	<u>Two coat external render cement sand (1:4) with a woodfloat</u>				
Q	12mm Thick to plinths	SM	147		
	<u>Two coats black bitumastic paint on:</u>				
R	Rendered walls	SM	147		
	Carried to Collection				
	<u>COLLECTION</u>				
	From Page LH/1				
	From Page LH/2				
	From Above				
	<u>ELEMENT NO. 1</u>				
	SUBSTRUCTURES				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO 2- REINFORCED CONCRETE FRAME</u>				
	Reinforcement to BS 4449 / 4461:1997 , Grade 460B high strength type 2 ribbed bars with proof stress of 460 N/mm2				
	All cement to be 32.5, or equal and approved to SE approval				
	<u>Vibrated reinforced concrete class 25, mix (1:1.5:3) with minimum cube strength of 17N/mm2 at 7days and 25N/mm2 at 28days with 20mm maximum aggregate size:-</u>				
A	Columns	CM	23		
B	Beams	CM	58		
C	Gutter Beam	CM	74		
D	150mm thick suspended slab	SM	0		
E	175mm thick suspended slab - For Tanks	SM	50		
	Reinforcement, as described:-[PROVISIONAL]				
	<u>Reinforcement to BS 4449:1997 , Grade 460B high strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending, fixing, wastage, overlaps and provision of spacer blocks and stools to S.E's detail</u>				
F	25 mm Diameter bars	KG	2,064		
G	20 mm Diameter bars	KG	794		
H	16 mm Diameter bars	KG	1,906		
J	12 mm Diameter bars	KG	3,652		
K	10mm Diameter bars	KG	4,764		
L	8mm Diameter bars	KG	2,700		
	<u>Expansion joint</u>				
M	25 mm "Flexcell" or other equal and approved joint filler with 10 years guarantee : set vertically between masonry	SM	60		
N	Mastic sealant or other equal and approved filler	LM	20		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<i><u>Fairface formwork as desribed to:-</u></i>				
A	Sides of columns	SM	306		
B	Sides and soffits of beams	SM	658		
C	Sides and soffits of gutter beams	SM	682		
D	Soffits of suspended slabs	SM	50		
E	Edges of slab not exceeding 150mm girth	LM	-		
F	Edges of slab exceeding 150mm but not exceeding 225mm girth	LM	40		
	Carried to Collection				
	<u>COLLECTION</u>				
	From Page LH/4				
	From Above				
	ELEMENT NO. 2				
	<u>REINFORCED CONCRETE FRAME</u>				
	Carried to Main Summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO. 3 - WALLING</u>				
	<i><u>Precast concrete class 20(12mm aggregate) including forwork , finishing fair face on all xposed surfaces,and bedding and jointing in cement sand (1:3) mortar</u></i>				
A	200 x 200mm lintol, reinforced with and including four 12mm diameter mild steel rods and 6mm stirrups at 200mm centers	LM	29		
	<i><u>External walling</u></i>				
	<i><u>Natural hard machine cut stone from an approved quarry with a crushing strength of 7.0 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar, with and including reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in:</u></i>				
B	200mm thick walling externally	SM	839		
C	200mm thick gable wall	SM	140		
D	Extra Over for key pointing - horizontal	SM	979		
	<i><u>Internal walling</u></i>				
	<i><u>Natural hard machine cut stone from an approved quarry with a crushing strength of 7.0 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar, with and including reinforcement with and including 25mm wide x 20 gauge hoop iron at every alternate course as described in:</u></i>				
E	200mm thick walling internally	SM	579		
F	150mm thick walling internally	SM	33		
G	100mm thick walling internally	SM	77		
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Preamble on ALL structural works; Tenderer to include costs associated with these specifications in their rates.</u>				
1	All steel to be cleaned off all mill scales and rust before being painted with two (2) coats of red lead and two (2) coats of gloss paint				
2	All bolts shall be black bolts of property class 4.6 to BS 4190				
3	All bolted joints to have a hole 2mm larger than the bolt shank and to be fitted with washers at each bolthead and nut				
4	All steel to conform to KS - 02 - 104 and ASTM A500 grade 250				
5	All steel sections shall be straight, free from bends and twists before and after fabrication unless required to be curvilinear				
6	All connections to be 6mm continuous fillet weld, pw 215N/mm2 unless shown otherwise				
7	All welds to be dislagged and wire brushed				
8	All dimensions to be confirmed on site before fabrication				
9	Shop drawings to be approved by the structural engineer				
	<u>Structural steel sections drilled, welded and bolted as necessary complete with plates, bolts, cleats etc with and including one coat zinc chromate primer, two undercoats and one coat oil paint full gloss; including all necessary cutting; to Structural Engineer's satisfaction and approval</u>				
	<u>The following in 43No. Trusses (T1) with and including bolted connections including hoisting and fixing in position at a height not exceeding 10.0 metres above ground floor level</u>				
A	Rolled Hollow Steel sections members, size 75 x 50 x 4mm RHS Column, 7.34 Kg/lm - External Members	LM	1,443		
B	Rolled Hollow Steel sections members, size 50 x 50 x 4mm SHS Column, 6.28 Kg/lm - Internal Members	LM	1,019		
	<u>Ditto above in 1No. Trusses (T2)</u>				
C	Rolled Hollow Steel sections members, size 75 x 50 x 4mm RHS Column, 7.34 Kg/lm - External Members	LM	33		
D	Rolled Hollow Steel sections members, size 50 x 50 x 4mm SHS Column, 6.28 Kg/lm - Internal Members	LM	23		
	<u>Ditto above in 20No. Trusses (T3)</u>				
E	Rolled Hollow Steel sections members, size 75 x 50 x 4mm RHS Column, 7.34 Kg/lm - External Members	LM	352		
F	Rolled Hollow Steel sections members, size 50 x 50 x 4mm SHS Column, 6.28 Kg/lm - Internal Members	LM	227		
	<u>Ditto above in 3No. Trusses (T4)</u>				
G	Rolled Hollow Steel sections members, size 75 x 50 x 4mm RHS Column, 7.34 Kg/lm - External Members	LM	59		
H	Rolled Hollow Steel sections members, size 50 x 50 x 4mm SHS Column, 6.28 Kg/lm - Internal Members	LM	37		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Ditto above in 14No. Trusses (T5)</u>				
A	Rolled Hollow Steel sections members, size 75 x 50 x 4mm RHS Column, 7.34 Kg/lm - External Members	LM	59		
B	Rolled Hollow Steel sections members, size 50 x 50 x 4mm SHS Column, 6.28 Kg/lm - Internal Members	LM	37		
	<u>The following in 14No. Trusses (T5) with and including bolted connections including hoisting and fixing in position at a height not exceeding 10.0 metres above ground floor level</u>				
C	Rolled Hollow Steel sections members, size 150 x 150 x 6mm RHS Column, 28.3 Kg/lm - External Members	LM	624		
D	Rolled Hollow Steel sections members, size 100 x 50 x 4mm SHS Column, 8.92 Kg/lm - Internal Members	LM	537		
	<u>Ditto above in 2No. Trusses (T6)</u>				
E	Rolled Hollow Steel sections members, size 150 x 150 x 6mm RHS Column, 28.3 Kg/lm - External Members	LM	240		
F	Rolled Hollow Steel sections members, size 100 x 50 x 4mm SHS Column, 8.92 Kg/lm - Internal Members	LM	325		
	<u>Common structural members</u>				
G	Zed Purlins as "Brollo" or equal and approved, size - 150 x 50 x 2mm	LM	3,200		
H	12mm diameter CFL Anti - sagrods	LM	450		
J	50 x 50 x 6mm RSA bracings (Weight - 2.36 Kg/m)	LM	300		
K	Rolled Hollow Steel sections members, size 100 x 50 x 4mm RHS, 8.86 Kg/lm - Wall Plate	LM	650		
L	Rolled Hollow Steel sections members, size 75 x 50 x 3mm RHS Column, 5.89 Kg/lm - Valley Rafter	LM	120		
M	Rolled Hollow Steel sections members, size 75 x 50 x 3mm RHS Column, 5.89 Kg/lm - Common Rafter	LM	28		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Roof Covering</u>				
	<u>Gauge 28 Versatile roofing sheets or equal and approved sheets; prepainted:-</u>				
A	Roof covering at a pitch of 25 degrees from the horizontal; 150mm laps on ends and sides; fixed to angle section purlins with and including hook bolts and neoprene washers and nuts; include all the necessary fixing accessories	SM	2,898		
B	Valley piece; twice bent to profile of valley; 570mm girth (average)	LM	114		
C	Labour raking cutting roofing tiles along valleys and hips	LM	114		
D	Fair filled ridge and hip ends in coloured mortar to match	NO	20		
	<u>Sisalation</u>				
E	Polynum insulation held with white cords onto the steel structure to specialist's specifications	SM	2,898		
	<u>Eaves boarding</u>				
F	12.5mm thick moisture resistant cement fibre board complete with and including 50 x 50mm celcured 2nd grade sawnn timber bandering at 600mm spacing both ways; Board skimmed and painted with 3 coats of gloss paint	SM	132		
	<u>Roof drainage (provisional)</u>				
	<u>2mm thick galvanised mild steel gutters and fittings</u>				
G	500 x 500mm box rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed to wall	LM	200		
H	500mm shoe	NO	10		
J	500mm sawn neck downpipe	NO	10		
	<u>Prepare, prime and apply one undercoats and two gloss finishing coat enamel paint on the following metal surfaces</u>				
K	General surfaces of downpipes over 300mm girth	SM	400		
L	Extra over gutters for 500mm diameter outlet	NO	10		
	Carried to Collection				
	<u>COLLECTION</u>				
	From Page LH/ 7				
	From Page LH/ 8				
	From Page LH/ 9				
	From Above				
	<u>ELEMENT NO. 4</u>				
	ROOF CONSTRUCTION & FINISHES				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO. 5 - EXTERNAL FINISHES</u>				
	<u>External Floor finishes</u>				
	<u>Cement and sand (1:3) screeds, backings, beds etc</u>				
A	30mm thick bed finished to receive rustic tiles (m.s)	SM	286		
	<u>Supply & Fix SAJ Rustic tiles (To Architect's Approval) in regular or other approved pattern; to floor on prepared screed (m.s); with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting; aluminium threshold including pvc spacers and expansion joint as necessary: all to Architect's approval.</u>				
B	600 x 600 x 10mm thick; butt joints both ways; to cement sand base (m/s); to floors level	SM	286		
C	Ditto to 100mm high skirtings	LM	112		
	<u>External wall finishes</u>				
	<u>15mm (minimum) two coat lime render including skimming; Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth; complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-</u>				
D	Concrete/masonry surfaces to receive paint (m.s)	SM	392		
E	Ditto to receive cladding	SM	121		
F	Extra over for decorative 50mm wide Moulding plaster to concrete including Fluting to Architect's details	LM	2,360		
	<u>Mazeras stone cladding including delivery, grouting, fibbond waterproof adhesive, wax polish finish, spacers and all other materials and laying to completion as selected by the Architect: Allow for 50x50x2mm angle iron support to cladding at 1000mm centres horizontally</u>				
G	300 x 200 x 25 mm tiling with linseed oil waterproofing; works polished to approval	SM	121		
	<u>Ceiling finishes</u>				
	<u>Moisture resistant cement fibre board complete with and including 50 x 50mm celcured 2nd grade sawnn timber brander at 600mm spacing both ways</u>				
H	12 mm thick ceiling; horizontal	SM	286		
	<u>Painting and decorating</u>				
	<u>Skim, Prepare and apply three coats exterior quality silicon based external antifungal paint(including skimming): colour to approval by application strictly in accordance with suppliers printed instructions</u>				
J	Fibre Cement Ceiling Soffits	SM	286		
	<u>Skim, Prepare and apply three coats exterior quality silicon based external antifungal paint(including skimming) as "Ruff n Tuff" or equal and approved: colour to approval by application strictly in accordance with suppliers printed instructions</u>				
K	Plastered vertical wall/concrete surfaces	SM	392		
	ELEMENT NO. 5				
	EXTERNAL FINISHES				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO. 6 - INTERNAL FINISHES</u>				
	<u>Floor finishes</u>				
	<u>Cement and sand (1:3) screeds, backings, beds etc</u>				
A	20mm thick bed finished to receive terrazzo (m.s)	SM	937		
B	30mm thick bed finished to receive ceramic tiles (m.s)	SM	116		
C	30mm thick bed finished to receive porcelein tiles (m.s)	SM	932		
D	40mm thick bed finished to receive carpet (m.s)	SM	183		
E	40mm Thick bed finished to receive timber flooring (m.s) with and including 25 x 50mm timber battens at 450mm centre to centre one way	SM	61		
	<u>Terrazzo paving with a mix of white cement and marble chips to architect's approval; complete with and including plastic dividing strips set flush with paving; machine polished</u>				
F	20mm thick	SM	937		
	<u>Supply & Fix SAJ ceramic tiles (To Architect's Approval) in regular or other approved pattern; to floor on prepared screed (m.s); with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting; aluminium threshold ,including pvc spacers and expansion joint as necessary: all to Architect's approval.</u>				
G	300 x 300 x 10mm thick; butt joints both ways; to cement sand base (m/s); to floors level	SM	116		
	<u>Supply & Fix SAJ Porcelain tiles (To Architect's Approval) in regular or other approved pattern; to floor on prepared screed (m.s); with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting; aluminium threshold ,including pvc spacers and expansion joint as necessary: all to Architect's approval.</u>				
H	600 x 600 x 10mm thick; butt joints both ways; to cement sand base (m/s); to floors level	SM	932		
F	Ditto to 100mm high skirtings	LM	350		
	<u>Natural mahogany timber floor boards; tounge and grooved boarding; secret nailed/ plugged and screwed/glued on 50 x 25mm chamfered tanalised battens (m.s) at 450mm centres one way with galvanised screw : cement and sand (1:3) infill (m.s); all to manufacturer's specifications : as described</u>				
J	150 x 25mm Thick finish to floors	SM	61		
	<u>In Wrot Mahogany</u>				
K	100 x 20mm skirting, plugged, screwed and pelleted	LM	127		
	<u>Carpet</u>				
L	Provide and lay Executive medium duty 8mm thick minimum 80% wool and 20% nylon (polyamide) fused in woven textile backing 1400/1040 g/sm carpet, anti-soiling treated, permanently anti-static, including all the necessary fixing metal clips, grippers, stoppers, complete with strip bond at the edges or other equal and approved qualitiv	SM	183		
M	Provide underfelt and fix with approved adhesive as 'Pattex' or other equal and approved	SM	183		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Internal Wall finishes</u>				
	<u>12mm (minimum) two coat lime plaster including skimming; Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth; complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-</u>				
A	Concrete/masonry surfaces internally generally	SM	3,080		
	<u>Cement and sand (1:4) backings etc</u>				
B	15mm backing finished to receive ceramic wall tiles (m.s)	SM	728		
	<u>Supply & Fix Approved Ceramic tiles to Architect's selection & approval to floor on prepared backing (m.s) in approved patterns as directed by the Architect; with proprietary adhesive; jointed and pointed in matching coloured proprietary anti - fungal waterproof grouting; aluminium threshold & corner strips ,including pvc spacers and expansion joint as necessary; all to Architect's approval</u>				
C	Wall tiles size 200 x 300 x 10mm thick to Architect's detail	SM	728		
	<u>Ceiling finishes</u>				
	<u>Supply & fixing of MR Grade Gypsum Board false ceiling including vertical drops, coves, boxings & fascias using 12.5mm Gypsum Board Sheets MR Grade from Gyproc or equivalent as per design. complete with Aluminium suspension Tee system and all specifications as aforementioned in 12.5mm thick MR Boards: to</u>				
D	12 mm thick ceiling; horizontal	SM	965		
	<u>Suspended accoustic ceiling as "Armstrong" or any other equal and approved; on and including proprietary pressed metal branderling system; measured over light fittings; including all cutting and trimming to light fittings; columns curved surfaces; finish to horizontal ceilings; edge trims, flush jointing, trap doors and shadow eaps as necessary</u>				
E	600 x 600mm ; 15mm thick Horizontal Ceiling Lining	SM	317		
	<u>Cornice</u>				
F	25 x 25mm high moulded gypsum cornice; with one labour	LM	255		
	<u>Painting and decorating</u>				
	<u>Skim, Prepare and apply three coats first quality silk vinyl emulsion paint on:-</u>				
G	Plastered vertical wall/concrete surfaces	SM	3,080		
H	Gypsum Ceiling Soffits	SM	965		
	<u>Prepare and apply three coats polyurethane clear polish to woodwork</u>				
J	Surfaces not exceeding 100mm girth	LM	255		
K	Surfaces over 100mm but not exceeding 200mm girth	LM	127		
	Total Carried to Collection				
	<u>COLLECTION</u>				
	Carried from page LH/12				
	Carried from Above				
	ELEMENT NO. 6				
	INTERNAL FINISHES				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO. 7 - WINDOWS [REFER TO WINDOW SCHEDULES]</u>				
	<u>General Notes:</u>				
1	All aluminium sections to be standard booth manufacturing sections only				
2	Colour to be decided later				
3	All accessories to be powdered to match frame and samples of all to be approved in the first instance.				
4	All flush bolts to be minimum 200mm long, chrome plated of approved quality.				
5	All corner glazing to be butt jointed with silicon sealant				
6	All bathroom windows to be glazed in opaque laminated glass. Where possible, the BQ has shown these as washroom windows; but it will be the tenderer's responsibility to crosscheck with the Architect's drawings as to the accuracy of this.				
	<u>Aluminium windows[Refer to theArchitect's drawing & detail]</u>				
	<u>Supply, assemble and fix the following approved powder coated Aluminium framed windows, fabricated from approved composite extruded powder coated heavy duty approved standard hollow sections 75 x 50mm (minimum 2mm thick) , including 6mm thick clear laminated glazing secured on framing with approved with glazing strips and glazing beading including waterproofing all joints using silicon sealing compounds and approved Aluminium brackets; fixing with screws; building in lugs to jambs, plugging and screwing head and cill ;sealing with mastic, adjusting on completion and all necessary ironmongery such as fasters, stays, hinges and sliding rails to Architects details and approval and to match existing</u>				
A	Window Overall size 3,000 x 2000mm high	NO	2		
A	Window Overall size 3,000 x 1400mm high	NO	2		
B	Window Overall size 1,500 x 1500mm high	NO	2		
C	Window Overall size 2,400 x 1500mm high	NO	3		
D	Window Overall size 1,200 x 5000mm high	NO	16		
E	Window Overall size 1,200 x 1500mm high	NO	92		
F	Circular Window of 2,000mm diameter	NO	8		
G	Window Overall size 3,000 x 1200mm high	NO	7		
H	Window Overall size 3,000 x 600mm high	NO	6		
	<u>Window cill</u>				
	<u>Precast concrete class 20 (12mm,aggregate), including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar</u>				
J	275 x 75mm thick window cill once rebated; 20 x 20mm splaged drip and jointing in cement and sand 1:3 mortar	LM	225		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	<u>Blinds - OMIT</u> Supply and fix 'Hunter Douglas' or other equal and approved hunting green colour Venetian blinds system with high quality horizontal louvers with opening and closing mechanism as per manufacturer's specifications subject to approval of sample by Project Manager	SM	0		
B	<u>Curtain rod</u> 25mm diameter approved wrought iron front and rear rod curtain rail cut to lengths complete with fixings, runners and end stops and screwed or plugged to wall in accordance with manufacturer's specification.	LM	88		
C	<u>In Prime Grade Wrot Cypress</u> 175 x 25mm window board, plugged, screwed and pelleted	LM	225		
D	25 x 25mm quadrant beading; plugged	LM	225		
E	<u>Finishing to reveals</u> <u>15 mm cement and sand (1:3) render, finished with woodfloat to:-</u> Concrete or masonry surfaces externally	SM	86		
F	<u>12mm (minimum) two coat lime plaster as described to</u> Concrete or masonry surfaces internally	SM	86		
G	<u>Painting & derocation</u> <u>Prepare and apply one undercoat and two finishing coats first quality weatheguard emulsion paint on:-</u> Concrete or masonry surfaces externally	SM	86		
H	<u>Skim, Prepare and apply three coats first quality silk vinyl emulsion paint on:-</u> Plastered walls internally	SM	86		
J	<u>Prepare and apply three coats polyurethane clear on woodwork</u> Window board/Beading over 100mm but not exceeding 200mm girth	LM	225		
Total Carried to Collection					
<u>COLLECTION</u> Carried from page LH/14 Carried from Above					
<u>ELEMENT NO. 7</u> WINDOWS					
Carried to the Main summary					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO .1. - LECTURE HALL</u>				
	<u>ELEMENT NO. 8 - DOORS [REFER ALL TO ARCHITECT'S SCHEDULES]</u>				
	<u>Supply and fix hardwood Frames with and including supply of low expansion polyurethane foam ; in Wrot mahogany or equivalent hardwood and approved (stained to match the colour of veneer):</u>				
A	Ex 75 x 25mm Architrave with 10mm groove to detail; plugged	LM	323		
B	Ex 25 x 25mm quadrant	LM	323		
C	Ex 50 x 200mm Frame with one labour and 10mm groove to detail; plugged	LM	162		
D	Ditto Transome	LM	32		
	<u>Supply and fix softwood Frames with and including supply of low expansion polyurethane foam; in Prime Grade Wrot Cypress or equivalent softwood and approved (stained to match the colour of veneer):</u>				
E	Ex 75 x 25mm Architrave with 10mm groove to detail; plugged	LM	225		
F	Ex 25 x 25mm quadrant	LM	225		
G	Ex 50 x 200mm Frame with one labour and 10mm groove to detail; plugged	LM	25		
H	Ex 50 x 150mm Frame with one labour and 10mm groove to detail; plugged	LM	87		
	Solid timber doors - (see Architect's details)				
	<u>50mm thick solid core Mahogany panelled doors to B.S 459: part 2 faced both sides with 6mm waterproof mahogany plywood (on external doors) and lipped on all edges in hardwood; including grooves per detail</u>				
J	Single Leaf Door Overall size 900 x 2400mm high	NO	13		
K	Double Door Overall size 1,200 x 2400mm high	NO	2		
L	Double Door Overall size 1,500 x 2400mm high	NO	12		
	Semi-solid core Flush doors - (see Architect's details)				
	<u>45mm thick semi solid core flush door to B.S 459: part 2 faced both sides faced both sides with 3mm veneer and lipped on all edges in hardwood, all as per Architects details</u>				
M	Double Door Overall size 1,800 x 2100mm high - Electrical Duct	NO	1		
N	Double Door Overall size 1,200 x 2100mm high	NO	2		
P	Single Leaf Door size 900mm x 2100mm high	NO	15		
Q	Single Leaf Door size 650mm x 2100mm high - Ducts	NO	4		
	Total Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Aluminium Doors				
	<u>Supply, assemble and fix the following purpose made powder coated Aluminium doors and 75 x 75 x 2mm thick sections by Booth Manufacturing or equal and approved incorporating complete with approved locking mechanism, fixing lugs on, plastic mosquito proofed - permanent including all necessary cutting, 8mm thick clear laminated sheet glass and ironmongery (Refer to attached door schedules)</u>				
A	1,500 x 2400mm high double leaf door	NO	3		
B	Ditto 1,250 x 2400mm high	NO	2		
C	900 x 2400mm high single leaf door	NO	1		
	<u>Painting and decorating</u>				
	<u>Aluminium primer or other equal and approved wood primer before fixing: -</u>				
D	Frames; over 100mm but not exceeding 200mm girth	LM	87		
E	Surfaces over 300mm girth	SM	75		
	<u>Prepare and apply approved stain, sanding sealer and three coats of 'Crown Paints Solo' or other equal and approved varnish to :</u>				
F	General timber surfaces	SM	239		
G	Frames; over 100mm but not exceeding 200mm girth	LM	87		
H	Surfaces over 300mm girth	SM	75		
	<u>Ironmongery</u>				
	<u>Supply and fix the following ironmongery as approved with matching screws:-</u>				
	<u>NOTE; Tenderer to refer to the drawing & schedule for iron mongery - All iron mongery to be per Architect's Approval [Tenderer to Provide a Sample board]</u>				
	<u>To softwood, hardwood or the like fixing with screw:</u>				
J	Brass ball bearing hinges; 100 mm	PRS.	99.0		
K	Three lever mortice lock complete with furniture	NO	27		
L	Two lever mortice lock complete with furniture	NO	22		
M	Coat & hat hook - Rubber tipped	NO	15		
	<u>To concrete or blockwork; fixing with bolts; plugging</u>				
N	Rubber door stop	NO	77		
	Total Carried to Collection				
	<u>COLLECTION</u>				
	Carried from page LH/16				
	Carried from Above				
	<u>ELEMENT NO. 8</u>				
	DOORS				
	Carried to the Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	<p><u>SECTION NO .1. - LECTURE HALL</u></p> <p><u>ELEMENT NO. 9- BALUSTRADING & RAILING</u></p> <p><i><u>Balustrading and Railing - (Provisional)</u></i></p> <p><i><u>Staircase railing; In Mild Steel;one coat red oxide primer; three coats enamel gloss paintwork to metal surfaces</u></i></p> <p>1100mm high balustrading comprising 50mm diameter mild steel handrail welded onto and including 40mm diameter mild steel vertical balusters: 1100mm high balusters at 900mm centres: 2No. 30 x 3mm mild steel flat intermediate rails infilled with and including 25mm diameter 2tier mild steel intermediate balusters at 900mm centres (Refer to architect's details)</p>	LM	60		
	<p><u>ELEMENT NO. 9</u></p> <p><u>BALUSTRADING & RAILING</u></p> <p>Carried to the Main summary</p>				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	<p><u>SECTION NO .1. - LECTURE HALL</u></p> <p><u>ELEMENT NO. 10- BUILDER'S WORK IN CONNECTION WITH SPECIALIST SERVICES</u></p> <p><i><u>Inspect all architectural, mechanical, electrical and structural drawings as provided; allow for all builders work associated with all the specialist works</u></i></p> <p>Cut away fittings and pipework; form all holes, chases, etc and make good after the plumber, electrician and all other specialist works</p>	ITEM			
	<p><u>ELEMENT NO. 10</u></p> <p><u>BUILDER'S WORK IN CONNECTION</u></p>				Carried to the Main summary

