



ENGINEERS BOARD OF KENYA

THE SCALE OF FEES AND CONDITIONS OF ENGAGEMENT FOR CONSULTING ENGINEERING SERVICES IN KENYA

OCTOBER 2013

FOREWORD

Table of Contents

1.0	BASIS FOR REMUNERATION	11
1.1	Purpose of this Document.....	11
1.2	Selection of a Consulting Engineer and Scope of Work	11
1.3	Quality Management and Scope	12
1.4	Categories of Service	12
1.4.1	Items Specific to Structural, Mechanical and Electrical Cost of Construction..	55
1.5	Methods of Remuneration	15
2.0	DEFINITIONS.....	17
3.0	OBLIGATIONS OF THE CONSULTING ENGINEER	18
3.1	Performance of Services.....	18
3.2	Skill and Care	18
3.3	Assignment.....	18
3.4	Acting as Lead Consultant	18
3.5	Working with Specialists Sub-Consultants.....	18
3.6	Design by Contractors or Sub-Contractors	18
3.8	Limit of Authority	19
3.10	Assurance of Professional Design and Field Review	19
4.0	OBLIGATIONS OF THE CLIENT	20
4.1	Payment for Services	20
4.2	Provision of Information	20
4.3	Providing Assistance	20
4.4	Making Decisions.....	20
4.5	Assignment.....	20
4.6	Appointing Client’s Representative	20
4.7	Appointing Contractors.....	20
5.0	SITE STAFF	22
6.0	COMMENCEMENT, TERMINATION, POSTPONEMENT, DISRUPTION AND DELAY	24
6.1	Duration of Appointment	24

6.2	Termination by the Client	24
6.3	Postponement and abandonment by the client	24
6.4	Termination by the Client following Breach of this Agreement by the Consulting Engineer	24
6.5	Suspension or termination by the Consulting Engineer	25
6.6	Insolvency	25
6.7	Accrued Rights	25
6.8	Assignment Of The Contract	25
7.0	PAYMENTS	27
7.1	Alternative Methods of Payment	27
7.1.1	Time Charges	27
7.1.2	Lump Sum Fees	27
7.1.3	Percentage Fees	27
7.2	Payment for Additional Services	27
7.3	Payment for the Use of Special Equipment.....	28
7.4	Payment for Site Supervision	28
7.5	Reimbursable Expenses.....	28
7.6	Payment for Variation or Disruption of Consulting Engineer’s Work	29
7.7	Payment Following Termination Or Suspension By The Client	30
7.8	Payment Following Termination By The Consulting Engineer	31
7.9	Payments For Bills Of Quantities.....	31
7.10	Contested Invoices	32
7.11	Time for Payment	32
7.12	Re-Use of Plans and Specifications.....	32
7.13	Alternative Designs	32
7.14	Disbursements	33
7.15	Taxes	33
8.0	OWNERSHIP OF DOCUMENTS AND COPYRIGHT.....	34
8.2	Publication by the Consulting Engineer.....	34
9.0	INSURANCE FOR EQUIPMENT, LIABILITY AND PROFESSIONAL INDEMNITY.....	35

9.1	Insurance	35
9.2	Liability	35
9.3	Professional Indemnity Insurance	35
10.0	DISPUTES AND DIFFERENCES	36
10.2	Adjudication	36
10.3	Arbitration	37
10.4	Subsequent Proceedings	37
11.0	NOTICES	38
	APPENDIX A: SERVICES OF THE CONSULTING ENGINEER.....	39
	APPENDIX B: EBK SCALE OF FEES FOR CONSULTING ENGINEERS	44
	APPENDIX C: REIMBURSABLE EXPENSES.....	52

LIST OF TABLES

TABLE 1: CATEGORIES OF SERVICE OFFERED BY CONSULTING ENGINEERS..... 14

TABLE 2: RATES FOR PAYMENT ON TIME-BASIS..... 45

TABLE 3: PERCENTAGE CHARGES ON THE BASIS OF COST FOR CIVIL, STRUCTURAL, ELECTRICAL, MECHANICAL, ENGINEERING SYSTEMS AND ICT 48