LH / 20

EXTERNAL WORKS

EW / 1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO. 2 - EXTERNAL WORKS</u>				
	<u>ELEMENT NO.2</u>				
	<u>FOUL DRAINAGE (ALL PROVISIONAL)</u>				
	<u>Excavate trench for drain pipe not exceeding 1.50 metres deep, part return fill and ram and remainder cart away.</u>				
A	Trench, average 500mm deep for 100mm diameter pipe	LM	50		
B	Trench, average 750mm deep for 200mm diameter pipe	LM	150		
	<u>uPVC drain pipes and fittings to BS 4660 : solvent welded joints</u>				
C	100mm Diameter golden brown heavy duty class 51 uPVC waste pipe laid in trench	LM	50		
D	200mm Diameter golden brown heavy duty class 51 uPVC waste pipe : ditto	LM	150		
	<u>Plain concrete 1:3:6 (25mm aggregates) as described in</u>				
E	150mm bed and surround to 100mm diameter pipe	LM	50		
F	150mm bed and surround to 200mm diameter pipe	LM	150		
	<u>Inspection Chambers [Refer to Civil Engs Drawings]</u>				
G	Inspection Chamber, internal size 600 x 450 x 1500mm deep, comprising of plain concrete (1:3:6) in 150mm thick slab, 300mm thick benching, 600 x 450 x 70mm heavy duty cover in roads & medium duty in grassed areas, with haunching class 20/20 to cover, 150mm thick masonry blockwork or in situ concrete class 25/20, waterproof screed to sides and bottoms, with recessed top to receive medium duty steel cover including all necessary excavation, formwork and reinforcement	NO	10		
	<u>Drop Circular manholes [Refer to the Civil Engineer's Detail]</u>				
H	Ring manhole 1000mm internal diameter and 3000mm deep ring manholes comprising concrete class 25 in 150mm thick bed, 100mm benching to slope, 200mm thick vibrated class 2 reinforced in 12mm bars, heavy duty precast concrete cover frame seating rings, 600 x 450mm heavy duty cast 8mm ms air tight cover & frame to BS EN 124, include G.M.S step irons to BS 1247 at 300mm centres, 15mm thick waterproofed rendering to internal faces as per the engineer's drawing and all items necessary for functioning of the manhole	NO	-		
J	Allow for testing the whole of foul drainage	ITEM			
	TOTAL ELEMENT No. 2				
	FOUL DRAINAGE				
	Carried to Main Summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO. 2 - EXTERNAL WORKS</u>				
	<u>ELEMENT NO. 3</u>				
	<u>STORMWATER DRAINAGE (ALL PROVISIONAL)</u>				
	<i><u>Excavate trench for drain pipe and channel not exceeding 1.5m deep, part return, fill and ram and remainder cart away</u></i>				
A	Trench, average 300mm, deep for 300mm wide open channels	LM	150		
B	Trench, average 500mm, deep for IBD	LM	100		
	<i><u>U drain - Open Shallow drain</u></i>				
C	300mm diameter RCC half round concrete class 20 U-drain 300mm deep (average)	LM	150		
	<i><u>Invert Block Drain [Pre-cast] - Refer to Civil Engineer's detail</u></i>				
D	300 x 300mm deep in pre cast concrete class 25 (average internally) open drain in 100mm bed and 100mm concrete wall, complete with joints as detailed and reinforced in BRC No. 65 as detailed as detailed by the Engineer	LM	100		
	<i><u>Mild steel grating[Refer to the Civil Engineer's Detail]</u></i>				
E	300mm wide purposemade mild steel grating 50 x 8mm cross flats at 20mm centres including 8mm flat at frame on both ends welded to and comprising 50 x 50 x 7.8mm angle framing and 6mm lugs anchors; painted in three coats gloss oil paint	LM	100		
	<i><u>Catchpit Road Gulleys [Refer to the Civil Engineer's Detail]</u></i>				
F	Manhole overall size 1600 x 1600mm to depth not exceeding 1500mm deep, comprising of ; 150mm class 25 reinforced concrete bed and cover slab with Y12mm diameter bars (with a 600 x 600mm opening); 300mm (average) benching : 50mm class 15 concrete blinding; 150mm concrete walls class 25 reinforced with Y12mm diameter bars; Key terrain UPVC trapped gulley cast in; 600 x 600mm cover grating made up of 50mm x 10mm strips with 50 x 50x 4mm angle frames both on the grating and the slab 12mm thick (1:3) cement and sand waterproofed render to sides of walls and benching : including all necessary reinforcement, formwork, excavation backfilling and disposal	NO	10		
	<i><u>Headwalls [Refer to the Civil Engineer's Detail]</u></i>				
G	Headwalls comprising of 200mm stone wall 2400 x 1500mm high approximately, concrete class 20 strip foundation 150mm thick with BRC Mesh Type A393: excavation and disposal	No.	4		
H	Allow for testing the whole of stormwater drainage	Item	1		
	TOTAL ELEMENT No. 3				
	STORMWATER DRAINAGE				
	Carried to Main Summary				

EW / 4

MECHANICAL WORKS

SECTION

PLUMBING AND DRAINAGE INSTALLATION WORKS.

SECTION NAME:

GENERAL MECHANICAL SPECIFICATIONS

SECTION

PLUMBING AND DRAINAGE INSTALLATION WORKS.

GENERAL MECHANICAL SPECIFICATION

<u>CLAUSE</u>	<u>DESCRIPTION</u>
1.01	GENERAL
1.02	QUALITY OF MATERIALS
1.03	REGULATIONS AND STANDARDS
1.04	ELECTRICAL REQUIREMENTS
1.05	TRANSPORT AND STORAGE
1.06	SITE SUPERVISION
1.07	INSTALLATION
1.08	TESTING
1.09	COLOUR CODING
1.10	WELDING

GENERAL MECHANICAL SPECIFICATION

1.01 General

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

1.02 Quality of Materials

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

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

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

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

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

1.03 **Regulations and Standards**

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

- The Kenya Government Regulations.
- The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.
- The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.
- British Standard and Codes of Practice as published by the British Standards Institution (BSI)
- The Local Council By-laws.
- The Electricity Supply Authority By-laws.
- Local Authority By-laws.
- The Kenya Building Code Regulations.
- The Kenya Bureau of Standards

1.04 **Electrical Requirements**

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

The supply power up to and including local isolators shall be provided and installed by the Electrical Sub-contractor. All other wiring and connections to equipment shall form part of this Sub-contract and be the responsibility of the Sub-contractor. The Sub-contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval. The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power Company (KP) By-laws.

All electrical plant and equipment supplied by the Sub-contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1-phase. Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

1.05 **Transport and Storage**

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

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

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

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

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

1.06 **Site Supervision**

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

1.07 **Installation**

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 1.03 of this Section.

1.08 Testing

1.08.1 General

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

1.08.2 Material Tests

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

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

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

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

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

1.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer. The Sub-contractor shall give two weeks' notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Sub-contractor.

Six copies of all test and inspection certificates and performance graphs shall be submitted to the Engineer for his approval as soon as possible after the completion of such tests and inspections.

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

1.08.4 Pressure Testing

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

Any pipework that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Sub-contractor and the specified tests shall then be applied.

The Sub-contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

1.09 Colour Coding

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

1.10 Welding

1.10.1 Preparation

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

1.10.2 Method

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

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

1.10.3 Welding Code and Construction

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

a) Pipe Welding

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

b) General Welding

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

1.10.4 Welders Qualifications

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

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

SECTION NAME:

PARTICULAR SPECIFICATIONS

**PARTICULAR SPECIFICATIONS FOR SANITARY
FITTINGS**

PARTICULAR SPECIFICATIONS FOR SANITARY FITTINGS

WATER CLOSET PAN

- Rimless Wall Hung WC with UF soft close slim seat cover and Hinges,
- Accessories set complete with Concealed cistern with Frame & Finish Plate
- Finish with an antibacterial ceramic glaze
- Noise reduction gasket
- Ceramic
- Meets EU declaration of conformity certificate



AS JAQUAR MODEL FLS-WHT- 5953UFM OR EQUIVALENT

WATER CLOSET FLUSH VALVES

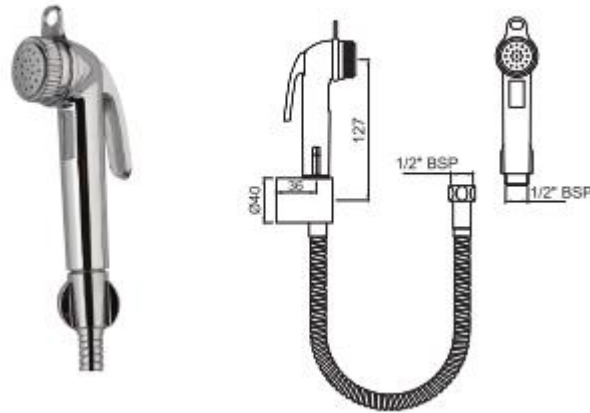
Water closet complete accessories set complete with Finish Plate



AS JAQUAR FLV-CHR-1089SQs OR APPROVED EQUIVALENT

HEALTH FAUCET KIT

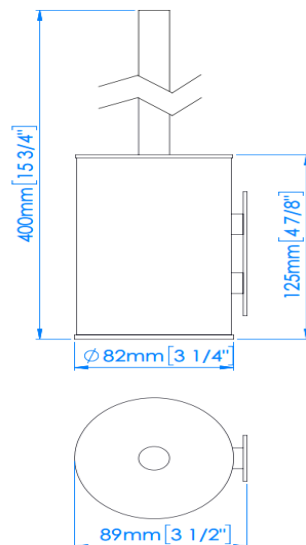
- Flexible Chrome Hose, Handset, ABS Body & Bracket
- For water pressure between 1.0 Bar - 3.0 Bar
- Finish Plating: Nickel-10.0 micron Chromium-0.3 micron, Salt Spray (500 hrs +Validated) and Adhesion (Pass)
- with preferred dimensions as indicated



AS JAQUAR HEALTH KIT ALE-ESS-593 OR EQUIVALENT

TOILET BRUSH SET

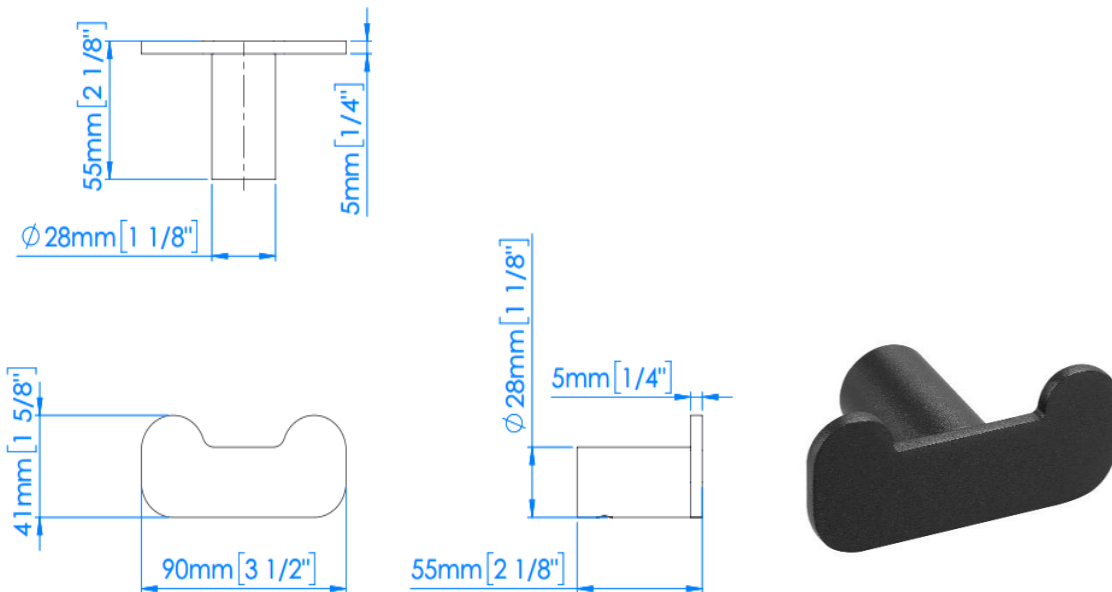
- Toilet brush set for fixing to the bathroom wall, made of AISI 304 stainless steel 1 mm thick
- Resistant to humidity and corrosion
- Circular lid with an airtight seal that prevents the spread of bad odors and protects hands from getting dirty or splashed while cleaning the toilet.
- Comes with stainless steel hardware for fixing it to a brick wall
- **WALL BRACKET:** made of AISI 304 stainless steel, 2 mm tick. Allows quick removal of the brush holder for cleaning, without tools.
- **INNER RECIPIENT:** to collect water and prevent body rust. Made of black thermoplastic to prevent oxidation of the body.
- **HANDLE:** made with AISI 304 stainless steel rod and is 27.5 cm in length, which for ease of reach and clean the toilet bowl.
- **LID:** made of black circular rubber seal, 2.0 mm thick. •
- **BRUSHES:** long, dense and soft



AS MEDICLINIC MODEL ES1002B OR EQUIVALENT

ROBE HOOK

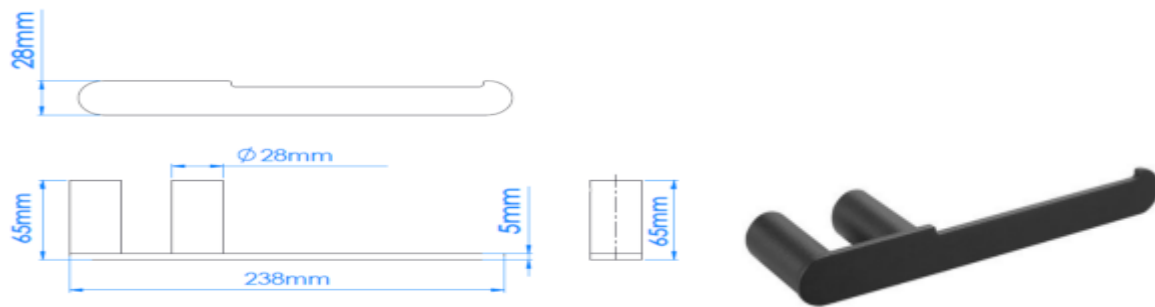
- Double-ended bathroom robe hook, made of AISI 304 stainless steel black finish
- Made with anti-corrosive and highly resistant stainless steel.
- With hidden wall mounting system
- With stainless steel hardware kit for installing on brick walls.
- **DOUBLE HOOK:** made of 5 mm thick AISI 304 stainless steel plate.
- **WALL BRACKETS:** two units, made with AISI 304 stainless steel cylindrical tube of Ø 28mm and 1.2mm thick. Attached to the bar by means of a threaded stud and nut.
- **WALL ANCHORS:** two units made of AISI 304 stainless steel tube of Ø 22mm and 1.0mm thick.



AS MEDICLINIC MODEL AI2318B OR EQUIVALENT

TOILET ROLL HOLDER

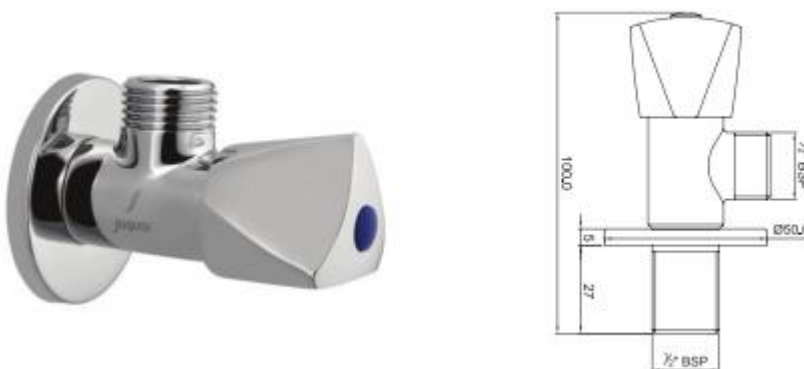
- Toilet roll holder made of AISI 304 stainless steel black finish.
- Roll axis made of 5 mm thick AISI 304 stainless steel sheet. Wall brackets of two units, made with AISI 304 stainless steel cylindrical tube of Ø 28mm and 1.2mm thick and attached to the bar by means of a threaded stud and nut.
- Wall anchors made of two units, made of AISI 304 stainless steel tube of Ø 22mm and 1.0mm thick. Attached to the wall bracket by means of a screw. It has two oval holes (one vertical and one horizontal) to facilitate wall mounting.



AS MEDICLINIC TOILET ROLL HOLDER MODEL AI1321B OR EQUIVALENT

ANGLE VALVE

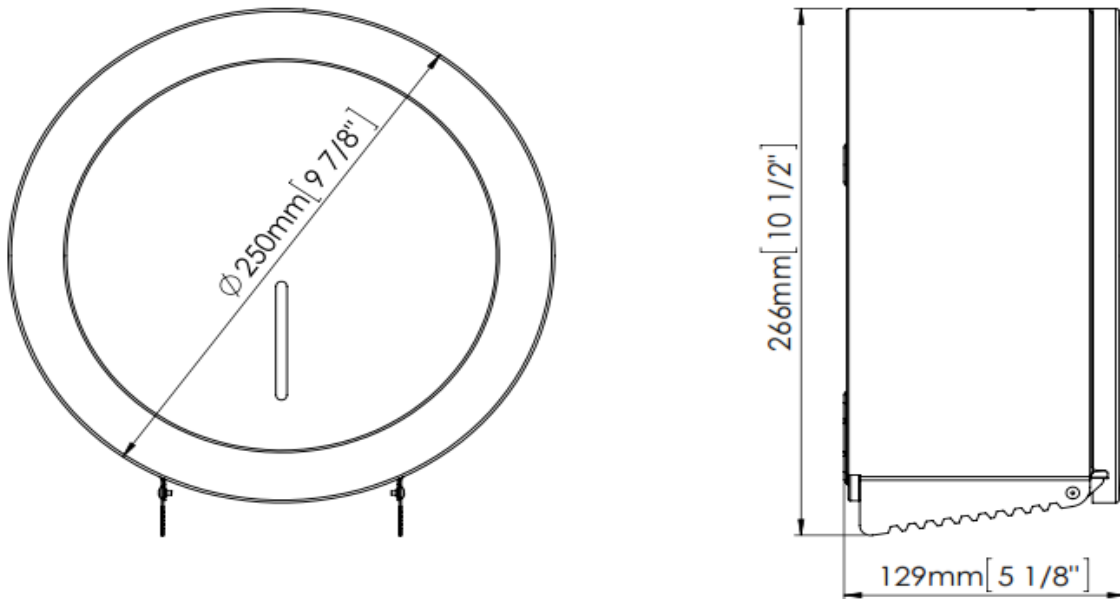
- Angle Valve with Triangular Handle & Wall Flange
- Recommended Water Pressure 0.5 – 5 bar
- Flow Rate 21.00 LPM @ 3 bar
- Components have WRAS Approved for food grade conformity with Brass Housing and Spindle
- Finish Plating: Nickel-10.0 micron Chromium-0.3 micron



AS JAGUAR MODEL AQT-CHR-3057P OR EQUIVALENT

TOILET PAPER ROLL DISPENSER

- Circular toilet paper dispenser for industrial rolls of 250/300 m, surface mounted
- One-piece body, 0,8 mm thick, round Ø 250 mm, fully sealed and with a catch system to prevent the opening of the door.
- It includes a lock system with standard key that allows opening the lid for replenishment.
- PA6 plastic shaft, for standard Ø45mm paper rolls tube, with inertial anti-spin retainer. This shaft is to be removable with 2 different positions to allow variety of paper rolls. It also allows the use of a standard paper roll in case of need.
- One-piece seamless lid, 0.8 mm thick, fully sealed. Fixed to the body by means of rivets that allow swinging down the lid for the replenishment.
- Slot at the front with a plastic viewer that indicates the content level
- Back-plate, 0.6 mm thick, with multiple slots
- With preferred dimensions as shown



AS MEDICLINIC MODEL PR2783B OR EQUIVALENT

BATHROOM SIGNS

- Made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel.
- The signs are all circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape

WOMEN'S WASHROOM SIGN



AS MEDICLINIC MODEL PP1321CS OR EQUIVALENT

MEN'S WASHROOM SIGN



AS MEDICLINIC MODEL PS0003CS OR EQUIVALENT

ADAPTED WASHROOM SIGN



AS MEDICLINIC MODEL PS0004CS OR EQUIVALENT

WASH HAND BASIN

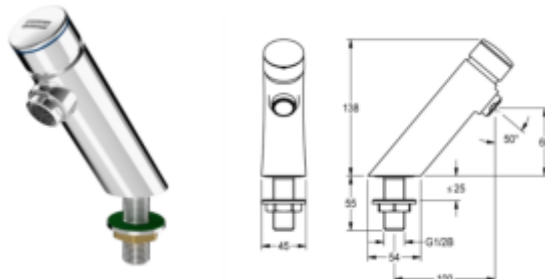
- Without overflow, with tap platform and square tube 14 mm
- Ceramic
- Meets EU declaration of conformity certificate



AS D-CODE COUNTER MOUNTED DURAVIT MODEL 03528500002 OR EQUIVALENT

SELF CLOSING WASH HAND BASIN PILLAR TAP

- F3S Self-closing pillar tap DN 15
- Self-closing cartridge, hydraulically controlled, piston-free design, self-closing, stepless adjustment of flow duration.
- With Aerator with an integrated flow regulator 3.0 l/min
- With adjustable flow time
- Maximum flow time 20.00 seconds
- Minimum flow time 5.00 seconds
- Chromised Surface finish fitting
- Volume flow rate at 3 bar 0.05 litre per second
- with preferred dimensions as indicated



AS FRANKE MODEL NO 3 F3SV1001 OR EQUIVALENT

MIRROR

- Size 600mm diameter



AS VADO ELEMENTS MIRROR MODEL ELE-187-RO_OR EQUIVALENT

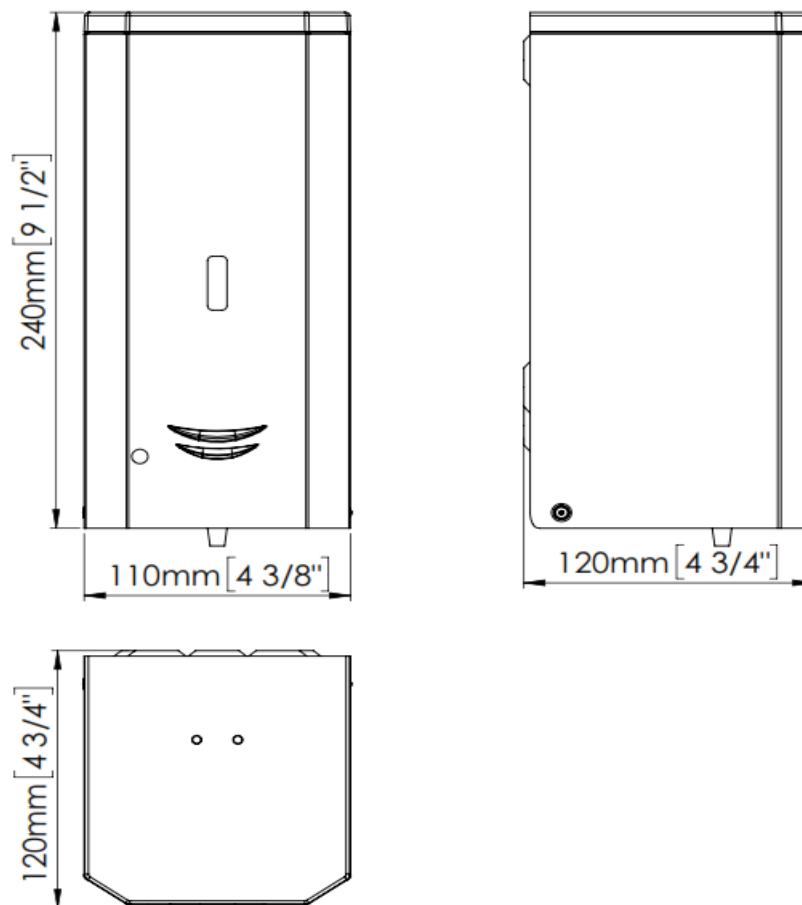
HAND DRIER

- Consumes less than 2.8 watts per drying cycle and less than 0.4 watts in stand-by mode
- Maximum air speed 400 km / h)
- Noise level less than 65 dBA
- Adjustable power motor
- Micro-switch "ON/OFF" located on the electronic board
- Detection of fixed targets.
- With an ionizer that purifies the air through negatively charged particles
- With an HEPA filter media
- With 30 second maximum continuous running time.
- Complies with the requirements of ADAAG for accessibility of public washrooms
- Compliance with RoHs, ISO and C.E standards
- With preferred dimensions as shown

AS MEDICLINIC MODEL M17AB-I OR EQUIVALENT

AUTOMATIC SOAP DISPENSER

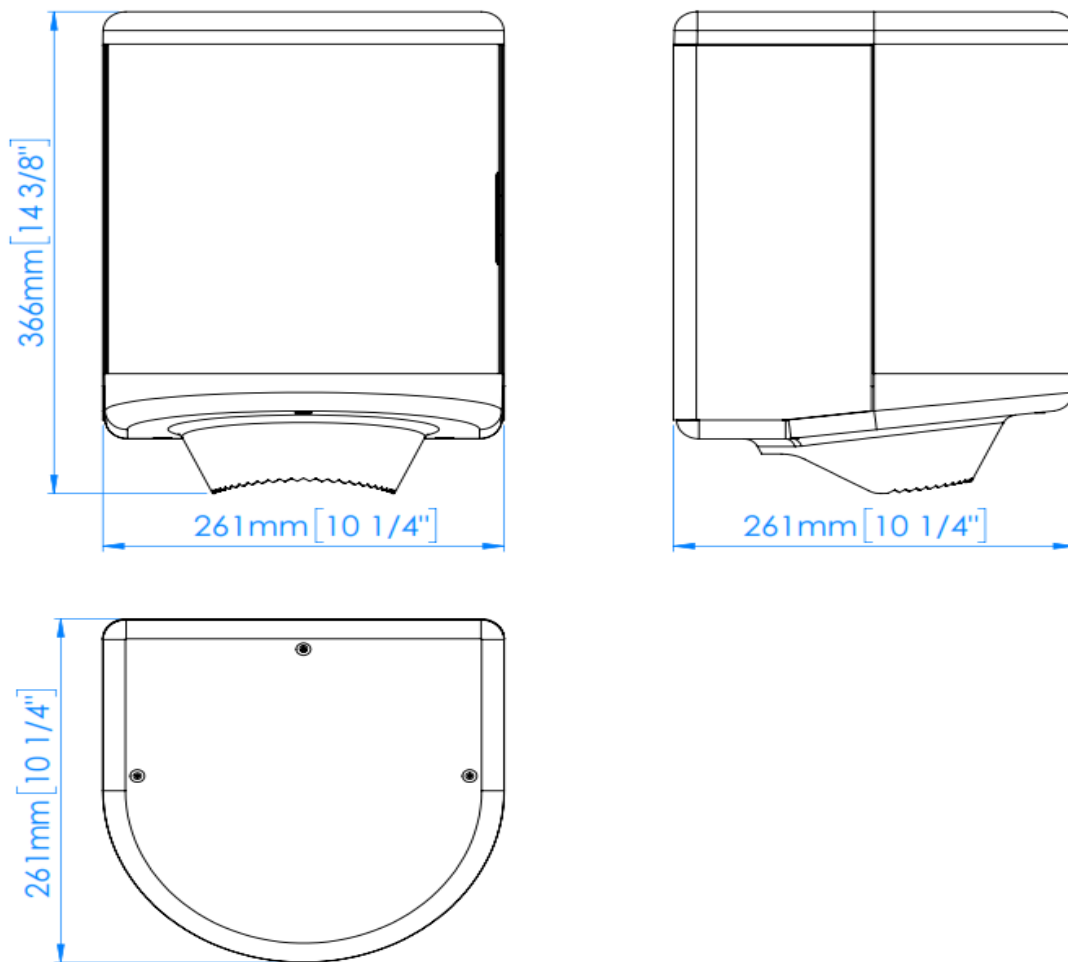
- Automatic wall-mounted liquid soap dispenser of 1 L capacity,
- Manufactured in stainless steel AISI 304, 0.8 mm thick.
- Level display located in the front part of the soap dispenser.
- Operates with an AC adapter.
- Compliance with RoHs,ISO and C.E standards
- With preferred dimensions as shown



AS MEDICLINIC MODEL DJ0037AB OR EQUIVALENT

PAPER TOWEL DISPENSER

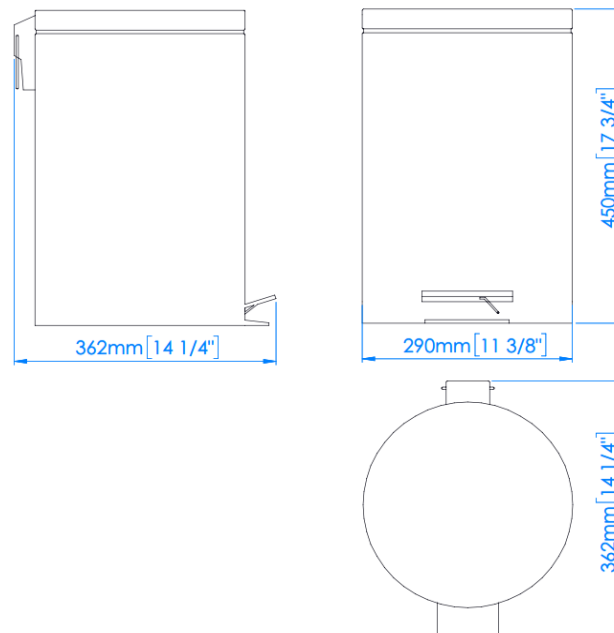
- Manual center feed paper towel dispenser, surface mounted,
- Supplied with a lock and special key for opening and screws.
- Seamless one-piece basis, 0.8 mm thick, welded to the body includes a teeth opening for the paper.
- Seamless one-piece sliding door, 0.8mm thick.
- Polyamide lid ring jointed to the top lid
- Polyamide door ring joint
- High density polyethylene ring placed over the basis with a slot to put out the paper
- With preferred dimensions as shown



AS MEDICLINIC MODEL DT0303CS OR EQUIVALENT

INDOOR CIRCULAR WASTE BINS

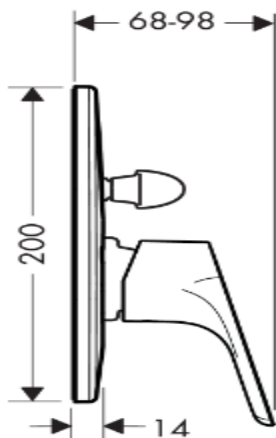
- Indoor circular body waste bins 20L capacity, operated by means of a pedal, to rest directly on the floor.
- LID: circular. Silent and anti-odors. Lid opening based on hinge system made of thermoplastic material.
- BASE: made of black thermoplastic, non-slip, insulates the cube bottom of moisture and makes the cube remain stable in place.
- INNER BUCKET: made of polypropylene with metal handle, for easy removal and capacity of 20 L
- PEDAL: metallic with a piece of non-slip black thermoplastic attached on its top. Activates the opening of the lid by pressing.
- HANDLE: metallic and located in the upper rear part of the bin to facilitate the transport.
- Made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel.
- The signs are all circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape



AS MEDICLINIC MODEL PP1321CS OR EQUIVALENT

SINGLE LEVER SHOWER MIXER

- Single lever shower mixer
- for concealed installation
- four way
- Can operate upto operating pressure: 10 bar
- ceramic cartridge
- temperature limitation adjustable
- diverter with automatic resetting



AS JAGUAR MODEL ARI-CHR-39065 OR EQUIVALENT

SHOWER SPOUT

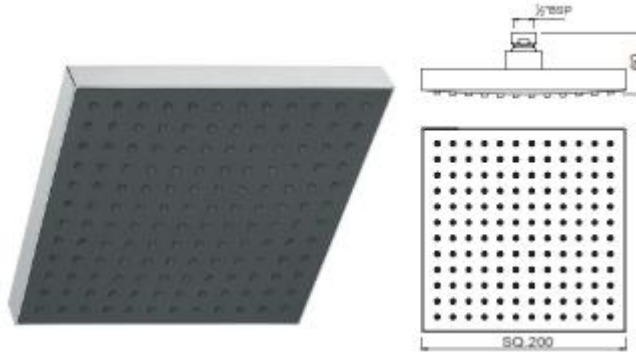
Shower spout 8" (203 mm) diverter bath spout with 1/2" NPT connection.
Finish Material resist corrosion and tarnishing.



AS JAGUAR MODEL ALD-065N OR EQUIVALENT

SQUARE SHOWER HEAD

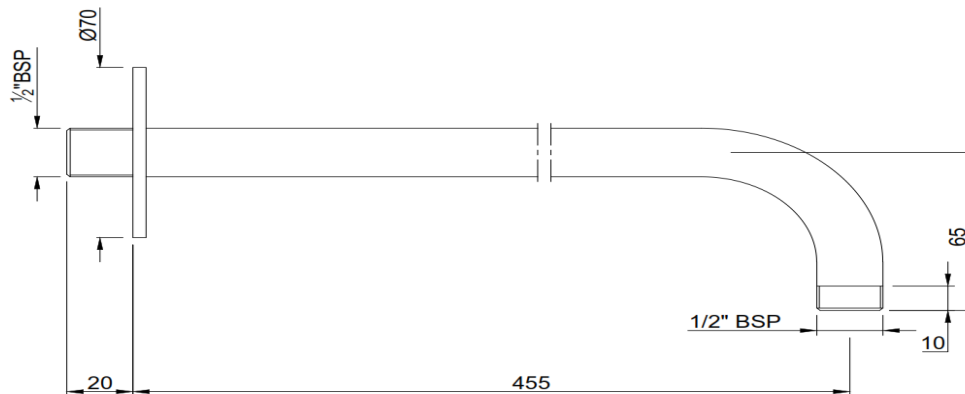
- Single Function 200X200mm Square Shape Overhead Shower
- 24.15 LPM @ 3 bar
- Mount Type Wall Mounting
- Chrome finish
- with preferred dimensions as indicated below



AS JAQUAR MODEL NO. OHS-CHR-35497 OR EQUIVALENT

LONG NECK SHOWER ARM

- length: & 450mm Long Round Shape with 90° Bend
- For wall-mounted showers with flange
- installation type: exposed installation
- connection thread $\phi 20$ mm
- to complement the shower head
- With filter packing
- finish in chrome



AS JAQUAR MODEL NO. SHA-WHM-479L450 OR EQUIVALENT

SOAP HOLDER

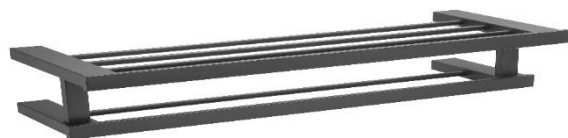
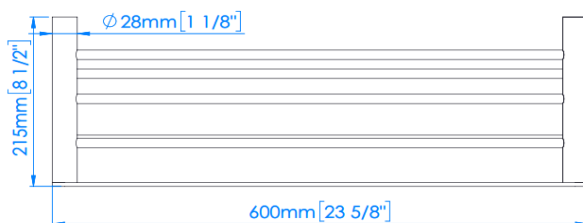
Soap holder colour of size Height (mm) 60 mm, Length (mm)140 mm and Width (mm)110 mm



AS COTTO Como Chrome Soap Holder or equivalent

TOWEL RACK

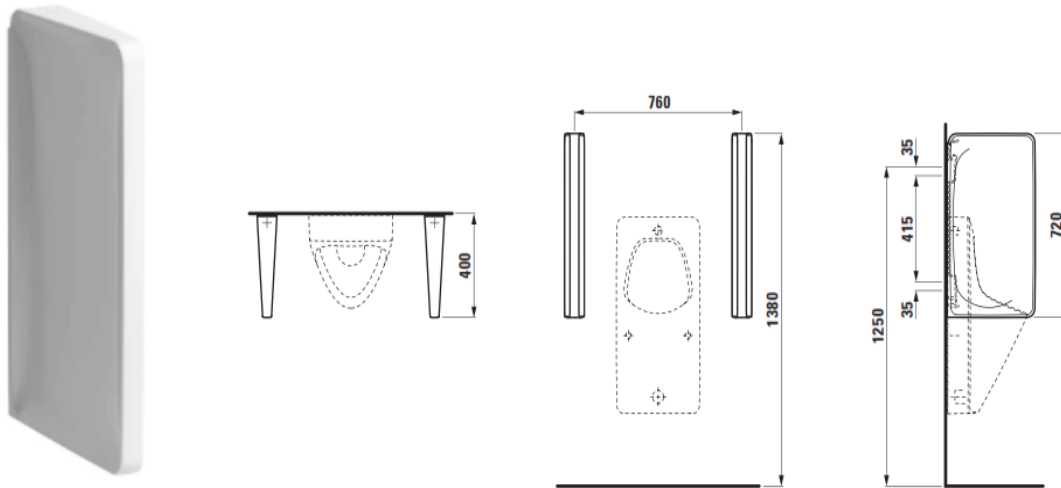
- Towel rack made of AISI 304 stainless steel with a hidden wall mounting system with stainless steel hardware to install on brick walls
- TOWEL SHELF: composed of a straight front bar and 3 Ø 12mm cylindrical bars, all made of AISI 304 stainless steel
- TOWEL RAIL: made of cylindrical AISI 304 stainless steel tube of Ø 12mm and attached with two screws to the two upper wall supports.
- WALL BRACKETS: 4 units, made with 1.8mm thick AISI 304 stainless steel square tube.
- WALL ANCHORS: 4 units, made of aluminum. Attached to the wall bracket by means of two screws.
- Dimensions 600 x 150 x 215 mm Shelf bar tube diameter 12 mm Towel rail tube diameter 12 mm Wall bracket diameter 1.8 mm



AS MEDICLINIC MODEL AI1423B OR EQUIVALENT

URINAL DIVIDER

- Urinal division
- dimensions 400mm x 720mm
- Inclusive of fixing devices



AS

LAUFEN CINTO 0829300007 OR EQUIVALENT

URINAL BOWL

- concealed inlet
- includes jet nozzle, inlet-set, waste, bottle trap Ø 32 mm and fixings with inlet adapter for 1/2" inlet connection
- Meets EU declaration of conformity certificate



AS JAGUAR MODEL URS-WHT-13253N OR EQUIVALENT

MAINS OPERATION URINAL FLUSH VALVE

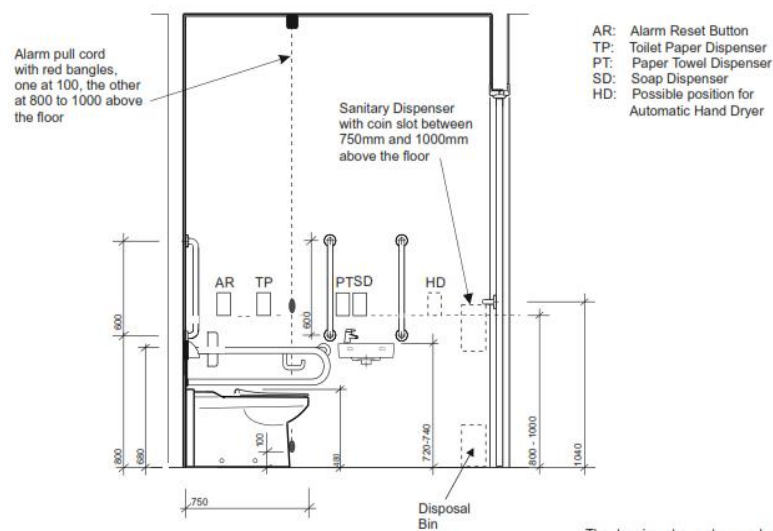
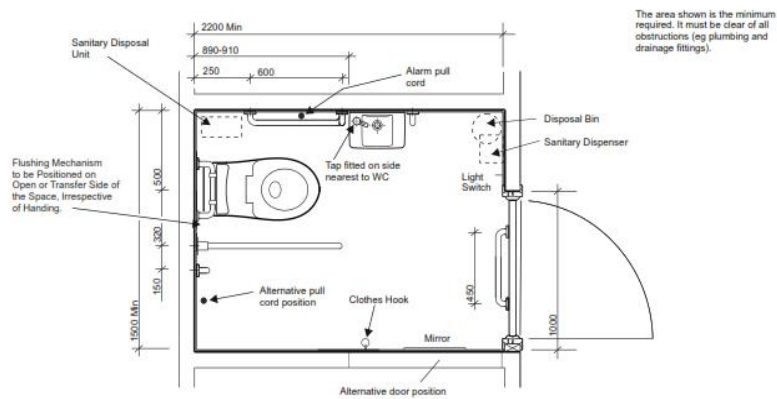
- Urinal flush control with electronic flush actuation, mains operation
- Cover plate with securing bar
- Water-saving hybrid mode can be set with Adjustable interval flush
- Mains operation and Power failure control unit
- Valve-closing function when power fails
- Flush volume can be reduced to 0.5 l per flush with regulating screw of installation set
- Includes all accessories including Cover plate type 10 with IR window Infrared control, premounted on mounting frame, Solenoid valve ,Power supply unit and Fastening material, Plate in Die-cast zinc material with Protection degree IP45
- Flow pressure 1-8 bar, With flow regulator and Detection time, adjustment range 3-15 s
- Allow for pre wall carriers



AS JAQUAR INFRA RED URINAL FLUSH VALVES OR EQUIVALENT

PHSICALLY CHALLENGED WATER CLOSET

- 700mm projection Rim free pan
- Concealed cistern, single flush lever, 4 litre flush
- Seat ring, stainless steel bar hinge, top fix and stability buffers
- back support with cushion
- hand rinse basin 400, no overflow 1 tap
- thermostatic basin mixer with fixed spout and copper tails
- 4 x 600mm grab rails concealed fixings, 1 x 450mm grab rail concealed fixings, 1 x Hinged support rail and toilet roll holder concealed fixings
- Material to be Vitreous china.
- Grab rails in powder coated aluminium.
- WRAS Approved and TMV3 Approved

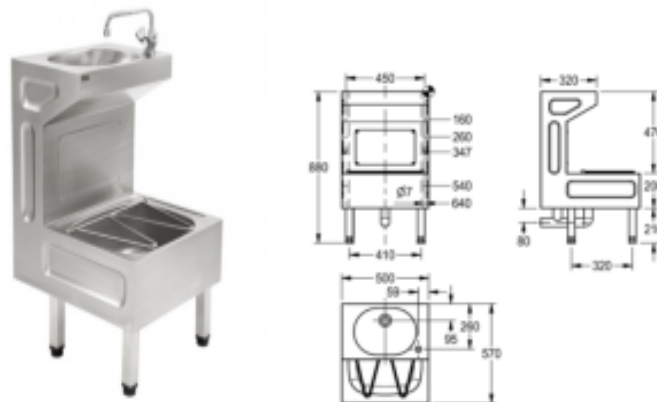


The drawing above shows a leaf

AS TWYFORD DOC M PACK MODEL PK8357BE OR EQUIVALENT

JANITORIAL SINK

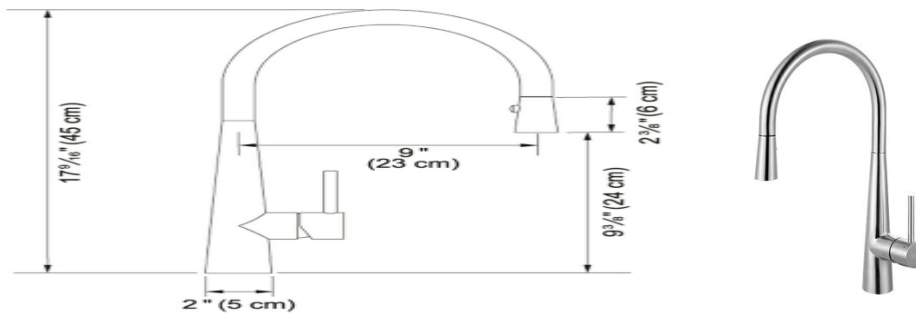
- Floor standing janitorial unit manufactured from grade 1.4301 (304) stainless steel
- 1.2mm material thickness throughout except for lower bowl which is 0.9mm.
- With monoblock mixer, 32mm flush grated waste (for top wash bowl) and 38mm domed waste outlet (for lower bowl).
- The janitorial unit to be fixed with 4 legs for floor standing
- WRAS Approved
- Bowl height 180mm,width 360mm and Bowl depth 420 mm
- Overall depth 570.00 mm, Overall height 880.00 mm and Overall width 500.00 mm
- Surface finish Satin finish With Tap ledge



AS FRANKE JANITORIAL UNIT MODEL G20050N 207.0000.058 OR EQUIVALENT

KITCHEN SINK TAP

- Solid 304 stainless steel construction
- Side lever Pull down 360 degrees swivel spout
- Dual functioning head spray to provide spray and stream type
- Flowrate of 1.75gpm



AS FRANKE FF3450 OR EQUIVALENT

KITCHEN SINK

- Solid 304 stainless steel construction
- One and a half bowl
- With preferred dimensions as shown



AS FRANKE REGATTA RGX 160 OR EQUIVALENT

SECTION NAME:

PIPING SPECIFICATIONS

PARTICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE INSTALLATION WORKS

GENERAL

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

MATERIALS AND STANDARDS

Pipework and Fittings

Pipework materials are to be used as follows:

a) Galvanized Steel Pipework

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

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

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

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

b) Copper Tubing

All copper tubing shall be manufactured in accordance with B.S. 2871 from C.160 'Phosphorous De-oxidized Non-Arsenical Copper' in accordance with B.S. 1172.

Pipe joints shall be made with soldered capillary fittings and connections to equipment shall be with compression fittings manufactured in accordance with B.S. 864.

Short copper connection tubes between galvanized pipe work and sanitary fitments shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between the galvanized pipe and the copper tube in order to prevent direct contact.

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

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

Jointing

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

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used.

Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

b) HDPE Pressure Pipes and Fittings

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

Jointing

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

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used.

Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

c) A.B.S. Waste System

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

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

Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978. Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.

Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this impracticable the Sub-contractor shall provide purpose made supports, centers of which shall not exceed one meter. Expansion joints shall be provided as indicated. Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) PVC Soil System

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

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

The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to. Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet. Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres.

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

Valves

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

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

Gate Valves

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of B.S. 3464.

All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952.

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

Globe Valves

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

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

Waste Fitment Traps

a) Standard and Deep Seal P & S Traps

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

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

b) Anti-Syphon Traps

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

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

Pipe Supports

a) General

This sub-clause deals with pipe supports securing pipes to the structure of buildings for above ground application.

The variety and type of support shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixings to metal, concrete, masonry or wood.

Consideration shall be given, when designing supports, to the maintenance of desired pipe falls and the restraining of pipe movements to a longitudinal axial direction only.

The Sub-contractor shall supply and install all steelwork forming part of the pipe support assemblies and shall be responsible for making good damage to builders work associated with the pipe support installation.

The Sub-contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

b) Steel and Copper Pipes and Tubes

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

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

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

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

c) Expansion Joints and Anchors

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

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

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

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

Sanitary Appliances

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

Pipe Sleeves

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

INSTALLATION

General

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

Above Ground Installation

a) Water Services

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

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

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

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

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

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant. All screwed joints to piping and fittings shall be made with P.T.F.E. tape.

The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

b) Sanitary Services

Soil, waste and vent pipe system shall be installed in accordance with the best standard of modern practice as described in B.S. 5572 to the approval of the Engineer. The Sub-contractor shall be responsible for ensuring that all ground waste fittings are discharged to a gully trap before passing to the sewer via a manhole.

The Sub-contractor shall provide all necessary rodding and inspection facilities within the draining system in positions where easy accessibility is available. Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

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

The open end of each stack shall be fitted with a plastic coated or galvanised steel wire guard. Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

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

Underground Water Mains

After laying, jointing and anchoring, the mains shall be slowly and carefully charged with water so that all air is expelled and allowed to stand full for three days before testing under pressure.

A long main shall be tested in sections as the work of laying proceeds and all joints shall be exposed for inspection during the testing. The open end of the main may be temporarily closed for testing under moderate pressure by fitting a water pipe expanding plug, of which several types are available.

The end of the main and the plug should be secured by struts or otherwise, to resist the end thrust of the water pressure in the main. If the section of main terminates with a sluice valve, the wedge of the valve shall not be used to retain the water, instead the valve shall be fitted temporarily with a blank flange, or a socket valve with a plug and the wedge shall be placed in the open position while testing.

The Contractor shall provide suitable end supports to withstand the end thrust of the water pressure in the main.

Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times the design working pressure. If preferred, the Contractor may test the Pipelines in sections.

Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Contractor and the section retested.

The Contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be required or replaced at the Contractor's expenses.

Underground Drainage System

A site test shall be carried out on all drainage pipes before haunching or surrounds are applied. These tests shall be carried out preferably from manhole to manhole.

Short branch drains connected to a main drain between manholes shall be tested as one system with a main drain.

In long branches, a testing junction shall be inserted next to the junction with the main drain and the branch tested separately. After this has been passed, the testing junction shall be effectively sealed.

All tests on underground drains shall be permitted on cast iron drains at the discretion and to the approval of the Engineer. Water tests shall be carried out in accordance with the methods described under B.S. Code of Practice 301, Clause 601(b) and (c) and the test pressure shall not be less than 1,520mm head at the highest point in the pipe section and not more than 10.36mm head at any point in the section.

The test pressure shall be maintained for the period of one hour during which time the pipe and joints shall be inspected for sweating and leakage. Any leak discovered during the tests shall be made good by the Sub-Contractor and the section re-tested.

In addition to pressure tests, drain pipe runs shall be tested for straightness where applicable. This test shall be carried out in accordance with one of the two methods described in B.S. code of Practice 301, Clause 601(e).

Testing of manholes shall be carried out in accordance with the methods described under B.S. code of practice 301, clause 601 (f).

TESTING AND INSPECTION

Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure. If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.

The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

b) Above Ground Soil Waste and Ventilation System

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

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

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

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

Site Test – Performance

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

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

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

- i) Apply a coating of suitable filler until the canvas weave disappears and allow to dry.
- ii) Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

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

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

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

Pressure gauges should be recalibrated before the tests.

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

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

STERILISATION OF HOT AND COLD WATER SYSTEM

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

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

PLUMBING PIPES SPECIFICATION

- Impact Strength of over 45 avg ft/lbs tested by ASTM D2444 Standard Practice for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings
- Biofilm Formation Potential of less than 120 pg ATP/cm²
- integrates specialized additives that protect the pipe from UV
- To meet the requirement of having a flame spread index of 0-25 and a smoke developed index of 0-50 (25/50 rating) when tested in accordance with ASTM E84/UL723

Item	Parameter	Required
A	Material	Chlorinated Polyvinyl Chloride
B	Tensile Strength (MPa at 23°C)	High.55 MPa
C	Flow Rate	High due to higher ID
D	Jointing	cold fusion as done by solvent joint
E	Scale Formation/ Calcination	No scale formation, pitting and corrosion
F	Fire Retardance	LOI = 60%. Self extinguishes
G	Bacterial Growth	Less than 5000Kbe/cm
H	Thermal Conductivity	0.14W/MK Less energy loss
I	Coefficient of Thermal expansion	0.7x10 mm/mk less supports, less snaking.
J	Effect of UV	Dehydrochlorination reaction. Temp and pressure bearing capacity remains unaffected
K	Oxygen Permeation	Less than 1 cm ³ /m day atmosphere (at 70°C) No corrosion risk
L	Reliability	Being in production for at least 20 years
M	Maximum Temperature	93 degrees centigrade
N	Resistance to water disinfectant (Chlorine)	Not affected by chlorine in water supply or by pH of Water

Certified to

- EN ISO 15877, which specifies the material is approved for use in hot and cold water distribution systems
- ASTM F656, standard for using a primer for potable water and sewer pipe
- NSF-61 Annex G certification, which verifies the material leaches almost no lead into the water.

PIPE SCHEDULE

Temperature and Pressure Tolerance

Item	Temperature (degrees centigrade)	Working Pressure for PN16(bar)	Working Pressure for PN20(bar)	Working Pressure for PN25(bar)
A	20	16	20	25
B	40	11	14	17
C	60	6	8	10
D	80	4	5	6
E	95	2	3	4

HANGERS AND SUPPORT

- Piping should not be anchored tightly to supports, but rather secured with smooth straps or hangers that allow for movement caused by expansion and contraction.
- Hangers should not have rough or sharp edges which come in contact with the tubing.