TABLE 4: PERCENTAGE CHARGES ON THE BASIS OF COST OF PROJECT FOR ENGINEERING FIELDS IN BUILDINGS 49

TABLE 5: STAGES OF PAYMENT OF FEES 51

TABLE 6: PHOTOCOPYING AND BINDING..... 52

TABLE 7: PLOTTING OF DRAWINGS 53

TABLE 8: PRINTING OF DRAWINGS 53

MEMORANDUM OF AGREEMENT

BETWEEN CLIENT AND CONSULTING ENGINEER

FOR

PROFESSIONAL ENGINEERING SERVICES

MEMORANDUM OF AGREEMENT BETWEEN CLIENT AND CONSULTING ENGINEER FOR PROFESSIONAL ENGINEERING SERVICES

CONTRACT OF AGREEMENT made this day of 20.....

BETWEEN

..... of
..... (hereinafter called "The Client") of the one part

AND

..... of
..... hereinafter called "The Consulting Engineer") of the other part

WHEREAS the Client has considered and approved the appointment of the Consulting Engineer to provide professional services in connection with

.....
.....
..... (referred to in this Agreement as the Project or Works)

NOW IT IS HEREBY AGREED as follows:

1. The Client agrees to engage the Consulting Engineer to provide the professional services as described in this Agreement and the Consulting Engineer agrees to provide such Services.
2. This Agreement comprises this Form of Agreement together with the following documents which shall be deemed to form and be read and construed as part of this Agreement.
 - (1) Conditions of Engagement for Professional Engineering Services
 - (2) Appendix A: Services of the Consulting Engineer
 - (3) Appendix B: Remuneration and Payment of the Consulting Engineer
 - (4) Appendix C: Reimbursable expenses
3. In consideration of the payment to be made by the Client to the Consulting Engineer as hereinafter mentioned the Consulting Engineer hereby agrees to perform the Services in conformity with the provisions of this Agreement.
4. The Client hereby agrees to pay a fee of KSHS.
.....(KSHS) and the reimbursable expenses of KSHS

..... (KSHS) to the Consulting Engineer in consideration of the performance of the Services under the provisions of this Agreement at the times and in the manner prescribed by the Agreement, Appendix B Clause 2.

- 5. The additional duties to be carried out in accordance with Clause 2.3 of the said Conditions of Engagement shall be

.....
.....
.....
.....

IN WITNESS whereof the parties hereto have caused this Agreement to be executed the day, month and year first before written in accordance with the laws of the Republic of Kenya.

FOR AND ON BEHALF OF THE CLIENT

Signature _____

Name _____

Designation _____

In the presence of

Name _____

Designation _____

Signature _____

Address _____

FOR AND ON BEHALF OF THE CONSULTING ENGINEER

Signature _____

Name

Designation

In the presence of

Name

Designation

Signature

Address

1.0 BASIS FOR REMUNERATION

1.1 Purpose of this Document

This document is a guide to be used in establishing professional fees to be charged by consulting engineers for projects completed in Kenya. Prepared jointly by the Engineers Board of Kenya, it is available from the headquarters and the government press. The Engineers Board of Kenya may be contacted for interpretation.

Professional engineering fees must reflect the value of services received by the client and not merely the consulting engineer's cost of providing services. The fees listed are appropriate compensation for the professional work required to meet the necessary standards of engineering care and quality, and to sustain the profession through skills training and research and development. Since these fees are a matter of contract between the consulting engineer and the client, both parties are free to develop arrangements suited to specific situations within the parameters presented in this document, bearing in mind the need for appropriate and adequate compensation as outlined in the Institution of Engineers of Kenya Code of Ethics.

The various methods of determining fees for services are outlined in Appendix B: EBK Scale of Fees for Consulting Engineers. The method chosen is a matter of agreement between the client and the consulting engineer.

A written agreement is recommended (See the MEMORANDUM OF AGREEMENT BETWEEN CLIENT AND CONSULTING ENGINEER FOR PROFESSIONAL ENGINEERING SERVICES).

1.2 Selection of a Consulting Engineer and Scope of Work

Since the success of any project depends on the teamwork of the client, consultants and contractor, the selection of the team is one of the most important decisions a client can make. A project succeeds by combining a knowledgeable client with a knowledgeable team in a well-defined project.