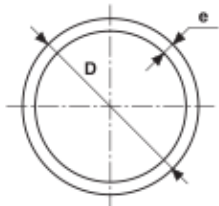
Item	Pipe size(mm)	Hangers Spacing			
		Horizontal			Vertical
		20 ° C	60 ° C	80 ° C	
A	16	850	700	600	1000
B	20	950	850	750	1200
C	25	1050	950	850	1300
D	32	1200	1100	1000	1400
E	40	1300	1150	1150	1500
F	50	1500	1450	1350	1700
G	63	1700	1650	1550	2000

PIPES

CPVC pipes SDR-11 for 15 mm (½”) to 50 mm (2”)

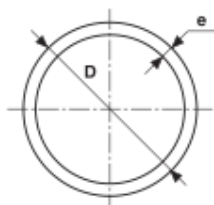
CPVC Schedule 40 pipes to ASTM F-441

PN 16



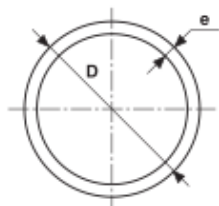
Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,4	16	TUBE CPVC	ML	0,111	13,20
20	1,5	16	TUBE CPVC	ML	0,151	17,00
25	1,9	16	TUBE CPVC	ML	0,234	21,20
32	2,4	16	TUBE CPVC	ML	0,379	27,20
40	3	16	TUBE CPVC	ML	0,590	34,00
50	3,7	16	TUBE CPVC	ML	0,910	42,60
63	4,7	16	TUBE CPVC	ML	1,460	53,60
75	5,6	16	TUBE CPVC	ML	2,100	63,80
90	6,7	16	TUBE CPVC	ML	2,900	76,60
110	8,1	16	TUBE CPVC	ML	4,310	93,80
125	9,2	16	TUBE CPVC	ML	5,460	106,60
140	10,3	16	TUBE CPVC	ML	6,850	119,40
160	11,8	16	TUBE CPVC	ML	9,070	136,40

PN 20



Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,5	20	TUBE CPVC	ML	0,115	13,00
20	1,9	20	TUBE CPVC	ML	0,187	16,20
25	2,3	20	TUBE CPVC	ML	0,270	20,40
32	2,9	20	TUBE CPVC	ML	0,470	26,20
40	3,7	20	TUBE CPVC	ML	0,701	32,60
50	4,6	20	TUBE CPVC	ML	1,090	40,80
63	5,8	20	TUBE CPVC	ML	1,720	51,40
75	6,8	20	TUBE CPVC	ML	2,420	61,40
90	8,2	20	TUBE CPVC	ML	3,750	73,60
110	10	20	TUBE CPVC	ML	5,130	90,00
125	11,4	20	TUBE CPVC	ML	6,620	102,20
140	12,7	20	TUBE CPVC	ML	8,200	114,60
160	14,6	20	TUBE CPVC	ML	10,800	130,80

PN 25

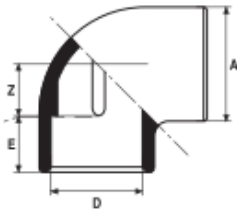


Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,8	25	TUBE CPVC	ML	0,140	12,40
20	2,3	25	TUBE CPVC	ML	0,220	15,40
25	2,8	25	TUBE CPVC	ML	0,330	19,40
32	3,6	25	TUBE CPVC	ML	0,490	24,80
40	4,5	25	TUBE CPVC	ML	0,830	31,00
50	5,6	25	TUBE CPVC	ML	1,290	38,80
63	7,1	25	TUBE CPVC	ML	2,020	48,80
75	8,4	25	TUBE CPVC	ML	2,880	58,20
90	10,1	25	TUBE CPVC	ML	4,250	69,80
110	12,3	25	TUBE CPVC	ML	6,160	85,40
125	14	25	TUBE CPVC	ML	7,90	97,00
140	15,7	25	TUBE CPVC	ML	9,920	108,60
160	17,9	25	TUBE CPVC	ML	12,910	124,20

PIPE FITTINGS

- CPVC pipes SDR-11 fittings to per ASTM D2846 for pipes Sizes 15 mm ($\frac{1}{2}$ "") to 50 mm (2"")
- Schedule 40 fittings to ASTM F-438 for pipe Sizes above 50 mm (2"")

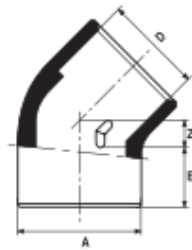
Elbow 90°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)
16	GIC 16	21,2	16,2	9,0	14,0
20	GIC 20	26,6	20,2	11,0	16,0
25	GIC 25	32,95	25,35	13,5	25,0
32	GIC 32	40,35	32,35	17,0	30,0
40	GIC 40	50,35	40,35	21,0	35,0
50	GIC 50	62,95	50,35	26,0	41,0
63	GIC 63	76,15	63,35	32,5	50,0
75	GIC 75	90,65	75,45	38,5	60,0
90	GIC 90	108,65	90,45	46,0	72,0
110	GIC 110	132,45	110,45	56,0	88,0

Notes: All dimensions are in mm

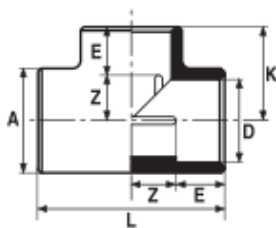
Elbow 45°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)
16	HIC 16	21,2	16,2	4,5	14,0
20	HIC 20	26,6	20,2	5,0	16,0
25	HIC 25	32,8	25,2	6,0	18,5
32	HIC 32	40,35	32,35	7,5	30,0
40	HIC 40	50,35	40,35	9,5	35,0
50	HIC 50	60,35	50,35	11,5	41,0
63	HIC 63	76,15	63,35	14,0	50,0
75	HIC 75	90,65	75,45	16,5	60,0
90	HIC 90	108,65	90,45	19,5	72,0
110	HIC 110	132,45	110,45	24,0	88,0

Notes: All dimensions are in mm

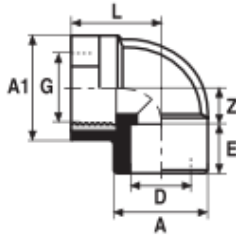
Tee 90°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	K	L
16	TIC 16	21,2	16,2	9,0	14,0	23,0	46,0
20	TIC 20	26,6	20,2	11,0	16,0	27,0	54,0
25	TIC 25	32,95	25,35	13,5	25,0	38,5	77,0
32	TIC 32	40,35	32,35	17,0	30,0	47,0	94,0
40	TIC 40	50,35	40,35	21,0	35,0	56,0	112,0
50	TIC 50	62,95	50,35	26,0	41,0	67,0	134,0
63	TIC 63	76,15	63,35	32,5	50,0	82,5	165,0
75	TIC 75	90,65	75,45	38,5	60,0	98,5	197,0
90	TIC 90	108,65	90,45	46,0	72,0	118,0	236,0
110	TIC 110	132,45	110,45	56,0	88,0	144,0	288,0

Notes: All dimensions are in mm

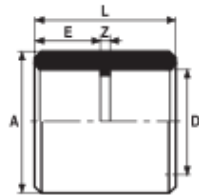
Elbow Metal Reduced and Threaded



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	G	A1	L
16x1/2"	GIRC 16x1/2"	21,2	16,2	9,0	14,0	1/2"	39,8	28,5
20x1/2"	GIRC 20x1/2"	26,75	20,35	11,0	20,0	1/2"	42,0	27,5
25x3/4"	GIRC 25x3/4"	32,95	25,35	13,5	25,0	3/4"	43,0	33,8
32x1"	GIRC 32x1"	40,35	32,35	17,0	30,0	1"	49,3	39,7

Notes: All dimensions are in mm

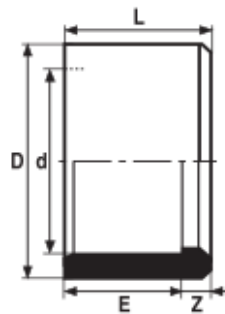
Sleeves



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	L
16	MIC 16	21,2	16,2	3,0	14,0	31,0
20	MIC 20	26,6	20,2	3,0	16,0	35,0
25	MIC 25	32,95	25,35	3,0	25,0	53,0
32	MIC 32	40,35	32,35	3,0	30,0	63,0
40	MIC 40	50,35	40,35	3,0	35,0	73,0
50	MIC 50	62,95	50,35	3,0	41,0	85,0
63	MIC 63	76,15	63,35	3,0	50,0	103,0
75	MIC 75	90,65	75,45	4,0	60,0	124,0
90	MIC 90	108,65	90,45	5,0	72,0	149,0
110	MIC 110	132,45	110,45	6,0	88,0	182,0

Notes: All dimensions are in mm

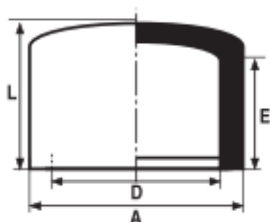
Reduction



Dn	Reference	D(min)	d(avg)	Z(avg)	E(min)	L(min)
20/16	DIC 20/16	20,0	16,35	4,0	16,0	20,0
25/20	DIC 25/20	25,0	20,35	5,0	20,0	25,0
32/20	DIC 32/20	32,0	20,35	10,0	20,0	30,0
32/25	DIC 32/25	32,0	25,35	5,0	25,0	30,0
40/20	DIC 40/20	40,0	20,35	15,0	20,0	35,0
40/25	DIC 40/25	40,0	25,35	10,0	25,0	35,0
40/32	DIC 40/32	40,0	32,35	5,0	30,0	35,0
50/20	DIC 50/20	50,0	20,35	15,0	20,0	35,0
50/25	DIC 50/25	50,0	25,35	16,0	25,0	41,0
50/32	DIC 50/32	50,0	32,35	11,0	30,0	41,0
50/40	DIC 50/40	50,0	40,35	6,0	35,0	41,0
63/32	DIC 63/32	63,0	32,35	20,0	30,0	50,0
63/40	DIC 63/40	63,0	40,35	15,0	35,0	50,0
63/50	DIC 63/50	63,0	50,35	9,0	41,0	50,0
75/50	DIC 75/50	75,0	50,35	19,0	41,0	60,0
75/63	DIC 75/63	75,0	63,35	10,0	50,0	60,0
90/75	DIC 90/75	90,0	75,45	12,0	60,0	72,0
110/90	DIC 110/90	110,0	90,45	16,0	72,0	88,0

Notes: All dimensions are in mm

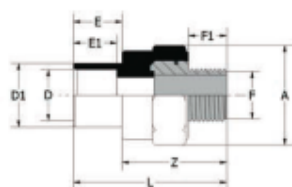
End Cap



Dn	Reference	A(min)	D(Avg)	E(min)	L(min)
16	CIC 16	21,2	16,2	14,0	19,5
20	CIC 20	26,6	20,2	16,0	22,2
25	CIC 25	32,8	25,2	18,5	25,3
32	CIC 32	40,35	32,35	30,0	37,0
40	CIC 40	50,35	40,35	35,0	43,0
50	CIC 50	62,95	50,35	41,0	50,3
63	CIC 63	79,15	63,35	50,0	60,9
75	CIC 75	93,85	75,45	60,0	73,2
90	CIC 90	112,65	90,45	72,0	88,1
110	CIC 110	137,45	110,45	88,0	107,5

Notes: All dimensions are in mm

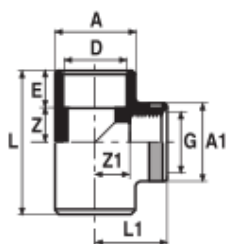
Reduced Metal Sleeve



Dn	Reference	D1(min)	D(avg)	A	E1	E	F	F1	L	Z
25x½"	KRG 25x½"	32,95	25,35	40,8	25,0	28,0	½"	13,7	59,5	43,0
32x¾"	KRG 32x¾"	40,35	32,35	47,5	30,0	33,0	¾"	16,6	65,0	47,5

Notes: All dimensions are in mm

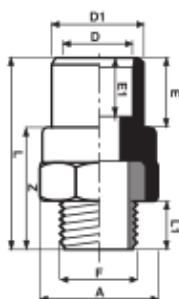
Tee Metal Threaded



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	L	G	A1	Z1	L1
16x½"	TIRC 16x½"	21,2	16,2	9,0	14,0	46,0	½"	39,5	15,0	30,0
20x½"	TIRC 20x½"	26,75	20,35	11,0	20,0	62,0	½"	42,5	13,5	30,0
25x¾"	TIRC 25x¾"	32,95	25,35	13,5	25,0	77,0	¾"	43,0	16,5	34,5
32x1"	TIRC 32x1"	40,35	32,35	17,0	30,0	94,0	1"	49,2	20,0	40,5

Notes: All dimensions are in mm

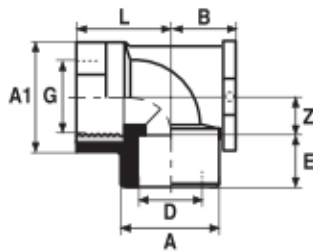
Metal Sleeves Male



Dn	Reference	D1(min)	D(avg)	A	E1	E	F	L1	L	Z
16x½"	KIGC 16x½"	21,2	16,2	39,5	14,0	16,0	½"	12,0	46,7	30,5
20x½"	KIGC 20x½"	26,75	20,35	34,9	20,0	19,0	½"	12,0	48,0	29,5
25x¾"	KIGC 25x¾"	31,75	25,35	40,8	25,0	15,6	¾"	13,7	59,5	43,0
32x1"	KIGC 32x1"	40,35	32,35	47,5	30,0	17,0	1"	16,6	65,0	47,5
40x1¼"	KIGC 40x1¼"	48,55	40,35	59,5	35,0	19,5	1¼"	22,0	75,5	56,0
50x1½"	KIGC 50x1½"	60,35	50,35	69,0	41,0	26,5	1½"	20,0	81,0	54,5
63x2"	KIGC 63x2"	76,15	63,35	81,0	50,0	33,7	2"	26,5	98,5	64,0

Notes: All dimensions are in mm

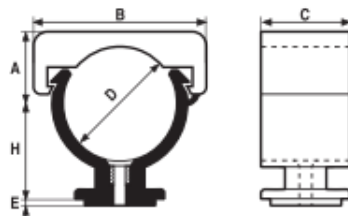
Wall Mount Elbow



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	G	A1	L	B
20x½"	20x½"	26,75	20,35	11,0	20,0	½"	42,0	27,0	12,5
25x¾"	25x¾"	32,95	25,35	13,5	25,0	¾"	46,5	34,0	17,5

Notes: All dimensions are in mm

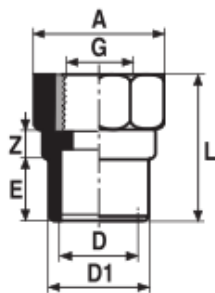
Bracket for Pipe



Dn	Reference	D	A	B	C	E	H
20	MDC 20	20,5	10,0	31,5	16,0	1,9	18,0
25	MDC 25	25,5	11,0	38,0	16,0	1,9	21,0
32	MDC 32	32,8	15,0	48,0	18,0	2,7	25,5

Notes: All dimensions are in mm

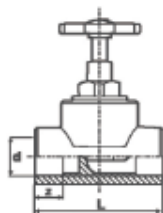
Sleeve Female Metal Threaded



Dn	Reference	D1(min)	D(avg)	A	E(min)	G	Z	L
16x½"	MIRC 16x½"	21,2	16,2	39,5	14,0	½"	3,0	34,5
20x½"	MIRC 20x½"	26,75	20,35	39,5	20,0	½"	3,0	35,2
25x¾"	MIRC 25x¾"	32,95	25,35	45,5	25,0	¾"	3,0	48,0
32x1"	MIRC 32x1"	40,35	32,35	50,5	30,0	1"	3,0	48,5
40x1¼"	MIGC 40x1¼"	48,55	40,35	60,0	35,0	1¼"	3,0	54,5
50x1½"	MIGC 50x1½"	60,35	50,35	69,0	41,0	1½"	3,0	61,0
63x2"	MIGC 63x2"	76,15	63,35	81,0	50,0	2"	3,0	72,0

Notes: All dimensions are in mm

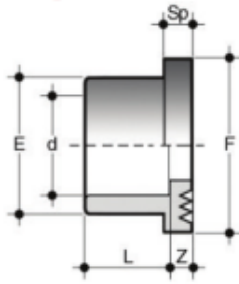
Stop Valve



Dn	Reference	d(avg)	Z(min)	L
20x½"	VKIK 20x½"	20,35	20,0	62,0
25x¾"	VKIK 25x¾"	25,35	25,0	77,0
32x1"	VKIK 32x1"	32,35	30,0	94,0

Notes: All dimensions are in mm

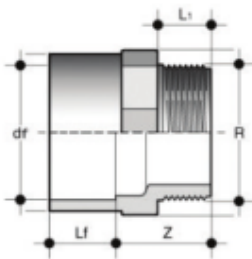
Flange Hub



Dn	Reference	d(avg)	E(min)	L	Z	SP	F
63	Colet 63	63.35	82.0	41.0	3.0	9.0	90.0
75	Colet 75	75.45	89.5	43.5	3.0	10.0	105.0
90	Colet 90	90.45	107.5	49.0	5.0	11.0	125.0
110	Colet 110	110.45	131.0	63.0	5.0	14.0	158.0

Notes: All dimensions are in mm

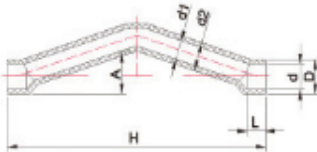
Sleeve Male Threaded



Dn	Reference	df(avg)	Lf(min)	L1(min)	Z	R
25x¾"	KIFC 25x¾"	25.35	25.0	16.3	27.0	¾"
32x1"	KIFC 32x1"	32.35	30.0	19.1	30.5	1"
40x1¼"	KIFC 40x1¼"	40.35	35.0	21.4	35.0	1¼"
50x1½"	KIFC 50x1½"	50.35	41.0	21.4	35.0	1½"
63x2"	KIFC 63x2"	63.35	50.0	25.7	41.0	2"
75x3"	KIFC 75x3"	75.45	60.0	34.5	46.5	3"
90x4"	KIFC 90x4"	90.45	72.0	41.0	52.0	4"

Notes: All dimensions are in mm

Step over bend



Dn	Reference	d(avg)	D(min)	L(min)	H(min)	A	d1	d2
20	SOBC 20	20.2	28.0	16.0	160.0	26,5	14,0	21,8
25	SOBC 25	25.2	34.8	18.5	180.0	29,5	17,7	26,7
32	SOBC 32	32.2	42.0	22.0	220.0	32,5	22,2	32,0

Notes: All dimensions are in mm



Elbow 45°



Expansion Loop



Coupler



Elbow 90°



Tee (Brass)



Cross Tee



Powder Coated
Metal Clamp



Union



Male Adaptor
Plastic Threaded
(MAPT)



Female Adaptor
Plastic Threaded
(FAPT)



End Cap



Equal Tee



Female Adaptor Brass
Threaded (FABT)



Step Over Bend



Reducer Elbow 90°



Tank Nipple



Reducer Tee



Flange Open



Flange Closed



Reducing Bush



Elbow 90° Brass



Reducer Coupler



Converter Bushing

INSTALLATION

Cutting

- CPVC pipe can be cut with a wheel-type plastic tube cutter, a hack saw or other fine toothed hand or power saw.
- Use of ratchet cutters is permitted, provided blades are sharpened regularly. A miter box should be used to ensure a square cut when using a saw.
- Pipes to be cut as squarely as possible to provide an optimal bonding area within the joint.
- If any indication of damage or cracking is evident at the pipe end, cut off at least 5 cm beyond any visible crack.

Deburring / Beveling

- Burrs and filings can prevent proper contact between pipe and fitting during assembly, and should be removed from the outside and inside of the pipe.
- A chamfering tool is preferred for this purpose. A slight bevel on the end of the pipe will ease entry of the pipe into the fitting socket and minimize the chances of pushing solvent cement to the bottom of the joint.

Fitting Preparation

- Any dirt or moisture must be wiped from the fitting socket and pipe end.
- Check the dry fit of the pipe and fitting.
- The pipe should make contact with the socket wall 1/3 to 2/3 of the way into the fitting socket.
- Pipe should not bottom out in the socket.

Solvent Cement Application

- Only CPVC approved cement to be used

Assembly

- Immediately insert the pipe into the fitting socket, rotating the pipe 1/4 to 1/2 turn while inserting. This motion ensures an even distribution of cement within the joint. Properly align the fitting. Hold the assembly for approximately 10 seconds, allowing the joint to set.
- An even bead of cement should be evident around the joint. If this bead is not continuous around the socket edge, it may indicate that insufficient cement was applied. In this case remake the joint to avoid potential leaks.

ALL PIPE AND FITTINGS TO BE AS CPVC FLOWGUARD OR EQUAL

Site name

Date

Address

Contractor Name

Floor level

Floor/Wing

Room/Office

PRESSURE TEST RECORD

Starting Time of the Procedure.....

Testing Pressure

Duration	Time	Recorded Pressure Readings (Bar)	Comment
Starting Time			
1 hour			
2 hours			
4 Hours			
6 Hours			
8 Hours			
12 Hours			
24 Hours			

Certification

Plumber Name.....Date.....

Engineers Rep (COW) Name.....Date.....

Testing Procedure

- Disconnect ancillary equipment that may not be designed to withstand test pressures, e.g. shower, boiler, etc. Manufacturer's data should be consulted.
- Check all system high points for location of air vents.
- Blank or plug any open ends including float valves. Close valves where sub-sections only are being tested.
- Open all valves in the enclosed section under test.
- Attach test pump to a convenient point with non-return valve and testing gate valve
- Start filling the system by pump priming and replenishing the pump water reservoir.
- Ventilate air from high points until water shows.
- When the system is full, raise the pressure as required.
- Remove the pump and leave the system primed
- If pressure falls, check joints, valves, etc. for leakage.
- When the test is satisfied, ensure the appropriate documentation is signed.
- Physical examination of the system for any leakages

Test requirements

Test required test pressure is applied and maintained for initial 30 minutes for bleeding air out of the pipeline/system.

Test is satisfied if: there is no visible leakage and the pressure drop is a maximum of 5% of the start testing pressure.

Testing Notes

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used or the design pressure. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge. All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure.

If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested. The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and

fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precautions shall be taken to ensure that the required pressure is not exceeded. Pressure gauges should be recalibrated before the tests. The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

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

Note: If further testing is required, it should be done in intervals of 1 hour up to 8 hours (working hours). For overnight testing, the last recorded pressure before close of business and the first reading in the morning should be captured.

DRAINAGE PIPING

- Drainage Piping shall be with specifications as follows
 - Raw material - **100% VIRGIN Polyvinyl chloride (PVC-U)**
 - Stabilizers - Non-lead/ Organic
 - Jointing method - Rubber ring or Solvent Weld
 - Density (g/cm³) - 1.40
 - Yield strength (N/mm²) - 50 – 55
 - E-modulus (N/mm²) - 3000
 - Melting point - Ca. 90°C
 - Vicat softening point - 80°C
 - Specific heat - 1.00 kJ/kg • K
 - Colour Light Grey to BS EN 1329-1:2000 and quality to BS 5255
 - Colour Brown to BS EN 1401-1:1998 and quality to BS 4660
 - Coefficient of heat conduction - 0.16 W/mK
 - Tensile Strength : Min. 45 N/mm²
- Jointing by Rubber Ring/Solvent Weld
- With all associated fittings
 - WC Connectors
 - Vent pipes and caps
 - Air admittance valves
 - Traps/siphons
 - Floor gullies
 - Access fittings
 - Connectors and reducers
- 15° chamfer is applied to all spigot ends for rubber ring pipe.

Item	Parameter	Value	Test method
A	Impact Resistance	TIR \leq 10%	EN 744
B	Vicat Softening	$\geq 79^{\circ}\text{C}$	EN 727
C	Longitudinal Reversion	$\leq 5\%$	EN 743
D	Dichloromethane Acid Resistance	No attack	EN 580
E	Water Tightness of Rubber Ring Joint	No leakage	EN 1277
F	Elevated Temp. Cycling	No leakage	EN 1055
G	Long Term Performance of TPE Seals	90 days \geq 1.3 bar	EN 1989
		100 years \geq 0.6 bar	EN 1989
H	Resistance to Internal Pressure	No failure during the test 10.0MPa for 1000 hours, at 60°C	EN 921

Item	Pipe Size (mm)	Mean outside diameter(mm)	Wall thickness (mm)
A	36	36.5	3.5
B	43	43.1	3.5
C	56	56.1	3.5
D	82	82.3	3.5
E	110	110.3	3.5
F	160	160.4	3.8

PIPE FITTINGS



BEND 90° - SWR

Sizes

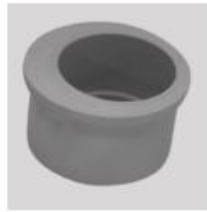
1 1/4"
1 1/2"
2"
3" (82mm)



BEND 45° - SWR

Sizes

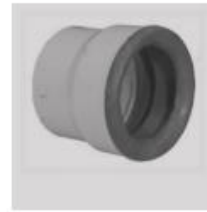
4" (110mm)
Bend 45°



REDUCING BUSH - SWR

Sizes

1 1/4"
1 1/2"
2"
3" (82mm)



W.C. CONNECTOR - SWR

Sizes

W.C. Connector
Straight 4" (110mm)



SHOWER TRAP - SWR

Sizes

4" (110mm) Tee



BOSS CONNECTOR - SWR

Sizes

4" (110mm) x 1 1/4"
4" (110mm) x 1 1/2"
4" (110mm) x 2"



FLOOR TRAP - SWR

Description

Complete with Grill and Tile
Grill and Tile (inlet)
Main Trap
Grill



INSPECTION BEND 90° - SWR

Sizes

4" (110mm) Inspection
Bend 90°



VENT COWL - SWR

Description

4" (110mm)



ACCESS PLUG - SWR

Sizes

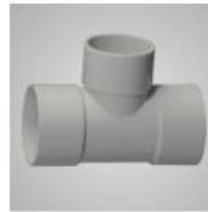
1 1/4"
1 1/2"
2"



TEE SWR

Sizes

1 1/4"
1 1/2"
2"
3" (82mm)



TEE SWR

Sizes

4" (110mm) Tee



INSPECTION TEE

Sizes

4" (110mm) Bend 90°

SECTION NAME:

FIRE HOSEREEL SPECIFICATIONS

FIRE HOSEREEL SPECIFICATION

<u>CLAUSE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1.01	GENERAL	HS-1
1.02	SCOPE OF WORKS	HS -1
1.03	WATER/CO2 EXTINGUISHERS	HS -2
1.04	CARBON DIOXIDE FIRE EXTINGUISHERS	HS -2
1.05	DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER	HS -3
1.06	SITE SUPERVISION	HS -3
1.07	INSTALLATION	HS -3
1.08	TESTING	HS -4
1.09	COLOUR CODING	HS -6
1.10	WELDING	HS -6

(i)

PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER AND HOSE REEL INSTALLATIONS

1.0.1 GENERAL

The particular specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers and Boosted Hose Reel System.

The Sub-contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the contract drawings but which are necessary for the completion and satisfactory functioning of the works.

If in the opinion of the Sub-contractor there is a difference between the requirements of the Specifications and the Contract Drawings, he shall clarify these differences with the Engineer before tendering.

1.0.2 SCOPE OF WORKS

The Sub-contractor shall supply, deliver, erect, test and commission all the portable fire extinguishers and Hose Reel which are called for in these Specifications, Bills of quantities and as shown on the Contract Drawings.

HS-1

1.0.3 WATER/CO2 EXTINGUISHERS

These shall be 9-litre water filled CO2 cartridge operated portable fire extinguishers and shall comply with B.S. 1382: 1948 and to the requirements of B.S.4523: 1977. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

- a) Method of operation.
- b) The words 'WATER TYPE' (GAS PRESSURE) in prominent letters.
- c) Name and address of the manufacturer or responsible vendor.
- d) The nominal charge of the liquid in imperial gallons and litres.
- e) The liquid level to which the extinguisher is to be charged.
- f) The year of manufacture.
- g) A declaration to the effect that the extinguisher has been tested to a pressure of 24.1 bar (350 psi.).
- h) The number of British Standard 'B.S' 1382 or B.S. 5423: 1977.

HS-2

1.0.4 CARBON DIOXIDE FIRE EXTINGUISHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with B.S. 3326: 1960 and B.S. 5423: 1977.

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the following British Standards; B.S. 401 or B.S. 1288.

The filling ratio shall comply with B.S. 5355 with valves fittings for compressed gas cylinders to B.S.341. Where a hose is fitted it shall be flexible and have a minimum working pressure of 206.85 bar (3000 p.s.i.). The hose is not to be under internal pressure until the extinguisher is operated.

The nozzle shall be manufactured of brass gunmetal, aluminium or stainless steel and may be fitted with a suitable valve for temporarily stopping the discharge if such means are not incorporated in the operating head.

The discharge horn shall be designed and constructed so as to direct the discharge and limit the entrainment of air. It shall be constructed of electrically non-conductive material.

The following markings shall be applied to the extinguishers:-

- a) The words “Carbon Dioxide Fire Extinguisher” and to include the appropriate nominal gas content.
- b) Method of operation.
- c) The words “Re-charge immediately after use”.
- d) Instructions for periodic checking.
- e) The number of the British Standard B.S. 3326: 1960 or B.S. 5423.
- f) The manufacturers name or identification markings

1.0.5 _DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS3465: 1962 and BS 5423. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470: 1972 and shall be suitably protected against corrosion. The dry powder charge shall be not-toxic and retain its free flowing properties under normal storage conditions. Any pressurizing agent used as an expellant shall be in dry state; in particular compressed air.

The discharge tube and gas tube if either is fitted shall be made of steel, brass, copper or other not less suitable material. Where a hose is provided it shall not exceed 1,060mm and shall be acid and alkali resistant. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information

- a) The word “Dry Powder Fire Extinguisher”
- b) Method of operation in prominent letters.
- c) The working pressure and the weight of the powder charge in Kilogramme.
- d) Manufacturers name or identification mark
- e) The words “RECHARGE AFTER USE” if rechargeable type.
- f) Instructions to regularly check the weight of the pressure container (gas Cartridge) or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.
- g) The year of manufacture.
- h) The Pressure to which the extinguisher was tested.
- i) The number of this British Standard BS 3465 or BS 5423: 1977.
- j) When appropriate complete instructions for charging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

1.0.6 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. 5423 with the following specifications:-

Cylinder: to B.S. 1449

Necking: to be 76mm outside diameter steel EN 3A 2³/₄ X 8TPI female thread.

Head cap: to be plastic moulding acetyl resin.

CO₂ Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

External finish: to be phosphated - One coat primer paint and one coat stove enamel B.S. 381 C.

1.0.7 FIRE BLANKET

The fire blanket shall be made from cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm and shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket.

1.0.8 BOOSTED HOSE REEL SYSTEM

1.0.8.1 General

The Particular Specification details the requirements for the supply, installation and commissioning of the hose reel installation. The hose reel installation shall comply in all respects to the requirements set out in C.O.P 5306 Part 1: 1976, B.S 5041 and B.S 5274. The System shall comprise of a pumped system.

1.0.8.2 Hose Reel Pumps

The fire hose reel pumps shall consist of a duplicate set of multi-line centrifugal pumps from approved manufacturers. The pumps shall be capable of delivering **AS PER THE SPECIFICATIONS**.

The pump casing shall be of cast iron construction with the impeller shaft of stainless steel with mechanical seal.

1.0.8.3 Control Panel

The control panel shall be constructed of mild steel 1.0mm thick sheet, be moisture, insect and rodent proof and shall be provided complete with circuit breakers and a wiring diagram enclosed in plastic laminate.

The pump shall be controlled by a flow switch therefore, the control panel shall include the following facilities:

- (a) 'On' push button for setting the control panel to live.
- (b) Green indicator light for indicating control panel live.
- (c) Duty / Stand-by pump auto change over.
- (d) Duty pump run green indicator light.
- (e) Stand-by pump run green indicator light.
- (f) Duty pump fail red indicator light.

- (g) Stand-by pump fail red indicator light.
- (h) Low water condition pump cut-out with red indicator light.

The pumps are to be protected by a low level cut-out switch to prevent dry pump run when low level water conditions occur in the water storage tank.

1.0.8.4 Hose Reel

The hose reel to the installation shall consist of a recessed, swing-type hose reel as Angus Fire Armour Model III or from other approved manufacturers.

The hose reel shall comply with B.S. 5274: 1975 and B.S 3161: 1970 and is to be installed to the requirements of C.P. 5306 Part 1: 1976.

The hose reel shall be supplied and installed complete with a first-aid Non-kinking hose 30 meters long with a nylon spray / jet / shut-off nozzle fitted. A screw down chrome - plated globe valve to B.S 1010 to the inlet to the reel is to be supplied.

The orifice to the nozzle is to be not less than 4.8mm to maintain a minimum flow of 0.4 lit / sec to jet.

The hose reels shall be installed complete with electro-galvanised cabinet recessed on the wall.

The hose reels shall be installed at 1.5 metres centre above the finished floor level in locations shown in the contract drawings.

1.0.8.5 Pipe Work

The pipe work for the hose reel installation shall be galvanised wrought steel tubing heavy grade Class C to B.S 1387: 1967 with pipe threads to B.S 21. The pipe work and all associated fittings shall be in approved colour for fire fittings.

1.0.8.6 Pipe Fittings

The pipe fittings shall be wrought steel pipe fittings, welded or seamless fittings conforming to B.S. 1740 or malleable iron fittings to B.S 143.

All changes in direction will be with standard bends or long radius fittings. No elbows will be provided.

1.0.8.7 Non-return Valves

The non-return valves up to and including 80mm diameter shall be to B.S. 5153: 1974.

The valves shall be of cast iron construction with gunmetal seat and bronze hinge pin.

1.0.8.8 Gate Valves

The gate valves up to and including 80mm diameter shall be non-rising stem and wedge disc to B.S 5154: 1974 with screwed threads to B.S. 21 tapes thread

1.0.8.9 Sleeves

Where pipe work passes through walls, floors or ceilings, a sleeve shall be provided one diameter larger than the diameter of the pipe, the space between them to be packed with mineral wool, to the Engineer's approval.

1.0.8.10 Earthing

The hose reel installation shall be electrically earthed by a direct earth connection. The installation of the earthing shall be carried out by the Electrical Sub- contractor.

1.0.8.11 Finish Painting

Upon completion of testing and commissioning the hose reel installation, the pipework shall be primed and finish painted with 2 No. coats of paints to the Engineer's requirements.

1.0.8.12 Testing and Commissioning

The hose reel installation shall be flushed out before testing to ensure that no builder's debris has entered the system. The installation is to be then tested to one and half times the working pressure of the installation to the approval of the Engineer. Simulated fault conditions of the pumping equipment are to be carried out before acceptance of the System by the Engineer.

1.0.8.13 Instruction Period

The Sub-contractor shall allow in his contract sum for instructing of the use of the equipment to the Client's maintenance staff. The period of instruction may be within the contract period but may also be required after the contract period has expired.

The period of time required shall be stipulated by the Client but will not exceed two days in which time the Client's staff shall be instructed on the operation and maintenance of the equipment.

1.0.8.14 Signage-Fire Instruction /Fire Exit

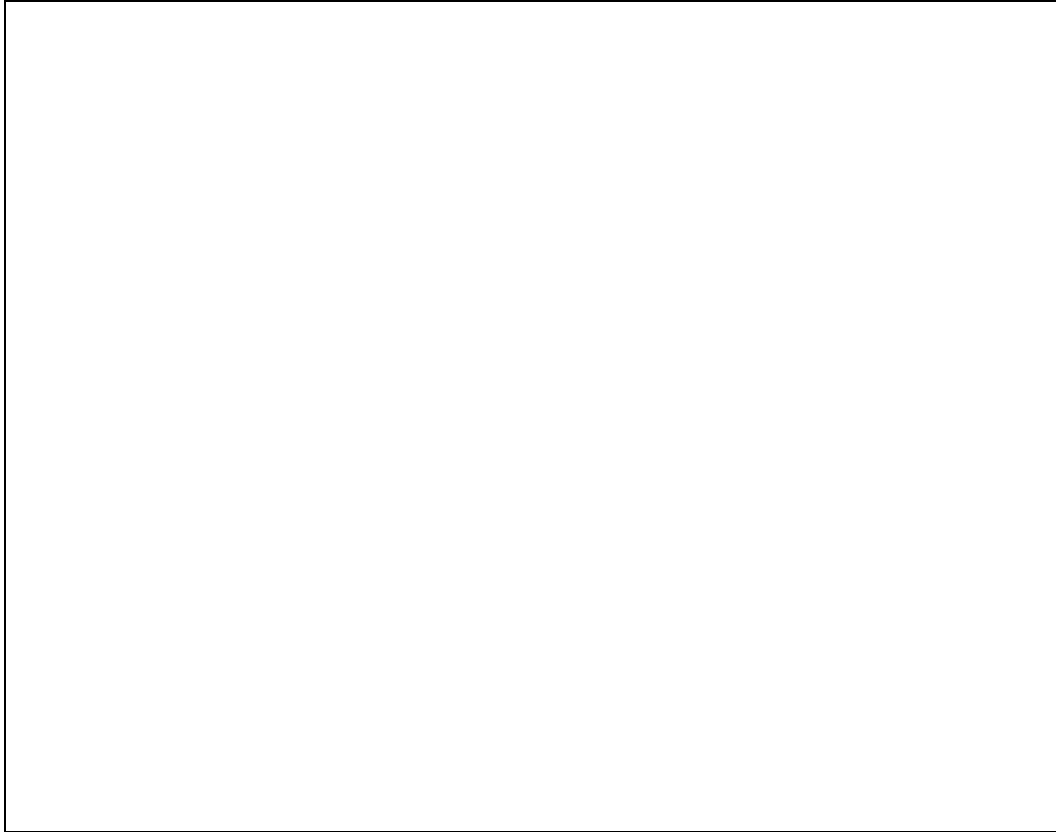
10.8.1 Fire Instruction Notice

Print fire instruction on the Perspex plates with White Colour Background measuring 510mm length x 380mm width x 4mm thick as follows;

FIRE INSTRUCTION NOTICE

In the event of fire;

1. Raise the alarm by actuating the nearest alarm system point, Sound Siren /gong or **Shout Fire**
2. Attack fire using the nearest available equipment
3. Call nearest fire Brigade or Police 999 and inform your switchboard (PABX) Operator
4. Ensure that all personnel not involved in fire fighting evacuation to safety outside the building.
5. Close but **DO NOT LOCK** doors behind as you leave.
6. Evacuate the building using stairs or fire escapes. Do not use Lifts/escalators. Walk calmly. Avoid panic. Do not stop or return for personal belongings.
7. Assemble as per floor outside the building for roll call.



10.8.2 Fire Exit Sign

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **FIRE EXIT** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

10.8.3 Hose Reel Label

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **HOSE REEL** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

FIRE EXTINGUISHERS



AS SRI OR EQUIVALENT

FIRE HOSEREEL

- Side plates red epoxy Powder finishing
- Automatic hose reel has integrated automatic stop valve which will open after 2 revolution of the reel
- Outlet connection for hose can be rotated for left and right direction
- Waterways made from non ferrous metals which ensure corrosion free*
- Maximum working pressure 12bar, test pressure 18bar (EN671-1)
- Maximum working pressure 10bar, test pressure 17bar (AS1221) and Side plates available in stainless steel



SRI fire hose reels are tested and approved to European Standard EN671-1 by British Standards Institution

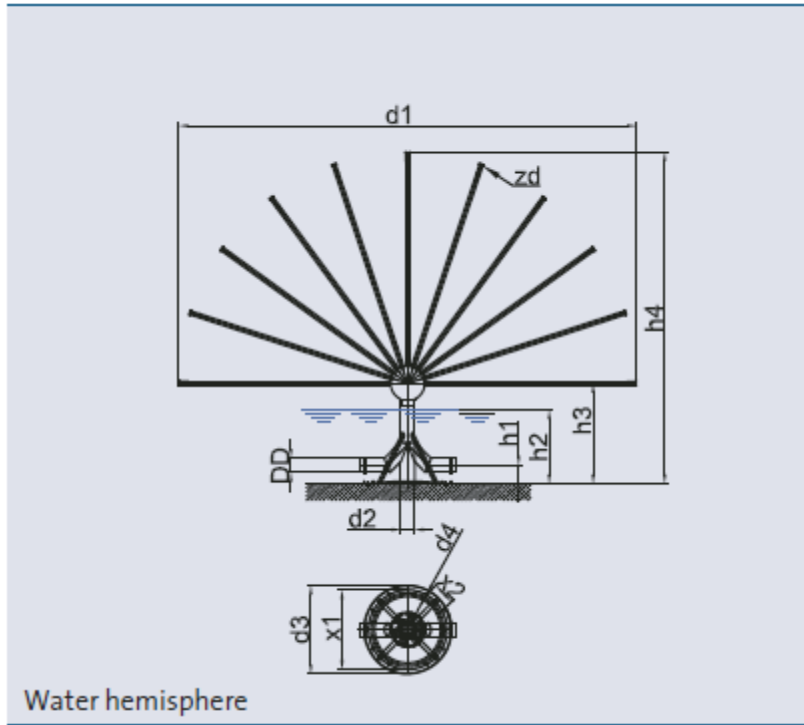
AS SRI MODEL HRS038-MS-022-RD OR EQUIVALENT

PARTICULAR SPECIFICATIONS FOR FOUNTAIN

A. WATER HEMISPHERE

- The fountain attachments are made of stainless steel AISI 304
- Once the fine water veil escaping from the uniformly arranged nozzles converges to form a gentle sphere.
- Operation of the spheres and hemispheres is even possible in strong wind in spite of the relatively fine water veil.





	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E
Dimensions ($\varnothing \times H$)mm	900X950	1200X1100	1500X1250	2500X1850	6000X3650
ZD	25	49	73	73	248
H4	950	1100	1250	1850	3650
H1	100	100	100	100	100
D1	900	1200	1500	2500	6000

AS OASE Water Hemispheres or equal and approved equivalent

B. SINGLE JET NOZZLE

- Single nozzle within a group arranged around a central nozzle with the gushing nozzle generating a full water pattern of impressive presence
- To be capable of combination with LED lights
- Works with Fountain heights 0.50 m to 12.00 m
- Provide Clear wind-stable full jet
- Allow 15° vertically pivoting ball joint
- To be Water-level independent
- To be With flow director
- Made of Durable chromend and nickel plated brass

Allow for all associated accessories including

1. Sleeve
2. Reducing sleeve



C. LED LIGHTS (RGB)TYPE A

- Nozzles to be integrated in the middle of the LED light to achieve attractive symmetric illumination with continuously changing colour nuances
- Capable of being used in the pool directly under the water surface.
- have temperature regulation and overheating protection to allow dry installation
- with high quality stainless steel housing for fresh-, pool- and saltwater
- lifetime up to 100,000 h.*
- The basic colours of the LED-RGB with equal brightness for all Lights in the system, thereby creating a homogeneous colour combination.
- Energy efficient LED-RGB-light with a center hole $D = 22 \text{ mm}$
- Nozzle lamp locking
- 573 lumen with a narrow beam angle of 16° with max. 16 Watt
- Temperature controlled high quality LED for an
- extra-long life of up to 100,000 h.*
- Wet and dry installation
- water proof in accordance with IP68
- For fresh water, pool water and sea water
- External electronic in a separate control box / junction box – waterproof connector, easy to connect.
- DMX/RDM-capable in combination with the Underwater LED Driver/DMX/02 (50720)
- Individual measurement of the basic colours of the LED-RGB lights and the use of the Underwater LED Driver/DMX/02 (50720) guarantees equal brightness of all lights in the system and a homogeneous colour combination.
- Galvanic isolation between the DMX and 24V DC power

AS OASE ProfiRing LED 320/DMX/02 or equal and approved equivalent.



D. LED LIGHTS (WHITE)TYPE B

- Energy efficient neutral white LED- light with mounting bracket and fine adjustment.
- 2683 Lumen with a beam angle of 11°, max. 55 Watt
- Colour temperature 4000 K
- Watertight in accordance with IP 68, easy to connect
- Reverse polarity protection
- Temperature controlled high quality LED for an extra-long life of up to 100,000 h.*
- Wet and dry installation
- For fresh water, pool water and sea water
- Compact
- DMX/RDM-controllable with Underwater Switch 24 V DC (on/off)
- watertight 24 V/DC socket connector for connecting it to the Underwater Power supply 250 24V/01 with a 15 metre connecting cable
- The white LED can also be individually controlled via DMX.
- Inclusive of RDM-capable controller

AS OASE ProfiLux LED Spot 2200/01 or equal and approved equivalent.



SECTION NAME:

BOREHOLE SPECIFICATIONS

PARTICULAR SPECIFICATIONS FOR BOREHOLE DRILLING AND EQUIPPING

1. Purpose

The borehole to be drilled, constructed, test pumped and equipped with a submersible pump under this contract will be to provide water intended for domestic use. The maximum ground water abstraction permitted from the borehole shall be 90m³/day with the maximum abstraction period not exceeding 10 hours per day.

The execution of the works shall be in full compliance with relevant provisions of the Water Act. The proposed site will be **at alupe university - Busia Town**. The contractor is deemed to have visited the site at **Busia Town**.

No claims will be allowed for the traveling or other expenses, which may be incurred by the contractor's works.

2. Scope of the Work

The works included in the contract consist of:-

1. The drilling of one borehole of sufficient diameter to provide for a finished cased and screened borehole of 200mm diameter to the provisional depth of about 300metres.
2. The provision and installation of steel casings, steel screens, and gravel pack, borehole cap, together with cementation works necessary.
3. The collection of formation samples at 2 meter interval of drilling progress to the bottom and also water sample at every aquifer struck and at the beginning and at the end of test pumping operation for both chemical and biological analysis.
4. The supply and installation of 1No. Submersible borehole pump, complete with the necessary controls.
5. Connection of the water from the borehole to the water storage tank.

NOTE: -These depths and any other works can be varied by the Engineer depending on the actual conditions encountered in the process of executing of the works.

3. Local Conditions

The borehole will be drilled, constructed and test pump in both unconsolidated and consolidated formation and the contractor must be prepared to carry out the required work through any type of formation in the project area.

4. Borehole Data

- Total depth – 320m of 200mm diameter from surface (Provisional)
- Casings to be 152mm diameter and screened depth to be determined after borehole construction.
- Static water level – not known
- Dynamic water level – not known
- Recommended pumping rate – 8m³/hr (for the purpose of quotation but to be confirmed after testing)
- Pump setting level – 200m (for the purpose of quotation but to be confirmed after testing)
- Total dynamic head to be determined on site

5. Casings

- Casings to be used as part of the permanent borehole structure shall be black steel pipe conforming to BS 1387 and having nominal diameter of 200mm.
- If any casing other than that to be left permanently in the borehole is required temporarily for execution of work, it shall be supplied by the contractor at the borehole free of charge.

6. Screens

The screens to be furnished and installed shall be of the pipe size variety having a minimum nominal diameter of 152mm and can be fabricated in three meter lengths. The screens shall be of continuous slot type and constructed entirely of stainless steel. The screen shall have slot size opening of 1.4m.

7. Grouting

Grouting shall be done by either cement or bentonite to seal off unwanted upper aquifers under direction of the Engineer.

8. Construction Method

The borehole to be constructed shall be drilled by cable-tool percussion method or the combination air/ hydraulic rotary method. The method of drilling shall be left to the discretion of the Contractor. After drilling to the final depth the Contractor shall proceed to insert permanent casings and screens as directed by the Engineer.

9. Gravel Pack

If filter gravel will be necessary, it will consist of durable, naturally rounded quartzitic particles properly washed and cleaned prior to insertion in the borehole. The gravel shall be introduced in the annular space between the wall of the borehole and the 200mm casing from the bottom to about 2 meters below surface. The final casing and screens must be centralized before gravel back and the Contractor must supply suitable equipment for lowering of gravel pack.

10. Cementation

The space above the gravel pack shall be grouted with a mix of one part of cement to two parts of sand and two parts of ballast, in order of 1:2:2 concrete may be used near the surface to form an annular plug around the casing of dimensions 1.0 x 1.0 x 1.0 meters. There shall be 2000mm diameter concrete plinth on top of the borehole and shall be constructed as shall be directed by the Project Engineer and the Structural Engineer.

Any other cementation works to be done as directed by the Project Engineer.

11. Development

The Contractor shall furnish all necessary pumps, compressor, plungers, bailing or other needed equipment and shall develop the borehole by such approved methods as shall be necessary to give the maximum yield of water per increment of drawdown and extract from the formation of maximum practical quality of such sands as may, during the life of the borehole, be drawn through the screens when the borehole is operating under maximum conditions of draw down.

12. Test Pumping

After the borehole has been completed, constructed and developed, the subcontractor shall make necessary arrangements for conducting a 24 hour continuous test pumping up to a maximum of 30hr and 12 hour recovery test under the supervision of the Engineer. Where the Engineer or his representative cannot be present on such pumping test, the Contractor may continue without him keeping accurate records of the test in terms of discharge and drawn down but must seek permission from the Project Engineer. Should the Contractor fail to keep such records, the Engineer shall order the test to be repeated at no extra cost.

13. Sample Formation

The Contractor shall keep an accurate record of the top and bottom of each stratum penetrated and shall save and deliver to the Engineer a sample of materials taken from each 1m of formation, or at every change of formation and at such other intervals as may be ordered by the Engineer. Those samples shall be placed in approved Contractor supplied containers with labels which indicate the depth at which the sample was obtained.

14. Water Samples

Water samples shall be collected at every water struck while drilling and also shall be collected at the start of every test and toward the end of the test in a three litre sterilized plastic container for both chemical and bacteriological analysis and submitted in a competent laboratory for analysis.

15. Reports

The contractor shall submit to the Engineer daily progress reports showing:-

- The depth each day indicating drilling in meters per hour with comments on degree of hardness of materials being penetrated.
- Depth at which each water bearing zone is encountered and the rise and fall of water level in different formations.
- The full details of work carried out in respect of operations which are paid for at hourly rate.
- The full details of the number of hours worked each day.

16. Cessation of Work

The Engineer reserves the rights to stop drilling operations if in his opinion:-

- (a) A sufficient supply of water has been obtained.
- (b) The work is not being carried out in a satisfactory manner or
- (c) Further drilling is unlikely to be advantageous or for any other reason

In this event, payment shall be made only for the amount of work done up to the date of stoppage.

17. Retention Time

Waiting time shall be such time as the whole of the drilling equipment and staff is on site and is available for use, and all the operation connected with the Contract are at a standstill due to the absence of instructions from the Engineer.

The request for the necessary instructions and/ or guidance to the Project Manager by the Contractor shall be within 48 hours, provided that the Project Manager does not delay the said instructions/ or guidance to the Contractor unnecessarily.

All claims for waiting time shall be made on the basis of a normal 8 hour day, including Sundays and Public holidays.

18. Supply and Installation of Pump

The Contractor shall supply and install:-

- One electric submersible pump which will conform to the specification stated, for operation on 415 volt, 3-phase.
- All necessary electrical equipment for the pump such as control panel with starter, ammeter, single phasing cut-out, low voltage cut-out and all necessary cables for connection
- Suitable diameter Galvanized Steel pipe class 'C' to carry water to the surface/ to water storage tank
- Low level cut-out switch
- Airline 20mm galvanized steel pipe for water level measurements
- Pressure gauge
- The gate valves, non-return valves before the master meter

- Master meter for measuring the water from the borehole.

In addition the Contractor shall carry out 24 hours test run at the completion of the works. This test has to be certified by the Project Manager.

Note on Pump Installation

The Contractor shall make the necessary electrical connections and include in his prices all cable, starter-panel, switches etc required to put the pump in operation while tendering for this part of the document and return it with full description literature and performance curves for the proposed equipment together with the tender for drilling works.

The installation of the submersible pump into the borehole shall be done immediately the borehole drilling is completed, test pumped and water analysed for suitability for human consumption.

The final production pump to be installed in the newly drilled borehole shall be determined and installed as per the actual conditions encountered on completion of the drilling works. Hence the specifications given under the section of 'borehole data' are only for the purpose of quotation. After establishing the actual conditions of the drilled borehole, only the engineer's approved submersible pump shall be installed.

19. Electrical works

It shall be the responsibility of the Contractor to provide all electrical wiring between all items of his Contract to ensure the correct function of his equipment. The Contractor's electrical works shall start from the nearest electrical isolator which will be supplied by others within five metres

**PARTICULAR SPECIFICATIONS FOR EXTRACT
FANS**

EXTRACT FANS

- Speed controllable via voltage reduction or, with 400V version, also 2-stage operation possible via D/Y switching
- Contact protection grille on the inlet
- Reliable and maintenance-free
- Can be installed in any position
- Electrical connection via terminal box, permanently mounted on motor
- For 1~ fans, capacitor included in terminal box



AS SYSTEM AIR FAN model W 500DV sileo Axial fan

SECTION NAME:

BILLS OF QUANTITIES

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

<u>ITEM.</u>	<u>PAGE</u>
1. GENERAL NOTES TO TENDERERS.....(i)	
2. STATEMENT OF COMPLIANCE.....(ii)	
3. PRICING OF ITEMS.....(iii)	
3. BILLS OF QUANTITIES	BOQ -1 to BOQ -29
4. SUMMARY PAGE.....	BOQ - 30
5. SCHEDULE OF UNIT RATES.....	SU-1 - SU-1
6. TECHNICAL SCHEDULE	TS-1 - SUR-4

(i)

GENERAL NOTES TO TENDERERS

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings, general specifications of materials and works and particular specifications of materials
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 16% VAT**).

In accordance with Government policy, the 3% Withholding Tax **shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA)**.

- 3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part thereof.
4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere. Otherwise alternative brands of **equal and approved** quality will be accepted.