When this happens, clients maximize the possibility of meeting their goals and save time and money.

Place quality first: The consulting engineer is best selected for the total value the engineer can bring to a project. Engineering has enormous leverage on the downstream costs of construction, operation and maintenance. "Cutting corners" on engineering at the start of a project by requiring a minimum level of service is unwise.

Prepare and discuss the Terms of Reference: Terms of Reference define the client's needs, desires and expectations. They must be clear and understood by both parties before evaluation and selection can proceed. Revisions to the Terms of

Reference may add to the capital and engineering costs and should be carefully considered.

Prequalify and prepare a shortlist: The preparation of proposals to provide consulting services is expensive and time-consuming for the engineer. If a large number of consultants are invited to submit detailed proposals for a project, the collective expense can become greater than the value of the assignment. Furthermore, the client's review process also becomes more complicated and time consuming.

Sound agreements prevent problems: The agreement between client and consultant is governed by the size, complexity, duration and other aspects of the assignment. A simple project may require only a simple agreement while a large project would usually need documentation reviewed by legal counsel.

1.3 Quality Management and Scope

Where professional engineers are required to perform third party concept reviews of their designs and to carry out field reviews of their projects during construction, the tasks necessarily become part of the consulting engineer's scope of work and must be provided for in fee arrangements.

1.4 Categories of Service

Table 1 provides a checklist of typical services offered by consulting engineers.

It indicates basic project services normally provided and additional ones for which the engineer is often retained. The nature of the individual project will determine the scope of the services required and the necessary form of agreement.

ITEM	CATEGORY OF SERVICE	DESCRIPTION OF SERVICE
1	Advisory Service	<ul style="list-style-type: none"> • Preparation or review of engineering program • Expert testimony • Appraisals, valuations, studies, reports • Feasibility analysis • Accident investigations • Preliminary concept sketch • Preliminary specification notes • Cost of work estimate • Litigation/Claims/ Insurance assistance • Detailed analysis of owning and operating costs • Special grants and loans • Translation and interpretation • Project management scheduling assistance • Assistance in preparing purchase enquiries • Value engineering
2	Preliminary Design Service	<p>Building Sector</p> <ul style="list-style-type: none"> • Scope of project

		<ul style="list-style-type: none"> • Statement of probable cost • Review of design concepts • Preliminary design, sketches, schematics and specification notes • Review of alternative design approaches <p>Infrastructure & Transportation Sector</p> <ul style="list-style-type: none"> • Scope of project • Statement of probable cost • Preliminary design reports, alternative conceptual proposals, sketches, schematics, specification notes <p>Both Sectors</p> <ul style="list-style-type: none"> • Scheduling • Documents for financing • Investigative surveys, geotechnical • Permits and licences • Environmental assessments • Revision of existing designs • Life cycle costing • Detailed cost estimates
3	Final Design Services and Contract Documents	<ul style="list-style-type: none"> • Detailed design • Working drawings • Specifications and tender documents • Statement of probable cost • Detailed cost estimates • Reinforcing bar schedules • Design and documentation not in contract • Provision for owner supplied equipment not in contract • Demolition documents • Tenant improvements • Fast-track construction or sequential tendering • Preparation of shop drawings • Environmental design • Alternative conceptual proposals
4	Tender Call Services	<ul style="list-style-type: none"> • Preparing tender call documents • Reviewing tenders submitted and advising • Prequalification of contractors • Coordinating other consultants' documents • Non-tender construction contracts • Fast-track construction or sequential tendering • Bills, materials, detailed cost estimates • Tender advertisement • Alternative conceptual proposals
5	Construction and Contract Administration Services	<ul style="list-style-type: none"> • Assisting in the preparation of contract • Review of shop drawings • Field review