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

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

(ii)

Statement of Compliance

- a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
- b) I confirm compliance to the items specified in technical catalogues and brochures I have attached as required in the technical schedule.

Name:

Capacity:..... (*Person with power of attorney*)

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

(iii)

PRICING OF ITEMS.

The Bills of Quantities are divided generally into three sections:-

Preliminaries – Bill 1

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor.

The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer have been limited to tangible items such as site office, temporary works and others.

However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

Mechanical installation Items – Bill 2

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

Summary – Bill 3

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

BILL NO 1					
CONTRACT PRELIMINARIES					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	PRELIMINARIES				
	Scope of Contract Works				
A	The contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.	1	Item		
	Firm price contract				
B	This is a firm-price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials, which may arise as a result of currency fluctuation during the contract period.	1	Item		
	Bond				
C	The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 5 % of the Contract amount	1	Item		
	Government Legislation and Regulations				
	The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.				
D	The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.	1	Item		
	Total carried forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p>Import Duty and Value Added Tax</p> <p>The contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.</p>	1	Item		
B	<p>Insurance Company Fees</p> <p>Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.</p>	1	Item		
C	<p>Samples and Materials Generally</p> <p>The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.</p>	1	Item		
D	<p>Builder's Work</p> <p>All chasing, cutting away and making good will be done by the Contractor. The Contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.</p> <p>The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.</p> <p>Any purpose made fixing brackets shall be provided and installed by the Contractor</p>	1	Item		
	Total carried forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p>Position of Services, Plant, Equipment, Fittings and Apparatus</p> <p>The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact sitting of appliances, pipework, etc., may vary from that indicated.</p> <p>The contractor shall be deemed to have allowed in his Contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings.</p>	1	Item		
B	<p>Setting to Work and Regulating System</p> <p>The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary.</p> <p>No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted).</p> <p>It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.</p>	1	Item		
	Total carried forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p>Working Drawings</p> <p>The Contractor shall allow for Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works.</p> <p>Two copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Contractor indicating approval or amendment therein.</p>	1	Item		
B	<p>Record Drawings (As Installed) and Instructions</p> <p>The Contractor shall allow for Record Drawings of the installed Contract Works.</p> <p>Three copies of all Record Drawing shall be submitted to the Engineer for approval.</p>	1	Item		
C	<p>Maintenance Manual</p> <p>The Contractor shall allow for furnishing the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works.</p> <p>The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.</p>	1	Item		
	Total carried forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p>Mobilization and Demobilization</p> <p>The Contractor shall allow for mobilization of labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment. Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.</p>	1	Item		
B	<p>Contractor Obligation</p> <p>The contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works.</p>	1	Item		
B	<p>Engineers Supervision</p> <p>The Contractor shall allow a sum engineers supervision to be expended in specific acceptance, testing and validation of works</p>	1	Item	150,000	150,000.00
C	Allow for profits and attendance for the above-----%	1	Item		
D	<p>Continuos proffesional development</p> <p>Allow for Provisional sum of Kenya shilling for CPD training to staff at Engineers Board(EBK) and Institution of Engineers Kenya(IEK)</p>	1	Item	100,000.00	100,000.00
E	Allow for profits and attendance for the above-----%	1	Item		
F	<p>Any other Preliminaries</p> <p>The contractor to allow for any other preliminaries neccesary for hime to complete all the works</p>	1	Item		
	Total				

COLLECTION PAGE

Item	Description	Amount (Kshs)
1	Total cost carried forward	0.0
2	Total cost carried forward	0.0
3	Total cost carried forward	0.0
4	Total cost carried forward	0.0
5	Total cost carried forward	0.0
Total Cost Carried to Summary Page		0.0

BILL NO.2**SANITARY FITTINGS****(i) ALL ITEMS SHALL BE SUPPLY,DELIVER,INSTALL,TEST AND COMMISSION****(ii) ALL ITEMS SHALL BE COMPLETE WITH ALL ACCESSORIES INCLUDING CONNECTIONS TO THE SERVICES,JOINTING TO WATER SUPPLY OVERFLOWS AND SUPPORTS****(iii) ALL ITEMS SHALL BE COMPLETE WITH ALLPLUGGING AND SCREWING TO WALLS AND FLOORS****(iv) ALL ITEMS SHALL BE AS PER PARTICULAR SPECIFICATIONS****(v) ALL ITEMS SHALL BE SUBJECT TO CLIENT APPROVAL**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	WATER CLOSET AREA				
	Water Closet				
A	Ceramic Wall Hung water closet pan with with an antibacterial ceramic glaze Finish AS JAQUAR FLS-WHT-5953UFSM OR EQUIVALENT	13	No		
	Water closet Flush valve with finish plate				
B	40mm Size Flush Valve Dual Flow with Concealed Body and With Exposed Shut Off Provision .Has 100mm Square Plate AS JAQUAR FLV-CHR-1089SQs OR APPROVED EQUIVALENT	13	No		
	Health Faucet Kit				
C	Health Faucet Kit with Flexible Chrome Hose, Handset, ABS Body & Bracket as JAQUAR CODE ALE-ESS-593 OR EQUIVALENT	13	No		
	Toilet brush				
D	Toilet brush set for fixing to the bathroom wall, made of AISI 304 stainless steel 1 mm thick with Circular lid with an airtight seal AS MEDICLINIC MODEL ES1002B OR APPROVED EQUIVALENT	13	No		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Toilet Paper Dispenser One-piece body, 0,8 mm thick, round Ø 250 mm Circular toilet paper dispenser for industrial rolls of 250/300m AS MEDICLINIC MODEL PR2783B OR APPROVED EQUIVALENT	13	No		
B	Robe Hook Double-ended bathroom robe hook, made of AISI 304 stainless steel black finish AS MEDICLINIC MODEL AI2318B OR APPROVED EQUIVALENT	13	No		
C	Signage Signage made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel. The signs to be circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape AS MEDICLINIC MODEL PP1321CS OR APPROVED EQUIVALENT for Ladies,AS MEDICLINIC MODEL PS0003CS OR APPROVED EQUIVALENT for Gents and AS MEDICLINIC MODEL PS0004CS R APPROVED EQUIVALENT for physically challenged persons	8	No		
D	WASH HAND AREAS Wash hand basin Ceramic Rectangular shape Counter top wash hand basin Size: 480x850mm complete with Push waste and bottle trap AS D-CODE COUNTER MOUNTED DURAVIT MODEL 03528500002 OR APPROVED EQUIVALENT	18	No		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Wash hand basin tap Self-closing pillar tap DN 15 with Self-closing cartridge, hydraulically controlled, piston-free design, self-closing, stepless adjustment of flow duration AS FRANKE MODEL NO 3 F3SV1001 OR APPROVED EQUIVALENT	18	No		
B	Paper Towel Dispenser Seamless one-piece Paper Towel Dispenser with manual center feed paper towel dispenser AS MEDICLINIC MODEL DT0303CS OR APPROVED EQUIVALENT	6	No		
C	Waste Bin Indoor circular body waste bins 20L capacity, operated by means of a pedal, to rest directly on the floor AS MEDICLINIC MODEL PP1321CS OR APPROVED EQUIVALENT	6	No		
D	Hand Dryer Hand Dryer with air speed 400 km / h and Noise level less than 65 dBA AS MEDICLINIC MODEL M17AB-I OR APPROVED EQUIVALENT	6	No		
E	Soap Dispenser Automatic wall-mounted liquid soap dispenser of 1 L capacity in stainless steel AISI 304, 0.8 mm thick and to operate with an AC adapter AS MEDICLINIC MODEL DJ0037AB/C/CS-TRAFO OR APPROVED EQUIVALENT	6	No		
F	Mirror 6mm thick polished plate glass silver backed mirror with bevelled edges, size 610 x 610mm, Plugged and screwed to wall with 4No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam AS IMPALA GLASS OR APPROVED EQUIVALENT	18	No		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	SHOWER AREAS				
	Shower Mixer				
A	Four way Single lever shower mixer for concealed installation with diverter with automatic resetting AS HANS GROHE FOCUS MODEL NO. 31967000 WITH BASIC SET 31741180 OR APPROVED EQUIVALENT	4	No		
	Shower head				
B	shower head of size 100 mm with overhead shower angle adjustable AS HANS GROHE CHROMA 100 OVERHEAD SHOWER MULTI MODEL 2744300 OR APPROVED EQUIVALENT	4	No		
	Shower arm				
C	Shower arm of length 450mm Long Round Shape with 90° Bend for wall-mounted AS JAQUAR MODEL NO. SHA-WHM-479L450 OR EQUIVALENT	4	No		
	Soap holder				
D	Chrome soap holder of approximate Height 60 mm, Length (mm) 140 mm and Width (mm) 110 mm AS COTTO Como Chrome Soap Holder OR EQUIVALENT	4	No		
	Towel rack				
E	Towel rack of approximate size 600 x 150 x 215 mm Shelf bar tube diameter 12 mm Towel rail tube diameter 12 mm Wall bracket diameter 1.8 mm all made of AISI 304 stainless steel AS MEDICLINIC MODEL AII423B OR EQUIVALENT	4	No		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	URINAL AREAS				
	Urinal Bowl				
A	Ceramic Bowl Urinal of approximate size 370x315x620mm complete with Fixing Accessories AS JAQUAR URINAL MODEL URS-WHT-132530 OR APPROVED EQUIVALENT	8	No		
	Urinal Automatic Flush System				
B	Urinal Automatic Flush System with Solenoid Valve Specification Operating pressure 0.5 - 6.0 bar, The system to be powered by mains power in stainless steel finish AS JAGUAR MODEL OR EQUIVALENT	8	No		
C	Rectangular shaped urinal partition/Division with frosted glass of Size Height 900mm and Width 450mm AS JAQUAR URINAL PARTITION PRODUCT MODEL JSE-CHR-110US450X OR EQUIVALENT	8	No		
	KITCHENNETTE AREAS				
	Kitchen sink				
D	Kitchen sink made of Stainless steel material of Size 1000 x 490 x 220mm includes Waste & Bottle Trap.The sink consists of two bowls (one and a half bowl) and one drain on the side AS CONTEMPO KITCHEN SINK MODEL NO EISN7304F OR APPROVED EQUIVALENT	1	No		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Kitchen sink basket Kitchen sink basket of size 430 x 380mm including Fitting Screws AS CONTEMPO SINK BASKET MODEL EIACD28G OR APPROVED EQUIVALENT	1	No		
B	Kitchen sink Tap Kitchen sink Sink Mixer Wall Type with Swivel Spout AS TIVOLI MISTRAL FRBW42CR4742 OR APPROVED EQUIVALENT	1	No		
C	Cleaners Sink High Back Cleaner Sink 470 x405 including grating with Easy Clean Stain Resistant Glazed Surface, Stainless Steel Hinged Grating Over The Sink With brackets, legs and stays AS TWYFORD FC1044WH OR APPROVED EQUIVALENT	2	No		
D	PHYSICALLY CHALLENGED WASHROOM Water closet and basin set unit 700mm projection Rim free pan Concealed cistern, single flush lever, 4 litre flush Seat ring, stainless steel bar hinge, top fix and stability buffers back support with cushion hand rinse basin 400, no overflow 1 tap basin tap with fixed spout and copper tails Seat ring, stainless steel bar hinge, top fix and stability buffers 4 x 600mm grab rails concealed fixings 1 x 450mm grab rail concealed fixings 1x Hinged support rail and toilet roll holder concealed fixings Angle Valve with Triangular Handle & Wall Flange ALL AS AS TWYFORD DOC M PACK MODEL PK8357BE OR APPROVED EQUIVALENT	2	No		
Total carried to collection page					

COLLECTION PAGE

Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
4	Total carried forward	
5	Total carried forward	
6	Total carried forward	
Total Cost for Sanitary Fittings		

BILL NO.3

INTERNAL PLUMBING PIPEWORK					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	CPVC Pipework				
A	20mm diameter pipework	1	Lm		
B	25mm diameter pipework	100	Lm		
C	32mm diameter pipework	1	Lm		
D	40mm diameter pipework	90	Lm		
E	50mm diameter pipework	120	Lm		
F	63mm diameter pipework	120	Lm		
G	75mm diameter pipework	180	Lm		
H	90mm diameter pipework	20	Lm		
	Bends				
I	20mm diameter bend	1	No.		
J	25mm diameter bend	24	No.		
K	32mm diameter bend	1	No.		
L	40mm diameter bend	36	No.		
M	50mm diameter bend	20	No.		
N	63mm diameter bend	36	No.		
O	75mm diameter bend	20	No.		
P	90mm diameter bend	20	No.		
	Tees				
Q	25mm equal tee	15	No.		
R	32mm equal tee	1	No.		
S	40mm equal tee	12	No.		
T	50mm equal tee	20	No.		
U	63mm equal tee	40	No.		
V	75mm equal tee	10	No.		
W	90mm equal tee	1	No.		
	Total Carried to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Reducing Bushes				
A	25 x 20mm diameter reducer	1	No.		
B	32 x 20mm diameter reducer	1	No.		
C	32 x 25mm diameter reducer	1	No.		
D	40 x 25mm diameter reducer	30	No.		
E	40 x 32mm diameter reducer	1	No.		
F	50 x 25mm diameter reducer	20	No.		
G	50 x 40mm diameter reducer	6	No.		
H	63 x 50mm diameter reducer	10	No.		
I	75 x 50mm diameter reducer	10	No.		
J	75 x 63mm diameter reducer	15	No.		
K	90 x 63mm diameter reducer	1	No.		
L	90 x 75mm diameter reducer	1	No.		
	Male/Female Adapters (CPVC threaded)				
M	20mm threaded adapter	1	No.		
N	25mm threaded adapter	16	No.		
O	32mm threaded adapter	4	No.		
P	40mm threaded adapter	4	No.		
Q	50mm threaded adapter	4	No.		
	Total Carried to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Male/Female Bend (CPVC threaded)				
A	20mm threaded bend	6	No.		
B	25mm threaded bend	4	No.		
C	32mm threaded bend	4	No.		
D	40mm threaded bend	4	No.		
E	50mm threaded bend	2	No.		
	Threaded Brass Coupling (CPVC threaded)				
F	25mm threaded coupling	10	No.		
G	32mm threaded coupling	1	No.		
H	40mm threaded coupling	12	No.		
I	50mm threaded coupling	10	No.		
G	63mm threaded coupling	10	No.		
H	75mm threaded coupling	10	No.		
I	90mm threaded coupling	1	No.		
	Valves				
J	25mm diameter gate valve	1	No.		
K	32mm diameter gate valve	1	No.		
L	40mm diameter gate valve	6	No.		
M	50mm diameter gate valve	1	No.		
N	63mm diameter gate valve	1	No.		
O	75mm diameter gate valve	6	No.		
P	90mm diameter gate valve	1	No.		
	Total Carried to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Unions				
A	25mm diameter pipe union	1	No.		
B	32mm diameter pipe union	1	No.		
C	40mm diameter pipe union	6	No.		
D	50mm diameter pipe union	1	No.		
E	63mm diameter pipe union	1	No.		
F	75mm diameter pipe union	6	No.		
G	90mm diameter pipe union	1	No.		
	Pipe Sleeves				
H	100mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	8	Lm		
	Pressure Testing				
I	Allow for all costs for pressure testing for plumbing piping and issuance of pressure testing certificates	1	No.		
Total Carried Forward					

COLLECTION PAGE FOR PLUMBING WORKS		
Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
4	Total carried forward	
Total cost for Internal Plumbing Piping		

BILL NO.4

INTERNAL DRAINAGE PIPEWORK					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	FOUL WATER INTERNAL DRAINAGE				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge golden brown UPVC pipe	160	Lm		
B	100mm diameter heavy gauge grey mUPVC pipe	36	Lm		
C	50mm diameter waste pipe	150	Lm		
D	40mm diameter waste pipe	100	Lm		
E	32mm diameter waste pipe	65	Lm		
	Bends				
F	100mm diameter long radius bend	18	No.		
G	100mm diameter short radius bend	12	No.		
H	100mm diameter bend with access	4	No.		
I	100mm diameter sweep bend	4	No.		
J	50mm diameter sweep bend	12	No.		
K	40mm diameter sweep bend	12	No.		
L	32mm diameter sweep bend	12	No.		
	Tees				
M	100mm diameter sweep tee	15	No.		
N	50mm diameter sweep tee	15	No.		
O	40mm diameter sweep tee	25	No.		
P	32mm diameter sweep tee	20	No.		
	Access Caps				
Q	100mm diameter access cap	15	No.		
R	50mm diameter access cap	8	No.		
S	40mm diameter access cap	10	No.		
T	32mm diameter access cap	12	No.		
	Boss Connectors				
U	100 x 50mm diameter boss connector	10	No.		
V	100 x 40mm diameter boss connector	8	No.		
	Total Carried to Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Single Branches				
A	100mm diameter single branch	10	No.		
	WC Connectors				
B	100mm diameter WC connector	13	No.		
	Traps				
C	100 x 50mm diameter floor trap and grating	14	No.		
D	300 x 300mm Gulley trap and heavy duty gulley trap cover	8	No.		
E	600 x 450mm manhole with heavy duty cover. Manual depth to be determined on site but to a minimum of 600mm	30	No.		
F	150mm diameter heavy gauge golden brown UPVC pipe for interconnecting the inspection chambers	300	Lm		
G	Allow for all costs for level testing for drainage piping and issuance of level testing certificates	1	No.		
	Total Carried to Collection Page				

COLLECTION PAGE FOR FOUL DRAINAGE		
Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
Total cost for Drainage Pipework		

BILL NO.5

RAIN WATER AND GENERAL FLOOR DRAINAGE					
Item	Description	Qty	Unit	Rate (Kshs)	Cost (Kshs)
	RAIN WATER DRAINAGE				
A	100mm diameter heavy gauge grey mUPVC pipe drop pipes	100	Lm		
B	100mm diameter short radius bend	15	No.		
C	100mm diameter bend with access	15	No.		
D	100mm equal sweep tee	15	No.		
E	100mm diameter sweep tee	15	No.		
F	100mm diameter access cap	15	No.		
G	100mm rain water shoe	15	No.		
H	Stainless steel pipe clipping capable of strongly supporting 20mm to 150mm pipes with all asociated screwa and bolting to the finished walls	75	No		
Total Carried Forward					

BILL NO.6**FIRE FIGHTING**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	FIRE FIGHTING				
	Supply, deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed by the Engineer.				
	Hose Reel System				
A	30metres Hosereel	6	Lm		
	GMS Pipes Class B				
B	25mm diameter pipework	27	Lm		
C	50mm diameter pipework	150	Lm		
	Extra Over Pipework				
	Bends				
D	25mm diameter bend	12	No.		
E	50mm diameter bend	6	No.		
	Tees				
F	50mm diameter equal tee	12	No.		
	Reducers				
G	50 x 25 mm diameter reducer	6	No.		
	Valves				
H	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as s PEX OR APPROVED EQUIVALENT	6	No.		
I	Ditto but 50mm diameter gate valve as PEX OR APPROVED EQUIVALENT	2	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Unions				
A	25mm diameter pipe union	6	No.		
B	50mm diameter pipe union	1	No.		
	Painting				
C	Allow for painting of the hose reel pipework as per particular specifications.	1	Item		
	Fire Water Pumpset				
D	Set of automatic electrically driven twin booster pumps. One duty and the other one standby with automatic changeover, capable of delivering 5 cubic metres per hour against a head of 30 meters.The pumpset to have with inbuilt pressure controller and mounting skid.The Pumpset to be AS WILO OR APPROVED EQUIVALENT	1	Item		
E	60 litre Pressure Vessel for above pumpset	1	No		
	Associated Electrical Works				
F	Allow for associated electrical works wiring and fitting to pumps, control panel and float switches from isolator provided by others.	1	Item		
	Portable Fire Extinguishers				
	Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.				
	Water/Carbon Dioxide Gas Fire Extinguisher				
G	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	6	No		
	Carbon Dioxide Gas Fire Extinguisher				
H	5 Kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	6	No		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Dry Chemical Powder Fire Extinguisher 6kg dry chemical podwer portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	6	No		
B	Manual Alarm Bell 9" (225mm) manual operated alarm bell (Gong)	6	No		
C	Fire cabinet Fire Hosereel cabinet as HRS096-MS-350-RD or equivalent	6	No		
D	Fire Extinguisher cabinet as SRI FEX145-MS- 090-RD or equivalent	6	No		
E	Fire Notices Allow for fire signage for the hose reel system, fire exits and fire instructions as directed by the Project Engineer.	6	No		
	Total for page 11				

COLLECTION PAGE FOR FOUL DRAINAGE		
Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
Total cost for Drainage Pipework		

BILL NO.7**WATER TANKS ,PUMPS AND ASSOCIATED INSTALLATION WORKS****(i) ALL ITEMS SHALL BE SUPPLY,DELIVER,INSTALL,TEST AND COMMISSION****(ii) ALL ITEMS SHALL BE COMPLETE WITH ALL ACCESSORIES INCLUDING CONNECTIONS TO THE SERVICES,JOINTING TO WATER SUPPLY OVERFLOWS AND SUPPORTS****(iii) ALL ITEMS SHALL BE COMPLETE WITH ALL PLUGGING AND SCREWING TO WALLS AND FLOORS****(iv) ALL ITEMS SHALL BE AS PER PARTICULAR SPECIFICATIONS**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Water Pumpset Set of automatic electrically driven twin booster pumps. One duty and the other one standby with automatic changeover, capable of delivering 4 cubic metres per hour against a head of 25 meters.The pumpset to have with inbuilt pressure controller and mounting skid.The Pumpset to be AS WILO OR APPROVED EQUIVALENT	1	Item		
B	60 litre Pressure Vessel for above pumpset	1	No		
C	Associated Electrical Works Allow for associated electrical works wiring and fitting to pumps, control panel and float switches from isolator provided by others.	1	Item		
D	Roof Water tanks Supply, deliver and install vertical close end plastic moulded tank of capacity 1,000 litres and of approximate size diameter 2020mm and of height 1830mm . The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow,drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat slab and shall be as TOPTANK LACCYLS14 OR APPROVED EQUIVALENT	10	No.		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Supply, deliver and install vertical close end plastic moulded tank of capacity 2,300 litres and of approximate size diameter 2020mm and of height 1830mm . The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow, drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat slab and shall be as TOPTANK : LACCYLS48 OR APPROVED EQUIVALENT Ground Water tanks		No.		
B	Supply, deliver and install vertical close end plastic moulded tank of capacity 10,000 litres and diameter 2770 mm and of height 3540mm . The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow, drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat slab and shall be as TOPTANK LACCYLS16 OR APPROVED EQUIVALENT Excavations	2	No.		
C	Excavate trench in hard soil/murram 600mm wide and depth not exceeding 1000mm deep and average 750mm deep, prepare bed with red soil/murram of particle size not more than 20 mm to a depth of 750mm. Bed shall be approved by Engineer before laying of pipes. Fill with same material as above and compact in layers of 75 mm. Cart away surplus soil.	300	Lm		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	PPR Pipes				
A	50mm diameter pipework supply from supply line to water meter and to ground tanks	300	Lm		
B	50mm diameter pipework from Ground to roof tanks	20	Lm		
	Bends				
C	50mm diameter bend	10	No.		
	Tees				
D	50mm equal tee	10	No.		
	Threaded Brass Coupling				
E	50mm male/female threaded brass coupling	2	No.		
	Valves				
F	50mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.	4	No.		
	Unions				
G	50mm diameter pipe union	4	No.		
	Stand Pipe				
H	15mm diameter bib tap suitable for connecting hose pipe complete with threaded adaptors. The tap to be complete with 5meter long 20mm diameter pipe, bends etc. The chrome plated bib tap to be as Cobra ref.107EC taps or equal and approved.	4	No		
	Pipe Sleeves				
I	75mm diameter heavy duty PVC Class 41 pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 75mm concrete surround.	10	Lm		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Meter chamber size 450x450x600mm deep with 100mm concrete (1: 3: 6) base 50mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	1	No.		
B	Gate Valve Indicator Plates Standard precast concrete Sluice valve marker post marked 'GV' set in concrete (1:3:6) base, including formwork, excavations backfilling	5	No		
C	Water Line Markers Standard precast concrete water line marker, post marked 'WL' set in concrete (1:3:6) base, including formwork, excavations backfilling	5	No		
D	Sterilization Allow for flushing out and sterilizing the whole system with chlorine to the satisfaction of the Project Engineer.	1	Item		
E	Project Stationery 1 TB portable harddisk as TRANSCEND	5	No.		
F	Laptop with Intel Core I7 14 – inch 8GB RAM 1TB HDD inclusive of the current windows software and mouse as Lenovo Ideapad 330S or equivalent	1	No.		
G	Site Safety Boots as Safetoe M-8027 (High Cut)	5	No.		
H	Toner Cartridge as Hp Laser Jet Pro	2	No.		
I	Letter head quality paper, size A4, 80g/cm ³ , White, 500 sheets	10	No.		
J	Testing and Commissioning Allow for pressure testing and commissioning of the plumbing installation to the satisfaction of the Engineer with provision of pressure testing certificates of minimum 5 Bar	1	Item		
Total carried to collection page					

COLLECTION PAGE		
Item	Description	Amount (Kshs)
1	Total carried forward	0.00
2	Total carried forward	0.00
3	Total carried forward	0.00
4	Total carried forward	0.00
Total Carried Forward to summary Page		0.00