		<ul style="list-style-type: none"> • Progress review • Quality assurance • Testing monitoring • Change order costing • Document interpretation • Payment recommendation • Substantial performance review • Advising client and contractor of continuing or newly observed defects or deficiencies • Year end warranty review • System start-up and documentation • Post-warranty period follow-up • Fast-track construction or sequential tendering • Maintenance manuals and drawings • Certification and testing of systems • Commissioning/training • Provision of resident construction engineering services • Environmental monitoring • Record drawings
6	Project Management Services	<ul style="list-style-type: none"> • Consultant selection • Conceptual studies • Economic feasibility • Planning/scheduling/ monitoring and controlling • Estimating/budgeting and cost control • Arranging financing • Procurement • Risk management • Commissioning • Quality assurance
7	Construction Management Services	<ul style="list-style-type: none"> • Contract strategy, administration and expediting • Construction logistics, planning, scheduling and manpower forecasts • Labour relations, safety • Field office management, temporary facilities • Materials receiving and warehousing • Progress monitoring, trending and reporting • Cost performance monitoring, trending and claims processing

TABLE 1: CATEGORIES OF SERVICE OFFERED BY CONSULTING ENGINEERS

1.5 Methods of Remuneration

Fees are based on one of four methods of calculation:

- Method 1 Time Charges
- Method 2 Fixed Contract/Lump Sum Fees
- Method 3 Percentage Fees

**CONDITIONS OF ENGAGEMENT
FOR
PROFESSIONAL ENGINEERING SERVICES**

2.0 DEFINITIONS

In construing this Agreement the following expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

“Client”	means the person, firm or organization named in the Memorandum of Agreement, who has engaged the services of the Consulting Engineer.
“Consulting Engineer”	means the person or firm named in the Memorandum of Agreement and shall include any other person or persons taken into partnership by such person or firm during the currency of this Agreement and the surviving member or members of any such partnership.
“Project”	means the project with which the Client is proceeding and of which the Works form a part.
“Works”	means the Works in connection with which the Client has engaged the Consulting Engineer to perform professional services.
“Services”	means the professional services performed by the Consulting Engineer in respect of the Project or Works and shall comprise Normal Services and Additional Services so prescribed in Appendix A.
“Contractor”	means any person or persons, firm or company under contract to the Client to perform work and/or supply goods in connection with the Works
“Sub-Contractor”	means a person or firm appointed by or on behalf of the Contractor to execute part of the project or of the Works or to manufacture or supply material for incorporation therein.
“Other Consultants”	means Consultants other than the Consulting Engineer appointed by the Client to perform professional services in relation to the Project or Works.

Words importing the singular include the plural and vice versa where the context requires.

3.0 OBLIGATIONS OF THE CONSULTING ENGINEER

3.1 Performance of Services

The Consulting Engineer shall perform the Normal Services, as so prescribed in Appendix A, and such Additional Services so prescribed in Appendix A and as may be requested or consented to by the Client.

3.2 Skill and Care

The Consulting Engineer shall exercise reasonable skill, care and diligence in the performance of the Services.

3.3 Assignment

The Consulting Engineer shall not, without the written consent of the Client which consent shall not unreasonably be delayed or withheld, assign or transfer any benefit or obligation under this Agreement.

3.4 Acting as Lead Consultant

The Consulting Engineer shall if so indicated by the Client prior to the execution of this Agreement act as the Lead Consultant, in which capacity he shall coordinate and integrate the services of such Other Consultants as the Client may appoint. The Consulting Engineer will not be responsible for the detailed designs of any Other Consultant or liable for defects in or omissions from them.

3.5 Working with Specialists Sub-Consultants

The Consulting Engineer may recommend to the Client that the Consulting Engineer sub-lets to a specialist sub-consultant the performance of any of the Services.

The Client shall not unreasonably withhold consent to such recommendation and the Consulting Engineer shall integrate such sub-consultant's services with his own. The Consulting Engineer shall be responsible for the performance and the payment of any sub-consultant.

3.6 Design by Contractors or Sub-Contractors

The Consulting Engineer may recommend that specialist suppliers and/or contractors should design and execute certain part or parts of the Works in which circumstances the Consulting Engineer shall co-ordinate the design of such part or parts with the overall design of the Works but he shall be relieved of all responsibility for the design, manufacture, installation and performance of any such part or parts of the Works. Where any persons are engaged in accordance with Clause 2.5, the Consulting Engineer shall be under no liability for any negligence,

default or omission of such persons. The client shall not unreasonably withhold consent to such recommendation.

If the Consulting Engineer shall be required to incorporate proposals by others in his scheme then he shall not be responsible for the design or performance of the proposals designed by others.

3.7 Appointing a Project Leader

The Consulting Engineer shall designate his Project Leader approved by the Client who shall be deemed to have authority to make decisions on behalf of the Consulting Engineer under this Agreement. The Project Leader shall not be replaced without the consent of the Client, which consent shall not unreasonably be delayed or withheld.

3.8 Limit of Authority

The Consulting Engineer shall not without the further approval of the Client alter the design once approved by the Client.

Save in the event of any emergency, the Consulting Engineer shall not without the approval of the Client issue instructions to any Contractor the effect of which would be to alter any design already approved by the Client or to incur additional costs to the Client beyond whatever limits may have been agreed for such additional costs.

3.9 Bills Of Quantities

3.9.1 The Consulting Engineer shall advise the Client on the need for preparing Bills of Quantities in respect of the Works before invitation of tenders thereof.

3.9.2 In such circumstances, the Consulting Engineer shall:

- (a) Prepare detailed Bills of Quantities for the Works if the design of the project is sufficiently advanced to enable him to do so, or
- (b) Prepare any Bills of Approximate Quantities for the Works if the design of the Project is not sufficiently advanced to enable him to prepare detailed Bills of Quantities.
- (c) Prepare priced bills of quantities for accurate cost estimates.
- (d) Execute any other quantity surveying works as necessary.

3.9.3 In any case in which the Consulting Engineer has prepared Bills of Approximate Quantities, he shall subsequently correct the quantities and re-price the Bills in consultation with the contractor or sub-contractor.

3.10 Assurance of Professional Design and Field Review

Consulting building engineers are required to provide professional design and field review stipulated by the various county by-laws. The consulting engineer shall submit the necessary letters for the requirements of assurance of professional design and field review as part of basic services.

4.0 OBLIGATIONS OF THE CLIENT

4.1 Payment for Services

The Client shall pay the Consulting Engineer fees and disbursements for the performance of the Services as set out in Clause 6 of these Conditions.

4.2 Provision of Information

The Client shall supply to the Consulting Engineer, without charge and in such time so as not to delay or disrupt the performance by the Consulting Engineer of the Services, all necessary and relevant data and information (including details of the services to be performed by any Other Consultants) in the possession of the Client, his agents, servants, Other Consultants or Contractors.

4.3 Providing Assistance

The Client shall give, and shall ensure that his agents, servants, Other Consultants and Contractors give, such assistance as shall reasonably be required by the Consulting Engineer in the performance of the Services.

4.4 Making Decisions

The Client shall ensure that his decisions, instructions, consents or approvals on or to all matters properly referred to him shall be given in such reasonable time so as not to delay or disrupt the performance of the Services by the Consulting Engineer.

4.5 Assignment

The Client shall not, without the written consent of the Consulting Engineer which consent shall not unreasonably be delayed or withheld, assign or transfer any benefit or obligation under this Agreement.

4.6 Appointing Client's Representative

The Client may designate a Representative who shall be deemed to have authority to make decisions on behalf of the Client under this Agreement. The Client shall notify the Consulting Engineer immediately if the Client's Representative is replaced.

4.7 Appointing Contractors

The Client shall appoint Contractors to execute and/or to manage the execution of the Project and the Works. The Client shall require that the Contractors execute the Project and the Works in accordance with the terms of the relevant contracts.

Neither the provision of Site Staff nor periodic visits by the Consulting Engineer or his staff to the site shall in any way diminish the responsibilities of the Contractors

or any Sub-Contractors for executing the Project and the Works in compliance with the relevant contract documents and any instructions issued by the Consulting Engineer.