BILL NO.8**WATER FOUNTAIN**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<p align="center"><u>WATER FOUNTAIN</u></p> <p>Supply, deliver , install and fix the following fittings/pumps including all materials and jointing to supply and circulation:-</p> <p><u>FOUNTAIN 1</u></p> <p>Fountain Pumps</p> <p>Centrifugal pumps capable of discharging 5m³/h at a head of 8m. The pump to be as OASE OR EQUIVALENT</p> <p>Fountain Nozzles</p> <p>Supply and installations of fountain nozzles</p> <p>Centre Fountain Nozzles</p> <p>Water hemisphere Type A Centre fountain as per the particular specifications AS OASE or equivalent</p> <p>Side Fountain Nozzles</p> <p>Supply and installation of gushing fountain nozzles as per the particular specifications AS OASE or Equivalent</p> <p>Strainers</p> <p>Supply and installation of a 50mm diameter strainer as pegler or equal or approved equivalent</p> <p>Supply and installation of a 50mm Fine suction filter 5 as pegler or equal or approved equivalent 50mm</p>				
A		1	No		
B		1	No		
C		3	No		
D		1	No		
E		1	No		
Total Carried Forward to Collection Page for Water Reticulation					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Plumbing				
A	Allow for all associated high pressure plumbing pipes ,fittings and all accessories	1	No		
B	Allow for all associated high pressure drainage pipes ,fittings and all accessories including return and overflow armatures	1	No		
	Unions				
C	40mm diameter union	1	No		
D	25mm diameter union	2	No		
	Gate Valves				
E	40mm diameter gate valve	1	No		
F	25mm diameter gate valve	1	No		
	Filters				
G	Water filter as 10 Cubic metres per hour as DX500 from Davis and Shirtliff or equivalent.	1	No		
	Electrical works				
H	RGB Fountain lights with centre nozzle allowance as per the particular specifications AS ProfiRing LED 320/DMX/02 or equivalent	1	No		
I	White Light Fountain lights as per the particular specifications AS OASE ProfiLux LED Spot 2200/01 or equivalent.	3	No		
J	Allow for all electrical works for the above pumps and fountain including cabling upto 30metres.	1	item		
K	Allow for all power boxes,underwater connecting cables and underwater led drivers	1	item		
Total Carried Forward to Collection Page for Water Reticulation					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Builders works				
A	Allow for builders works for the water sphere fountain in Round About. The concrete to be 6metres flat in diameter and a raised circular exterior of one metre from the top of the base	1	item		
B	Allow for waterproof plaster on walls and floor	30	sm		
C	Glass mosaic tiles to walls and floor to the fountain plinth internal and external	40	sm		
D	Allow for setting to work, testing and commissioning of the fountain installation.	1	item		
	Testing and Commissioning				
E	Allow for setting to work, testing and commissioning of the whole water reticulation system to the satisfaction of the Engineer.	1	Item		
Total Carried Forward to Collection Page for Water Reticulation					

COLLECTION PAGE FOR WATER RETICULATION

Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
Total Carried Forward to summary Page		

BILL NO.9**ASSOCIATED BUILDERS WORKS**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	PUMP HOUSING				
A	100x50 x3mm square hollow section frame raw bolted on tank slab	36	LM		
B	75x50 x3mm square hollow section section frame raw bolted on tank slab	20	LM		
C	4mm thick sheet metal welded around the frame	24	SM		
D	75x50 x3mm bracing welded on poles	16	No.		
E	Single leafs door; ; overall size 1000x2000mm high in 1No. LeafAccess opening made of 4mm 1.5m x1.5m sheet metal welded on 100x50 x3mm square hollow section frame.Allow for associated accessories including twin hinges,screws,pull handle and a hardy Lockable door fastener	1	Item		
F	75x50x3mm roof bearers	12	No		
G	Grill mesh 20x20x6mm square hollow section	14	SM		
H	Galvanized corrugated sheet roofing; 30gauge;Pre-painted The Roof covering not exceeding 45 degrees from horizontal;allow for fixing to timber structure (m/s) with all associated accessories including roofing nails and neoprene washers J bolts nuts neoprene washers and caps.	12	sm		
I	Prepare and apply three coats of premium quality silk vinyl paint as "Basco Paints -Duracoat" or "Crown Paints" or equal and approved to steel plates,square and hollow sections	24	sm		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	ROOF AREA TANK SUPPORT(10NO.1,000 LITRES SUPPORT) OF 2000MM X12000MM				
A	100x50 x3mm square hollow section frame raw bolted on tank slab	48	LM		
B	4mm thick sheet metal welded around the frame	30	SM		
	ROOF AREA TANK SUPPORT(2NO.1000 LITRES SUPPORT) OF 2000MM X3000MM				
C	100x50 x3mm square hollow section frame raw bolted on tank slab	10	LM		
D	4mm thick sheet metal welded around the frame	10	SM		
	GROUND TANK AND PUMP HOUSING PLINTH				
E	Clear the site off grass, shrubs and all vegetation; cart away as directed	36	SM		
F	Excavate oversite dumping to reduce levels commencing from stripped level average 900mm deep and wheel, heap on site	36	CM		
G	Excavate trench for strip foundation starting from reduced level not exceeding 1.50 metres deep	12	CM		
H	Return, fill-in and rum selected excavated material	3	CM		
I	Hardcore filling in making up levels not exceeding 300mm thick, depositing and compacting in layers of 100mm maximum thickness	36	SM		
J	50mm thick murram/quary dust blinding to surfaces of fill	36	SM		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	50mm thick mass concrete class 20 (1:2:4) to bottoms of base and foundations	36	SM		
B	Reinforcement Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks	60	KG		
C	Reference A142 mesh 200x200x200mm, weight 2.22 kgs per square meter (measured net-no allowance made for slaps (including bends, tying wire and distance blocks	36	SM		
D	Sawn formwork to insitu concrete on Edges of ground floor slab;75 to 150mm wide	24	LM		
	<u>Walling</u>				
E	200mm thick approved local natural stone; roughly dressed and squared to foundation walling; bedding and jointing in cement sand (1:3) mortar	48	SM		
F	Damp proofing Polythene; 1000 gauge, 150mm laps, horizontal; 1 no. layer laid on murram blinding	40	SM		
G	14mm thick 2no. coatwork cement sand (1:3) render; steel floated to concrete or blockwork base to walls; external	40	SM		
H	150 x 100mm semi circle gutter including corners/ joints in the running length fixed to fascia board with and including brackets at approved centers	5	LM		
I	Extra; for blocked ends with 75mm dia.outlet 100mm long	2	NO		
J	100mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed to wall.Allow for bends and shoes for 2no.drop pipes	6	LM		
Total Carried Forward Collection Page					

COLLECTION PAGE		
Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
Total Carried Forward to summary Page		

BILL NO.10

WELL AND ASSOCIATED WORKS RENOVATIONS					
WELL BASE AND TANK PLINTH					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Clear the site off grass, shrubs and all vegetation; cart away as directed	40	SM		
B	Excavate oversite dumping to reduce levels commencing from stripped level average 900mm deep and wheel, heap on site	40	CM		
C	Excavate trench for strip foundation starting from reduced level not exceeding 1.50 metres deep	13	CM		
D	Return, fill-in and rum selected excavated material	3	CM		
E	Hardcore filling in making up levels not exceeding 300mm thick, depositing and compacting in layers of 100mm maximum thickness	40	SM		
F	50mm thick murrum/quarry dust blinding to surfaces of fill	40	SM		
G	50mm thick mass concrete class 20 (1:2:4) to bottoms of base and foundations	40	SM		
H	Reinforcement Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks (D12)	150	LM		
I	Reference A142 mesh 200x200x200mm, weight 2.22 kgs per square meter (measured net-no allowance made for slaps (including bends, tying wir and distance blocks	40	SM		
J	Sawn formwork to insitu concrete on Edges of ground floor slab;75 to 150mm wide	26	LM		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Walling 200mm thick approved local natural stone; roughly dressed and squared to foundation walling; bedding and jointing in cement sand (1:3) mortar	78	SM		
B	Damp proofing Polythene; 1000 gauge, 150mm laps, horizontal; 1 no. layer laid on murram blinding	42	SM		
C	14mm thick 2no. coatwork cement sand (1:3) render; steel floated to concrete or blockwork base to walls; external	42	SM		
	ELEVATED TANK SUPPORT				
D	6Metre long 150 x 100 x3mm square hollow section frame raw bolted on base support	6	LM		
E	6Metre long 150 x 100 x3mm square hollow section frame raw bolted on above support	2	LM		
F	6Metre long 75x50x3mm square hollow section frame raw bolted on horizontal support	10	LM		
G	4mm thick sheet metal welded around the frame	16	SM		
H	Allow for associated jointings, screws,caps, couplings necessary to brace the above structure	1	item		
I	Allow for builders works for support the above structure to hold 10,000 litres tank	1	item		
J	Supply, deliver and install vertical close end plastic moulded tank of capacity 10,000 litres and diameter 2770 mm and of height 3540mm. The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow,drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat slab and shall be as TOPTANK LACCYLS16 OR APPROVED EQUIVALENT	1	No.		
Total carried to collection page					

WELL DEVELOPMENT AND EQUIPPING					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	Cleaning and wire brushing of the existing concrete 1200mm diameter casings on the well sides.	20	LM		
B	Test pumping to ascertain borehole yield for at least 24 hours including installation and withdrawal of pumping unit and recovery measurements.	1	Item		
C	Construction of concrete plinth size 1.5mx1.5mx1.0m high around well head.	1	No		
D	Physical,Biological and chemical analyses and borehole completion report.	1	Item		
E	Supply and install 50mm dia GMS water pipe,Class C	60	Lm		
F	50mm diameter gate valve as 'pegler' or approved equivalent	1	No		
G	50mm dia non-return valve as pegler or approved equivalent.	1	No		
H	50mm diameter galvanised steel bend	4	No		
I	50mm diameter watermeter as 'Kent' or approved equivalent	1	No		
J	6mm ² 4-core PVC round hardened PVC submersible electric cable. Waterproof.	20	LM		
K	2.5mm ² 4-core PVC round hardened PVC electrode cables waterproof	20	LM		
L	2.5mm ² 4-core PVC/SWA/PVC cable from control panel to water tanks.	10	LM		
M	25mm diameter heavy gauge PVC ducts.	40	LM		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	6mm ² x 3 core underground cable	60	LM		
B	1.5mm ² x 2 core underground cable	60	LM		
C	Excavate trench of dimensions 300mm x 500mm to invert to lay cables. The laid cable to be covered with 50mm thick layer of fine soil, covered with tiles as "Hatari" then back fill and ram and dispose of excess	60	LM		
D	Supply and install centrifugal multistage borehole pump, continuously rated and capable of pumping 4m ³ /hr of water against a total head of 30m. The entire pump-set body, impellers, shaft etc shall be made of heavy duty stainless steel material. The pump shall have inbuilt non-return valve, tail strainer and cable guard. The pump shall be as WILO or equal and approved.	1	No.		
E	Control panel to be mounted off the wall. The control panel shall be water tight with corrosion resistant from hinged lockable door metal enclosure and have Merlin Gerin switch-gear and Telemechanique control gear. The control panel shall have star-delta starter, phase failure, surge protector, isolator, voltmeter, ammeter, MCBs, 150m long float switch cable, float switch and any other necessary controls.	1	Item		
F	Allow for testing and commissioning of the well	1	Item		
Total carried to collection page					

COLLECTION PAGE FOR WELL DEVELOPMENT,TANKS AND EQUIPPING WORKS

Item	Description	Amount (Kshs)
1	Total carried forward	
2	Total carried forward	
3	Total carried forward	
4	Total carried forward	
Total for tanks,well development and equipping		

BILL NO.11

MECHANICAL VENTILATION

Item	Description	Qty	Unit	Rate (Kshs.)	Amount (Kshs.)
A	AIR EXTRACT FANS Supply, deliver, install and test wall mounted axial fans of 4000m3/hr.The fan to have black painted axial impellers are made of aluminium dynamically balanced according to DIN ISO 1940 part 1, quality class G6.3. Allow for motor protection with thermostatic switches with lead-out cables for connection to a motor protection device.The fan to be complete with supports, flexible connections and anti-vibration mountings with a maximum sound level of 60dB.all as SYSTEM AIR MODEL AW 500DV sileo Axial fan or equivalent	2	No		
	Controller sytem Supply, install, test and commission a controller with HEAT sensor and TIMER for each of the for the fan units.The timer to allow for 3 sets TIMER settings and a HEAT SENSOR control.	2	no		
C	Ceiling Mounted Fans 600X600mm ceiling fan with underside LED light, remote controller and buzzer for each speed as TRONIC or equivalent.	5	no		
C	Electrical Works Allow for associated electrical works including but not limited to wiring from local isolators provided by others within one meter to all indoor units, outdoor units and control system. Allow for labelling all the circuits and equipment.	1	item		
D	Testing and Commissioning Allow for testing and commissioning of the air conditioning installations to the satisfaction of the Engineer.	1	Item		
Total carried to collection page					

SUMMARY PAGE

Item	Description	Amount (Kshs)
1	Total carried forward for sanitary fittings	
2	Total carried forward for internal plumbing piping	
3	Total carried forward for drainage piping	
4	Total carried forward for rain water drainage	
5	Total carried forward for fire protection systems	
6	Total carried forward for water reticulation and tanks	
7	Total carried forward for water feature	
8	Total carried forward for associated builders works	
9	Total carried forward for tanks,well development and equipping	
10	Total carried forward for mechanical ventilation	
	Total for Plumbing and Drainage Installation Works carried to final summary page	

FINAL SUMMARY PAGE

Item	Description	Total Cost
1	Preliminaries	
2	Total cost for plumbing and drainage installation works	
3	Contingency to be used at the discretion of the engineer	500,000.00
	Total Cost for plumbing and drainage carried to Form of tender	

Amount in words.....

.....

Tenderer's Name and Stamp.....

.....
.....

Address

Period To Execute The Works

Tenderer's V.A.T No

Tenderer's P.I.N No

Telephone No.

Mobile No.

Tenderer's Signature Date.....

Witness Signature Date.....

SECTION NAME:

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES		
Item	Description	Rate (Kshs)
A	Water Booster Pumpset of capacity 5m ³ /hr against 30m head as Grundfos or equivalent	
B	SCHAUMSPRUNDLER NOZZLE fountain nozzle as from DAVIS and shirtliff	
C	Urinal press flush valve	
D	LED washroom mirror light as ESTRADA or equivalent	

SECTION NAME:

TECHNICAL SCHEDULE

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

CONTENTS

1.	GENERAL NOTES TO THE TENDERER.....	TS-1
2.	TECHNICAL SCHEDULE.....	TS-2
3.	TECHNICAL DATA	TS-3 to TS-4

TECHNICAL SCHEDULE

1. General Notes to the Tenderer

- 1.1 The tenderer shall submit technical schedules for all materials and equipment upon which he has based his tender sum.
- 1.2 The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings described in the technical schedules. Manufacturer's literature shall be accepted. Failure to comply with this may have his tender disqualified.
- 1.3 Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.
- 1.4 The tenderer **MUST** complete in full the technical schedule.
- 1.5 Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule (fill forms attached).

TECHNICAL SCHEDULE

Item	Description	Manufacturer	Brand
A	Water Closet pan with toilet seat cover		
B	Water Closet Flush Valve with actuator plates		
C	Wash Hand Basin		
D	Self closing pillar Tap		
E	Wash Hand Basin		
F	Plastic Water Tanks		
G	urinal flush valve		
H	Physically Challenged sanitary suite set		
I	urinal Bowls		
J	Mains operated urinal flush valve		
K	Extract fan		
L	Borehole pump		

ELECTRICAL WORKS

**GENERAL SPECIFICATONS
OF
MATERIALS AND WORKS**

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

- 2.1 General
- 2.2 Standard of Materials
- 2.3 Workmanship
- 2.4 Procurement of Materials
- 2.5 Shop Drawings
- 2.6 Record Drawings
- 2.7 Regulations and Standards
- 2.8 Setting out Works
- 2.9 Testing on Site

2.1 GENERAL

This specification is to be read in conjunction with the drawings which are issued with it. Bills of quantities shall be the basis of all additions and omissions during the progress of the works.

2.2 STANDARD OF MATERIALS

Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the sub-contractor shall adhere.

Should the Sub-contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the Sub-contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the Sub-contractor. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

2.3 WORKMANSHIP

The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractor's expense.

Permits, Certificates or Licenses must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licenses exist under Government legislation.

2.4 PROCUREMENT OF MATERIALS

The sub-contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

Sub-contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

2.5 SHOP DRAWINGS

Before manufacture or Fabrication is commenced the sub-contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent

information including sizes, capacities, construction details, etc, as may be required to determine the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the sub-contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

2.6 RECORD DRAWINGS

These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.

The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.

Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.

One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

2.7 REGULATIONS AND STANDARDS

All work executed by the Sub-contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, and with the Regulations of the Local Electricity Authority.

Where the two sets of regulations appear to conflict, they shall be clarified with the Engineers. All materials used shall comply with relevant Kenya Bureau of Standards Specification.

2.8 SETTING OUT WORK

The sub-contractor at his own expenses; is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his Tender for all such modifications and for the provision of any such sketches or drawings related thereto.

2.9 TESTING ON SITE

The Sub-contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specification and the Electric Supply Company's By-Laws.

- (a) Tests shall be carried out to prove that all single pole switches are installed in the 'live' conductor.
- (b) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the 'live' conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system. Tests shall be carried out to verify the continuity of all conductors of each 'ring' circuit.
- (c) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the Sub-contractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.
- (d) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the Sub-contractor at his own expense.
- (e) The Sub-contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be made available to the services engineer to enable him to carry out such tests as he may require.
- (f) The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.
- (g) The Sub-contractor shall test to the services engineer's approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment, plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.
- (h) Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. air conditioning system) the Sub-contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the service engineer's approval.

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The electrical sub-contractor shall comply with the following: -

- a) Government Electrical Specifications No. 1 and No. 2.
- b) All requirements of Kenya Power and Lighting Company Limited, and Communications Commission of Kenya (CA).

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Engineer	

SECTION F
PARTICULAR SPECIFICATIONS
OF
MATERIALS AND WORKS

PARTICULAR SPECIFICATIONS

1. SITE LOCATION

The site of the proposed works is at **Alupe University College**

2. DESCRIPTION OF THE PROJECT

The works to be carried out comprise the following;

- i) Supply, installation, testing and commissioning of Electrical Installations, Fire Detection and Alarm System.
- ii) Produce test result, warranty certification, reports and as installed drawings.

3. REGULATIONS

The contractor shall, in execution and completion of the works in the detailed design for which he is responsible, comply with the provisions of the following as necessary and relevant;

- a. International Standards Organization
- b. Communications Authority of Kenya
- c. Latest Edition of IEE Wiring Regulation
- d. Kenya Bureau of Standards
- e. Electric Power Act and Rules made there under.

4. WORKING DRAWINGS

The Contractor shall submit to the Project Manager working drawings for the proposed system for approval. The drawings will show the locations of and identifiers for all cable routing and terminations, telecommunication outlets/connectors. Location of core switch and Edge switches.

5. LED LIGHT FITTINGS

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
p.f	≥ 0.9	
Frequency	45 – 55 Hz	
Operating Temp. Range	10° - 40°C	
Operating Voltage Range	150 Vac to 300 Vac	
THD	≤ 15%	
Colour Temperature	4000 – 6500K	
Median Useful Life	L70B50 at 40,000 Hours	

6. FIRE ALARM PANEL

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Standards	EN54-2 1997, A1:2006 EN54-4 1997, A1:2002 & A2:2006	
Loops	3	
Addresses per Loop	200	
Auxiliary Relay	1 Set Changeover Contacts Operate in Event of Fire Condition	
Battery	2 x 12Ah	
Cable Entries	20mm Knock-Outs All Round	
System Networking	Fully Networkable	

7. LED DIMMER

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Application	LED	
Connectivity	KNX Bus System	
Indicator Lamp	Per Channel	
Frequency	50Hz	
Voltage	30V DC via Bus + 230V AC	
Protection	Overheating, Short Circuit and Overload	
Capacity	3 Channel	
Dimming Principle	Phase Cut-On/Off, Self Learning Minimum/Maximum Dimming Values per Channel Settable on Device	
Power	300W	
Fixing	DIN Rail	

8. POWER SUPPLY

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Connectivity	KNX Bus System	
Frequency	50Hz	
Supply Voltage	230V AC	
Protection	Short Circuit and Overload	
Capacity	2 x 30V DC 640mA	
Fixing	DIN Rail	

9. CONFIGURATION SERVER

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Connectivity	KNX Bus System 2 No. RJ45 Ports	
Accessories	Configuration Toolkit	
Controls	Online/Offline Selection Switch Programming Button	
Fixing	DIN Rail	

10. BROCHURES AND TECHNICAL LITERATURE

Tenderers **MUST** enclose together with their submitted bids brochures detailing technical Literature and specifications of **ALL** components of the system. The brochures shall be used to evaluate the suitability of these components.

Any bid submitted without the brochures shall be considered technically non-responsive, and will subsequently be disqualified.

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

SCHEDULE OF UNIT RATES

NO.	DESCRIPTION	UNIT RATE (KSHs)
1.	PVC/SWA/PVC Copper cables per meter a) 4.0 mm sq. 3 core b) 6.0 mm sq. 3 core c) 10.0 mm sq. 4 core d) 35.0 mm sq. 4 core	
2.	IP 65 rated Isolators as SCHNEIDER, 3 Phase a) 32A	
3.	IP 65 rated Isolators as SCHNEIDER, Single Phase a) 32A	
4.	Distribution Boards a) 8 Ways TPN b) 12 Ways TPN c) 16 Ways TPN	
5.	Industrial Sockets outlets, 5 pin a) 32A	
6.	Industrial Sockets outlets, 3 pin a) 32A	

BILLS OF QUANTITIES

BILLS OF QUANTITIES

PRICING OF PRELIMINARIES ITEMS

Prices will be inserted against item of preliminaries in the Contractor's Bills of Quantities and specification. These Bills are designated as Bill No.1 in this Section. Where the Contractor fails to insert his price in any item, he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:

(a) **Preliminaries – Bill No.1**

Contractor's preliminaries are as described. The Contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However, the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

(b) **Installation Items – Other Bills**

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

(c) **Summary**

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The Contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender_provided elsewhere in this document.

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes including 16% V.A.T
3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

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

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender**.
6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

Statement of Compliance

1. I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
2. I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed: _____ *for and on behalf of the Tenderer*

Date: _____

Official Rubber Stamp: _____

BILL No. 1: PRELIMINARIES

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
1.1.01	This is a Firm-Price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations.	1	Item		
1.1.02	The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.	1	Item		
1.1.03	The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications as customary. No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer. (Contractor's own preliminary and proving tests exempted).	1	Item		
1.1.04	The Contractor shall allow for Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works.	1	Item		
1.1.05	The Contractor shall allow for Record Drawings and Maintenance Manual of the installed Contract Works.	1	Item		
1.1.06	Allow for engineers cost for approval of sample sanitary fittings, pipes and associated work requirements off the project site	1	Item		
1.1.07	Allow for profits and attendance for the above--- ---%	1	Item		
Total Amount Carried Forward to The Summary Page					

BILL No. 2: POWER SUPPLY

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i> LV METERBOARD				
2.1.01	Free Standing L.V Meter Board Constructed from HG, 16SWG, Mild Steel Spray Painted with three coats of gloss paint. The board shall be complete with housing space for 1 No. K.P. & L.C Ltd. 3 phase Meter, Space for 3 phase KPLC Cut-out fuses & Space for C.T's for Ammeter complete with selector switch for all phases. It shall also be complete with the following: i) 1 No. 400A Digital Multimeter ii) 1No. 400A 4P Copper Busbars iii) 2No. 400A TP Adjustable MCCB Incomer c/w Shunt Trip iv) 1No. 400A TP Adjustable AVR MCCB v) 11 No. 63A TP MCCB Outgoers vi) 1 No. 250A TP MCCB Outgoer vii) 3 No. TP Spareways viii) 83 KVAR Automatic Stepped P.f correction Bank, complete with Capacitors, Main MCCB, HRC Fuses, Contactors, P.F Regulator & All other associated items & accessories.	1	Item		
2.1.02	Earthing of Meterboard comprising of copper earth electrode of size 1500mm long and 15mm diameter enclosed by a concrete manhole of size 300x300x450 mm with removable concrete cover and a 38mm diameter PVC HG Conduit to house 16mm sq cable. bonded to the LV Board.	1	Item		
2.1.03	Submains comprising 4C 120 mm ² PVC/SWA/PVC CU cable drawn in PVC HG Ducts and Riser Duct with all the necessary accessories from the Power House to Item 2.1.01	1	No.		
		270	LM.		
Total Amount Carried Forward to Next Page					

BILL No. 2: POWER SUPPLY

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page				
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i>				
2.1.04	600mm x 150mm, steel, hot dip galvanised, cable ladder for power cables complete with all accessories laid in duct.	60	LM.		
2.1.05	300mm x 150mm, steel, hot dip galvanised, cable ladder for power cables complete with all accessories laid in duct.	60	LM.		
2.1.06	300mm x 50mm perforated, steel, hot dip galvanised, cable tray for data cables complete with all accessories.	60	LM.		
2.1.07	200X200X75mm heavy gauge galvanized steel adaptable box for power	12	No.		
2.1.08	50 mm Ø H.G PVC DUCTS	135	LM.		
2.1.09	100 mm Ø H.G PVC DUCTS	270	LM.		
2.1.10	Trenching to a minimum depth of 0.7 m, Laying, Sifting, Tiling, Back Filling and Compacting to Ground Level for the ducts	405	LM.		
2.1.11	600 x 450 x 600mm deep Manhole Complete with Heavy Duty Cover and all Accessories	15	No.		
2.1.12	Hatari Concrete Tiling Buried 400 mm underground for the power supply cables.	1	Lot.		
2.1.13	Fireman's Switch Circuit completely wired in 2x2.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the switch.	30	LM.		
2.1.14	Fireman's Switch complete with fire resistant housing.	1	No.		
2.1.15	3 Loop Addressable Fire Alarm Panel complete with 72 hour stand by batteries, test and reset buttons and supervisory buzzer as Honeywell or Approved Equivalent	1	No.		
Total Amount Carried Forward to Summary Page					

BILL No. 3 SCHEDULE No. 1: WING

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i>				
	LIGHTING POINTS				
3.1.01	Lighting outlet point wired in 3 x 1.5 mm ² SC PVC insulated CU cables drawn in 20 mm Ø HG PVC conduits clipped onto the roof structure and suspended with hangers where necessary including all accessories and excluding switch plates.				
	i) One way switched	157	No.		
	ii) Two way switched	8	No.		
	LIGHTING FITTINGS				
3.1.02	Light Fittings complete with all accessories and lamps as follows:				
	a) Type E	20	No.		
	b) Type B	72	No.		
	c) Type C	47	No.		
	d) Type W	12	No.		
	e) Type S	8	No.		
	f) Type M	6	No.		
	LIGHTING SWITCHES				
3.1.03	10A Ivory Switch Plates flush mounted on masonry wall as SCHNEIDER.				
	i) One Gang One Way as SCHNEIDER or approved equivalent.	22	No.		
	ii) Two Gang Two Way as SCHNEIDER or approved equivalent.	4	No.		
	POWER POINTS				
3.1.04	13A Ring Mains Socket Outlet Points wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	25	No.		
3.1.05	13A Ring Mains Washroom Extract Point wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	8	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 1: WING