5.0 SITE STAFF

- 5.1 If in the opinion of the Consulting Engineer the execution of the Project or the Works including any investigations warrants full time or part time Site Staff to be deployed at any stage, the Client shall not unreasonably withhold consent to the employment and/or deployment of such suitably qualified technical and clerical Site Staff as the Consulting Engineer shall consider necessary.
- 5.2 The Client and the Consulting Engineer shall discuss, agree and confirm in writing in advance of such deployment, the number and levels of staff to be deployed to site, the duration of such deployments, the frequency of occasional visits and the duties to be performed by Site Staff.
- 5.3 Site Staff shall be employed either by the Consulting Engineer or by the Client directly.
- 5.4 The terms of service of all Site Staff if employed by the Consulting Engineer shall be subject to the approval of the Client, which approval shall not unreasonably be delayed or withheld.
- 5.5 The Client shall ensure that the contracts of employment of Site Staff employed by the Client empower the Consulting Engineer to issue instructions to such staff in relation to the Project or the Works and shall stipulate that staff so employed shall in no circumstances take or act upon instructions in connection with the Project or the Works other than those given by the Consulting Engineer.
- 5.6 Where duties are performed by Site Staff employed other than by the Consulting Engineer, the Consulting Engineer shall not be responsible for any failure on the part of such staff to properly comply with any instructions given by the Consulting Engineer.
- 5.7 **Facilities and Arrangements for Site Staff**

The Client shall be responsible for the cost and provision of such local office accommodation, furniture, telephones and facsimile apparatus and other office equipment, protective clothing and transport as shall reasonably be required for the use of Site Staff and for the reasonable running costs of such necessary local office accommodation and other facilities, including those of stationery, telephone and facsimile charges, and postage.

Unless agreed between the Client and the Consulting Engineer that the Client shall arrange for such facilities, the Consulting Engineer shall arrange, whether through Contractors or otherwise, for the provision of such local office accommodation and other facilities.
- 5.8 Where a clerk of works nominated by the client or his representative is charged with the supervision of the Works on site, in respect of the engineer Works, the Client shall ensure that such clerk of works shall take instructions solely from the Consulting Engineer, who shall inform the client or his representative of all such instructions,

5.9 Where any supervision including duties as listed under Clause 1.4 of appendix A is performed other than by staff appointed by the Consulting Engineer as per Clause 4.8 above, the Consulting Engineer shall not be responsible for any failure on the part of such staff properly to comply with any instructions given by the Consulting Engineer.

6.0 COMMENCEMENT, TERMINATION, POSTPONEMENT, DISRUPTION AND DELAY

6.1 Duration of Appointment

Notwithstanding the date stated in the Form of Agreement, the effective date of the appointment of the Consulting Engineer shall be the date upon which the Form of Agreement was executed by the parties or the date when the Consulting Engineer shall have first commenced performance of the Services, whichever is the earlier.

Unless terminated, the appointment of the Consulting Engineer shall be concluded when the Consulting Engineer has performed the Services required under this Agreement.

6.2 Termination by the Client

The Client may terminate the appointment of the Consulting Engineer at any time by giving thirty (30) days Notice in respect of all or any part of the Services.

6.3 Postponement and abandonment by the client

The Client may at any time by Notice require the Consulting Engineer to postpone the performance of all or any part of the Services. This may result from the decision of the client to postpone or abandon all or any part of the works.

On Notice of postponement of all or any part of the Services the Consulting Engineer shall cease such postponed or abandoned Services in an orderly and economical manner compatible with a possible order to restart.

If the postponement of the performance of all or any part of the Services exceeds twelve months in aggregate the Consulting Engineer may by giving thirty (30) days Notice treat the Project or the Works or that part of the Project or the Works as having been abandoned and the appointment of the Consulting Engineer in respect of all or any part of the Services affected shall be automatically terminated.

6.4 Termination by the Client following Breach of this Agreement by the Consulting Engineer

In the event of a breach of this Agreement by the Consulting Engineer the Client may give thirty (30) days Notice of his intention to terminate the appointment of the Consulting Engineer setting out the acts or omissions of the Consulting Engineer relied upon as evidence of such breach. If the Consulting Engineer does not, to the reasonable satisfaction of the Client, take expeditious steps to repair the breach during the notice period the Client may forthwith on the expiry of the notice period determine the appointment of the Consulting Engineer.