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
3.1.06	Radial Hand Drier Outlet Points wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	2	No.		
	SOCKETS AND POWER SWITCHES				
3.1.07	13A Twin Switched Ivory Socket Outlet Plates as SCHNEIDER or approved equivalent .	25	No.		
3.1.08	20A Ivory DP Switch Plate with Neon Light as SCHNEIDER for Hand Drier.	2	No.		
3.1.09	Steel Powder Coated Floor Pedestal capable of accomodating 1 No. HDMI Outlet, I No. VGA Outlet and 1 No. Twin Switched Socket Outlet Point.	2	No.		
	SUBMAINS				
3.1.10	Submains comprising 4C 10 mm ² PVC/SWA/PVC CU cable drawn in PVC HG Ducts and Riser Duct with all the necessary accessories from the LV Board to DB W01 .	85	LM.		
3.1.11	8-way 100A TPN DB surface mounted complete with 125 A TP integral isolator and lockable cover and all accessories excluding MCBs as SCHNEIDER or approved equivalent .	1	No.		
3.1.12	The following MCBs as Schneider or approved equivalent Type B .				
	i) 10A SP	8	No.		
	ii) 15A SP	2	No.		
	iii) 32A SP	2	No.		
	iv) Blanking Plates	12	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 1: WING

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
	SECURITY POINTS				
3.1.13	CCTV/Access Control Points in concealed 25 mm Ø HG PVC conduit complete with all accessories and draw wire left inside.	20	No.		
	FIRE DETECTION AND ALARM				
3.1.14	Smoke Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	38	No.		
3.1.15	Heat Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	1	No.		
3.1.16	Electronic Sounder and Beacon Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	3	No.		
3.1.17	Call Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	3	No.		
3.1.18	Addressable Resettable Call Unit incorporating integral short circuit isolator and reset key as Honeywell or approved equivalent.	3	No.		
3.1.19	Addressable Photoelectric Heat Detector with integral short circuit isolator as Honeywell or approved equivalent.	1	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 1: WING

[illegible]

BILL No. 3 SCHEDULE No. 2: BACKSTAGE

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i>				
	LIGHTING POINTS				
3.2.01	Lighting outlet point wired in 3 x 1.5 mm ² SC PVC insulated CU cables drawn in 20 mm Ø HG PVC conduits clipped onto the roof structure and suspended with hangers where necessary including all accessories and excluding switch plates.	105	No.		
	i) One way switched	4	No.		
	ii) Two way switched				
	LIGHTING FITTINGS				
3.2.02	Light Fittings complete with all accessories and lamps as follows:				
	a) Type E	32	No.		
	b) Type B	2	No.		
	c) Type C	4	No.		
	d) Type W	33	No.		
	e) Type S	4	No.		
	f) Type M	7	No.		
	g) Type D	27	No.		
	LIGHTING SWITCHES				
3.3.03	10A Ivory Switch Plates flush mounted on masonry wall as SCHNEIDER.				
	i) One Gang One Way as SCHNEIDER or approved equivalent.	22	No.		
	ii) Two Gang Two Way as SCHNEIDER or approved equivalent.	4	No.		
	POWER POINTS				
3.2.04	13A Ring Mains Socket Outlet Points wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	8	No.		
3.2.05	13A Ring Mains Washroom Extract Point wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	8	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 2: BACKSTAGE

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
3.2.06	Radial Hand Drier Outlet Points wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	10	No.		
	SOCKETS AND POWER SWITCHES				
3.2.07	13A Twin Switched Ivory Socket Outlet Plates as SCHNEIDER or approved equivalent .	8	No.		
3.2.08	20A Ivory DP Switch Plate with Neon Light as SCHNEIDER for Hand Drier.	10	No.		
3.2.09	Steel Powder Coated Floor Pedestal capable of accomodating 1 No. HDMI Outlet, I No. VGA Outlet and 1 No. Twin Switched Socket Outlet Point.	2	No.		
	SUBMAINS				
3.2.10	Submains comprising 4C 10 mm ² PVC/SWA/PVC CU cable drawn in PVC HG Ducts and Riser Duct with all the necessary accessories from the LV Board to DB BS .	145	LM.		
3.2.11	8-way 100A TPN DB surface mounted complete with 125 A TP integral isolator and lockable cover and all accessories excluding MCBs as SCHNEIDER or approved equivalent .	1	No.		
3.2.12	The following MCBs as Schneider or approved equivalent Type B . i) 10A SP ii) 15A SP iii) 32A SP iv) Blanking Plates	8 10 2 4	No. No. No. No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 2: BACKSTAGE

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
	SECURITY POINTS				
3.2.13	CCTV/Access Control Points in concealed 25 mm Ø HG PVC conduit complete with all accessories and draw wire left inside.	12	No.		
	FIRE DETECTION AND ALARM				
3.2.14	Smoke Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	24	No.		
3.2.15	Heat Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	1	No.		
3.2.16	Electronic Sounder and Beacon Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	3	No.		
3.2.17	Call Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	3	No.		
3.2.18	Addressable Resettable Call Unit incorporating integral short circuit isolator and reset key as Honeywell or approved equivalent.	3	No.		
3.2.19	Addressable Photoelectric Heat Detector with integral short circuit isolator as Honeywell or approved equivalent.	1	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 2: BACKSTAGE

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
3.2.20	Addressable Photoelectric Smoke Detector with integral short circuit isolator as Honeywell or approved equivalent.	24	No.		
3.2.21	Addressable Indoor Wall Sounder with Strobe Light and built in short circuit isolator as Honeywell or approved equivalent.	3	No.		
Total Amount Carried Forward to Summary Page					

BILL No. 3 SCHEDULE No. 3: AUDITORIUM

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i>				
	LIGHTING POINTS				
3.3.01	Lighting outlet point wired in 3 x 1.5 mm ² SC PVC insulated CU cables drawn in 20 mm Ø HG PVC conduits clipped onto the roof structure and suspended with hangers where necessary including all accessories and excluding switch plates.				
	i) One way switched	306	No.		
	ii) Two way switched	39	No.		
	LIGHTING FITTINGS				
3.3.02	Light Fittings complete with all accessories and lamps as follows:				
	a) Type A	160	No.		
	b) Type B	5	No.		
	c) Type C	64	No.		
	d) Type S	39	No.		
	f) Type D	24	No.		
	g) Type Exit	14	No.		
	LIGHTING SWITCHES				
3.3.03	10A Ivory Switch Plates flush mounted on masonry wall as SCHNEIDER.				
	i) One Gang One Way as SCHNEIDER or approved equivalent.	11	No.		
	ii) Two Gang Two Way as SCHNEIDER or approved equivalent.	4	No.		
	LIGHTING CONTROL SYSTEM				
3.3.04	LED Dimmer as Described in the Particular Specification	10	No.		
3.3.05	Power Supply for Item 3.3.04 as Described in the Particular Specification	1	No.		
3.3.06	Configuration Server as Described in the Particular Specification.	1	No.		
3.3.07	4 Gang KNX Switch as HAGER or approved equivalent.	10	No.		
3.3.08	HG PVC Enclosure for Items 3.3.04 - 3.3.07 as SCHNEIDER or approved equivalent.	1	No.		
3.3.09	Provide for Cabling the KNX bus for Type A Fitting Control	1	Lot		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 3: AUDITORIUM

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
	POWER POINTS				
3.3.10	13A Ring Mains Socket Outlet Points wired in 3 x 2.5 mm ² SC PVC insulated CU cables drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding socket outlet plate.	20	No.		
3.3.11	Radial Single Phase Hosereel Pump Point wired in 3C 4.0 mm ² PVC/SWA/PVC CU cables drawn in 50 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding the isolator.	10	LM.		
3.3.12	Radial Three Phase Ventilation Equipment Point wired in 4C 25.0 mm ² PVC/SWA/PVC CU cable drawn in 25 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding isolator.	20	LM.		
3.3.13	Radial Single Phase Hosereel Pump Point wired in 3C 4.0 mm ² PVC/SWA/PVC CU cables drawn in 50 mm Ø HG PVC conduits/Trunking concealed in building fabric complete with all the necessary accessories excluding the isolator.	20	LM.		
	SOCKETS AND POWER SWITCHES				
3.3.14	13A Twin Switched Ivory Socket Outlet Plates as SCHNEIDER or approved equivalent.	20	No.		
3.3.15	20A Ivory DP Switch Plate with Neon Light as SCHNEIDER for Hand Drier.	1	No.		
3.3.16	20A 1 Phase Isolator as SCHNEIDER or approved equivalent.	2	No.		
3.3.17	100A 3 Phase Isolator as SCHNEIDER or approved equivalent.	20	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 3: AUDITORIUM

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i>				
	SUBMAINS				
3.3.18	Submains comprising 4C 10 mm ² PVC/SWA/PVC CU cable drawn in PVC HG Ducts and Riser Duct with all the necessary accessories from the LV Board to DB A.	40	LM.		
3.3.19	4-way 100A TPN DB surface mounted complete with 125 A TP integral isolator and lockable cover and all accessories excluding MCBs as SCHNEIDER or approved equivalent.	1	No.		
3.3.20	The following MCBs as Schneider or approved equivalent Type B.				
	i) 10A SP	5	No.		
	iii) 32A SP	3	No.		
	iv) Blanking Plates	4	No.		
	MECHANICAL SERVICES				
3.3.21	Submains comprising 4C 70 mm ² PVC/SWA/PVC CU cable drawn in PVC HG Ducts and Riser Duct with all the necessary accessories from the LV Board to DB MS.	40	LM.		
3.3.22	8-way 250A TPN DB MS surface mounted complete with 200 A TP integral isolator and lockable cover and all accessories excluding MCBs as SCHNEIDER or approved equivalent.	1	No.		
3.3.23	The following MCBs as Schneider or approved equivalent Type B.				
	i) 20A SP	2	No.		
	ii) 100A TP	2	No.		
	iii) Blanking Plates	16	No.		
	AUDIO VISUAL POINTS				
3.3.24	Audio Visual Points in concealed 25 mm Ø HG PVC conduit complete with all accessories and draw wire left inside.	40	No.		
Total Amount Carried Forward to Next Page					

BILL No. 3 SCHEDULE No. 3: AUDITORIUM

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	Brought Forward From Previous Page <i>Supply,install,test and commission as per BS 7671:2008 the following as described below:</i> FIRE DETECTION AND ALARM				
3.3.25	Smoke Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	60	No.		
3.3.26	Heat Detector Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the detector.	1	No.		
3.3.27	Electronic Sounder and Beacon Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	9	No.		
3.3.28	Call Point completely wired in wired in 2x1.5mm ² heat resistant screened cables drawn in 20mmØ concealed HG PVC conduits including all accessories but excluding the unit.	9	No.		
3.3.29	Addressable Resettable Call Unit incorporating integral short circuit isolator and reset key as Honeywell or approved equivalent.	9	No.		
3.3.30	Addressable Photoelectric Heat Detector with integral short circuit isolator as Honeywell or approved equivalent.	1	No.		
3.3.31	Addressable Photoelectric Smoke Detector with integral short circuit isolator as Honeywell or approved equivalent.	60	No.		
3.3.32	Addressable Indoor Wall Sounder with Strobe Light and built in short circuit isolator as Honeywell or approved equivalent.	9	No.		
Total Amount Carried Forward to Summary Page					

BILL No. 4 STATIONERY

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
	<i>Supply, Install, Test and Commission as per BS 7671:2008 the following as described below:</i>				
4.1.01	Toner cartridge Q5949A for HP medium duty laser jet printer	5	No.		
4.1.02	Electric Comb Binding Machine as Fellows Binder E	1	No.		
4.1.03	Photocopying papers size A4, 80g/cm ³ white - 500 sheets	40	Ream		
4.1.04	Letter head quality paper as classic or equal and approved - blue 80g/cm ³	10	Ream		
4.1.05	Tracing paper white 105/110 gms, 1000x175m long	10	Rolls		
4.1.06	Ammonia paper - blue 0.75 x 20m long as "Neodiazo" or approved equivalent.	10	Rolls		
4.1.07	Plotting paper- white 0.75 x 20m long	10	Rolls		
Total Amount Carried Forward to Summary Page					

BILL No. 5 ATTENDANCE

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
5.1.01	Allow for attendance to Audio Visual Works	1	Item		
5.1.02	Allow for attendance to Structured Cabling, CCTV & Access Control Works.	1	Item		
5.1.03	Allow for attendance to Mechanical Works	1	Item		
5.1.04	Allow for production of six sets size A1 of Working Electrical Drawings	1	Item		
5.1.05	Allow for production of three sets size A1 of 'As Installed' Electrical Drawings	1	Item		
5.1.06	Allow for production of three copies of Operation and Maintenance Manuals after System is Commissioned in soft and hard copy	1	Item		
Total Amount Carried Forward to Summary Page					

BILL No. 6: PROVISIONAL SUMS

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
6.1.01	Allow for a provisional sum of Ksh. 400,000 for CPD Training for Electrical Engineers	1	Item	400,000.00	400,000.00
6.1.02	Allow for V.A.T, profit and attendance on item 6.1.01 above%	1	Item		
6.1.03	Contingency Allow a Provisional Sum of Kenya Shillings Kshs. 2,000,000/- contingency to be used at the discretion of the Project Engineer	1	Item	2,000,000.00	2,000,000.00
6.1.04	PC Sum for KPLC Capital Costs	1	Item	500,000.00	500,000.00
Total Amount Carried Forward to Summary Page					

SCHEDULE OF LIGHT FITTINGS

Item	Description
	LIGHTING FITTINGS
	Light Fittings complete with all accessories and lamps as follows:
a)	Type E Standard Recessed 600 X 600mm Panel Light, 41W, 100Lm/W, 4000K LED, 50000 hrs Lamp Life, Steel Housing and Aluminum Rim, Polystyrene Diffuser with Integral Control Gear as PHILLIPS or Approved Equivalent .
b)	Type B IP 65 LED Weatherproof 1200mm Luminaire, 29W,117Lm/W, 4000K LED,50000 hrs Lamp Life, Steel Housing and Polycarbonate Optical Cover as PHILLIPS or Approved Equivalent .
c)	Type C 200mm dia. Circular Surface Ceiling LED Downlight 11W, 4000K, 115Lm/W, 50000 hrs Lamp Life, Plastic Housing and Polycarbonate Diffuser with Integral Control Gear as PHILLIPS or Approved Equivalent .
d)	Type D 97mm dia. Circular Recessed Ceiling LED Spotlight 8W, 4000K, 115Lm/W, 50000 hrs Lamp Life, Plastic Housing and Polycarbonate Diffuser with Integral Control Gear as PHILLIPS or Approved Equivalent .
e)	Type W Circular 11W, 4000K, 115Lm/W, 50000 hrs Lamp Life, Surface Ceiling Light with Plastic Housing and Polycarbonate Diffuser as PHILLIPS for Washrooms .
f)	Type Exit Sign for viewing up to 30m distance,maintained operation, 3W, 3 hours emergency duration with LED strip and ISO Exit legends As THORN or Approved Equivalent .
g)	Type S IP65 vandal resistant selfcontained emergency luminaire, die cast Aluminium base with BESA drill-out, 2 x conduit entries, resistant opal diffuser, as AG BULKHEAD or approved equivalent for Emergency Stairwells .
h)	Type M LED Mirror Strip Luminaire 8W, 4000K, 95Lm/W, 50000 hrs Lamp Life Complete with Diffuser as MASSIVE or Approved Equivalent .
i)	Type A 200mm dia. Circular Recessed Ceiling LED Downlight 22.3W, 4000K, 115Lm/W, 50000 hrs Lamp Life, Plastic Housing, INTEGRAL DIMMABLE DRIVER , and Polycarbonate Diffuser with Integral Control Gear as PHILLIPS or Approved Equivalent .

MAIN SUMMARY PAGE

ItemNo.	Description	Amount(KShs)
1.00	Bill No. 1 Preliminaries and General Conditions	
2.00	Bill No. 2 Power Supply & Distribution	
3.00	Bill No. 3 Schedule No. 1 Wing	
4.00	Bill No. 3 Schedule No. 2 Backstage	
5.00	Bill No. 3 Schedule No. 3 Auditorium	
6.00	Bill No. 4 Engineer's Stationery	
7.00	Bill No. 5 Attendance	
8.00	Bill No. 6 PC Sums	
	Total Amount for Electrical Installations	

AMOUNT IN WORDS

Kenya Shillings

.....

Bidder's Official Stamp

P.O. Box.....

Signature.....

PIN.....VAT.....

**TECHNICAL SCHEDULE
OF
ITEMS TO BE SUPPLIED**

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered non responsive.

NO.	DESCRIPTION	MAKE	MODEL NO.
1.	Type E		
2.	Type B		
3.	Type C		
4.	Type D		
5.	Type W		
6.	Type Exit		
7.	Type S		
8.	Type M		
9.	Type A		
10.	Switch Plate		
11.	Socket Outlet		
12.	Distribution Board		
13.	Call Unit		
14.	Wall Sounder		
15.	Smoke Detector		
16.	Heat Detector		
17.	Fire Panel		
18.	LED Dimmer		
19.	Power Supply Unit		
20.	Configuration Server		
21.	KNX Switch		

PROVISIONAL SUMS

[illegible]

GRAND SUMMARY

PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE				
GRAND SUMMARY				
ITEM	DESCRIPTION	Page No.	FOR TENDERER USE ONLY	FOR OFFICIAL USE ONLY
		PAGE	K.SHS.	K.SHS.
A	PARTICULAR PRELIMINARIES	PP/11		
B	GENERAL PRELIMINARIES	GP/10		
C	BUILDER'S WORK; LECTURE HALL	LH/20		
D	EXTERNAL WORKS	EW/4		
E	MECHANICAL WORKS	BOQ-47		
F	ELECTRICAL WORKS	ELEC - 40		
G	PROVISIONAL SUMS	PS/1		5,150,000.00
GRAND TOTAL CARRIED TO FORM OF TENDER (VAT INCLUSIVE)				
AMOUNT IN WORDS : KENYA SHILLINGS				
.....				
.....				
TENDERER'S NAME				
ADDRESS				
DATE				
TENDERER'S SIGNATURE				
WITNESS'S NAME.....				
ADDRESS				
DATE				
WITNESS SIGNATURE.....				
JOB NO: GS				

NOTES

General
This drawing is to be read in conjunction with engineers' drawings.
All dimensions are in mm unless otherwise specified.
Drawings are not to be scaled. Only figured dimensions to to be used. The contractor must check & verify all the dimensions before commencement of the work.

Construction
All slabs at ground level to be layed over 1000 gauge
polythene sheeting on 50mm thick murrum blinding,on well compacted hardcore.
All soils under slabs & around external foundation to be poised for the termites control.

Structural
All black cotton soil to be removed from below all building & paved surfaces.
All paved surfaces to be clear of black cotton soil to a distance of 500m outside the edge of the surface.
For all R.C works, refer to SE's details.
Foundation depths to be determined on site to the SE approval.
All walls less than 200mm thick to be reinforced with hoop iron at every alternate course.
All adjacent R.C work and masonry walls to be tied with strap irons at every course.

Mechanical
All plumbing & drainage work to comply with P.H specifications.
All surface ducts to be accessible from all floors.
S.V.P denotes soil vent pipe and to be provided at the head of the drainage.
Drains passing beneath buildings and driveways to be encased in 150mm concrete sorround.
All underground foul & waste drain pipes shall be of PVC, to comply with BS5255.
All inspection chambers covers and framing shall be cast iron to comply with BS.497 Table 2 Grade A.
The storm water drain pipes to comply with BS. 556.
Minimum slope in the drain pipes to be 1%
No chases for pipes will be allowed in the slabs.
Sleeves will be allowed with written approval from the SE
No cutting of concrete without express approval of the Architect or SE.
All testing of pipes must be coordinated with electrical engineer & any conflicts must be clarified before works begins.
P.V denotes permanent vents.

Electrical
All conduits must be laid before plastering.

Fire fighting
Provide a 1130 litres reserve tank with a booster pump
Dry risers
Provide 4x9kg litres water CO2 fire extingusher on every floor.

revision suffix
date of revision
initials
revision details

PROJECT
PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE

SITE PLAN

CLIENT MINISTRY / DEPARTMENT
ALUPE UNIVERSITY COLLEGE
P.O BOX 845-50400,
BUSIA.
Email: info@auc.ac.ke

PROJECT JOB NO.		DRG.NO.			
SCALE:	1:350	A		D	
		B		E	
		C		F	

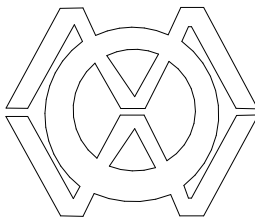
DATE	CLIENT SIGNATURE		
	NAME	SIGNATURE	DATE
DRAWN BY	W. a. KUMO		
PROJECT ARCH	W. a. KUMO		
TEAM LEADER			

ARCH. L.L. KIBISU
CHIEF ARCHITECT

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

ARCHITECTURAL DEPARTMENT

FOR THE GOVERNMENT OF THE REPUBLIC OF KENYA



General

Construction

Structural

Mechanical

Electrical

revision suffix

date of revision

initials

revision details

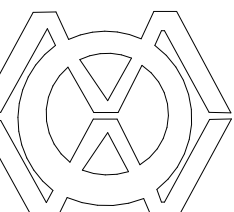
PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE

CLIENT MINISTRY / DEPARTMENT

PROJECT JOB NO.		DRG. NO.	
SCALE:	1:100	A	D
		B	E
		C	F

ARCH. L.L. KIBISU
CHIEF ARCHITECT

ARCHITECTURAL DEPARTMENT



General

Construction

All slabs at ground level to be laid over 1000 gauge polythene sheeting on 50mm thick murrum blinding, on well compacted hardcore.

All soils under slabs & around external foundation to be poised for the termites control.

Mechanical

All plumbing & drainage work to comply with P.H specifications.

All surface ducts to be accessible from all floors.

S.V.P denotes soil vent pipe and to be provided at the head of the drainage.

Drains passing beneath buildings and driveways to be encased in 150mm concrete surround.

All underground foul & waste drain pipes shall be of PVC. to comply with BS5255.

All inspection chambers covers and framing shall be cast iron to comply with BS.497 Table 2 Grade A.

The storm water drain pipes to comply with BS. 556.

Minimum slope in the drain pipes to be 1%

No chases for pipes will be allowed in the slabs.

Sleeves will be allowed with written approval from the SE

No cutting of concrete without express approval of the Architect or SE.

All testing of pipes must be coordinated with electrical engineer & any conflicts must be clarified before works begins.

P.V denotes permanent vents.

Fire fighting

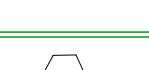
Provide a 1130 litres reserve tank with a booster pump Dry risers

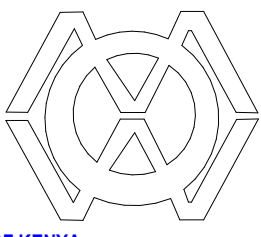
Provide 4x9kg litres water CO2 fire extinguisher on every floor.

[illegible]

FIRST FLOOR PLAN

PROJECT JOB NO.		DRG. NO.	
SCALE:	1:100	A	D
		B	E
		C	F

<p>ARCH. L.L. KIBISU CHIEF ARCHITECT</p>	
<p>MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING, URBAN DEVELOPMENT & PUBLIC WORKS.</p> <p>ARCHITECTURAL DEPARTMENT</p> <p>FOR THE GOVERNMENT OF THE REPUBLIC OF KENYA</p>	



NOTES

General
This drawing is to be read in conjunction with engineers' drawings.
All dimensions are in mm unless otherwise specified.
Drawings are not to be scaled. Only figured dimensions to to be used. The contractor must check & verify all the dimensions before commencement of the work.

Construction
All slabs at ground level to be layed over 1000 gauge polythene sheeting on 50mm thick murrum blinding, on well compacted hardcore.
All soils under slabs & around external foundation to be poised for the termiles control.

Structural
All black cotton soil to be removed from below all building & paved surfaces.
All paved surfaces to be clear of black cotton soil to a distance of 500m outside the edge of the surface.
For all R.C works, refer to SE's details.
Foundation depths to be determined on site to the SE approval.
All walls less than 200mm thick to be reinforced with hoop iron at every alternate course.
All adjacent R.C work and masonry walls to be tied with strap irons at every course.

Mechanical
All plumbing & drainage work to comply with P.H specifications.
All surface ducts to be accessible from all floors.
S.V.P denotes soil vent pipe and to be provided at the head of the drainage.
Drains passing beneath buildings and driveways to be encased in 150mm concrete sorround.
All underground foul & waste drain pipes shall be of PVC, to comply with BS5255.
All inspection chambers covers and framing shall be cast iron to comply with BS.497 Table 2 Grade A.
The storm water drain pipes to comply with BS. 556.
Minimum slope in the drain pipes to be 1%
No chases for pipes will be allowed in the slabs.
Sleeves will be allowed with written approval from the SE
No cutting of concrete without express approval of the Architect or SE.
All testing of pipes must be coordinated with electrical engineer & any conflicts must be clarified before works begins.
P.V denotes permanent vents.

Electrical
All conduits must be laid before plastering.

Fire fighting
Provide a 1130 litres reserve tank with a booster pump Dry risers
Provide 4x9kg litres water CO2 fire extingusher on every floor.

revision suffix
date of revision
initials
revision details

PROJECT
PROPOSED CONSTRUCTION OF LECTURE THEATRE AT ALUPE UNIVERSITY COLLEGE

SECTION

CLIENT MINISTRY / DEPARTMENT
ALUPE UNIVERSITY COLLEGE
P.O BOX 845-50400,
BUSIA.
Email: info@auc.ac.ke

PROJECT JOB NO.	DRG.NO.
SCALE: 1:100	A B C

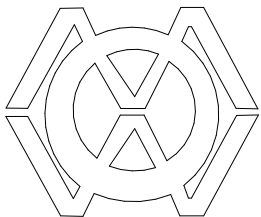
DATE	CLIENT SIGNATURE		
	NAME	SIGNATURE	DATE
DRAWN BY	W. a. KUMO		
PROJECT ARCH	W. a. KUMO		
TEAM LEADER			

ARCH. L.L. KIBISU
CHIEF ARCHITECT

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

ARCHITECTURAL DEPARTMENT

FOR THE GOVERNMENT OF THE REPUBLIC OF KENYA



ROOF NOTES

Metal roofing sheets on 30X30X4mm shs girder members on on100X75x4mm Rhs trusses and 610X2 MS plate all to S.E's details.
800mm eaves.
ROOF PITCH - 15 DEGREES
Cold water storage tanks to M.E.'s specs.
18mm gypsum ceiling to approval

150mm thick R.C. slab to S.E's details

200mm thick natural stone wall plastered and painted internally

400mm dia. decorative column to SE details

FOUNDATION NOTES

Approved flr. finish on C.S. screed ,
150mm thick R.C floor slab , B.R.C. wire mesh ,
1000 gauge polythene sheet and well compacted hardcore filling