6.5 Suspension or termination by the Consulting Engineer

Upon the occurrence of any circumstance beyond the control of the Consulting Engineer which is such as to prevent or significantly impede the performance by the Consulting Engineer of the Services under this Agreement, the Consulting Engineer may without prejudice to any other remedy and upon not less than four weeks Notice suspend for a period of up to twenty-six weeks the performance of the Services under this Agreement in respect of all or such part or parts of the Project or the Works as are affected and at the expiry of the said period of suspension either continue with the performance of the Services under this Agreement or if he is still prevented from performing such Services for reasons beyond his control determine his appointment forthwith by a further Notice of four weeks in respect of all or any part of the Services affected.

In the event of a breach of this Agreement by the Client the Consulting Engineer may give four weeks Notice of his intention to determine the appointment of the Consulting Engineer setting out the acts or omissions of the Client relied upon as evidence of such breach. If the Client does not, to the reasonable satisfaction of the Consulting Engineer, take expeditious steps to repair the breach during the notice period the Consulting Engineer may forthwith on the expiry of the notice period determine the appointment of the Consulting Engineer by a further two weeks Notice.

Notwithstanding the foregoing, in the event of the failure of the Client to make any payment properly due to the Consulting Engineer in accordance with the provisions of Clause 6 of these Conditions, the Consulting Engineer may, upon not less than four weeks Notice, determine his appointment.

6.6 Insolvency

The appointment of the Consulting Engineer may be terminated in the event of the Insolvency of either party. Notice of termination must be given to the party which is insolvent by the other party.

6.7 Accrued Rights

Termination of the Consulting Engineer's appointment under this Agreement shall not prejudice or affect the accrued rights or claims of either party to this Agreement.

6.8 Assignment Of The Contract

The Consulting Engineer shall not, without the prior written consent of the Client, assign the Contract or any part thereof, or any benefit or interest there under, except in the following Cases:-

- (a) By a charge in favour of the Consulting Engineer's bankers of any monies due or to become due under the Contract; or

- (b)** By assignment to the Consulting Engineer's insurers of his right to obtain relief against any other person liable in cases where the insurers have discharged the Consulting Engineer's loss or liability

7.0 PAYMENTS

7.1 Alternative Methods of Payment

In respect of Normal Services provided by the Consulting Engineer under Clause 2.1 of these Conditions, the Client shall pay the Consulting Engineer according to one or more of the following methods as specified in Appendix B.

- (a) Time based fees
- (b) Lump Sum fees
- (c) Ad-valorem (percentage) fees

7.1.1 Time Charges

When the Project cost cannot be estimated in advance, the Client shall remunerate the Consulting Engineer on the basis of time charge for staff actually employed on the Project. Unless otherwise agreed between the Client and Consulting Engineer the applicable rates are those given in the scale of charges set by the Engineers Board of Kenya

7.1.2 Fixed Contract/Lump Sum Fees

The sum payable by the Client to the Consulting Engineer shall be the Lump Sum to be decided and confirmed in advance by negotiation or tender between the two parties, depending on the nature of the Project. Lump Sums may be broken down into components applicable to particular duties or stages of work.

7.1.3 Percentage Fees

The fees payable by the Client to the Consulting Engineer shall be calculated as agreed percentages of the cost of the Project or cost of the Works and the amount payable, therefore, shall vary with changes in the construction cost. Unless otherwise agreed between the Client and Consulting Engineer, the standardized Percentage Fee rates given in the scale of charges set by the Engineers Board of Kenya shall apply.

7.2 Payment for Additional Services

In respect of Additional Services provided by the Consulting Engineer under Clause 2.1 of these Conditions, the Client shall pay the Consulting Engineer on the basis of time charges as set out in Clause 6.1.1 of these Conditions or as otherwise agreed between the Client and Consulting Engineer.

7.3 Payment for the Use of Special Equipment

Where the Client has agreed to pay the Consulting Engineer for his Services and the Consulting Engineer decides to use special equipment in carrying out any additional services or is expressly required by the Client to use special equipment in the carrying out of his Services, the Client shall, unless otherwise agreed between the Client and the Consulting Engineer, pay the Consulting Engineer:-

- a) for the time spent in connection with the use of special equipment, including the development and writing of programmes and the operation of the equipment in trial and final runs, in accordance with scale of charges set by the Engineers Board of Kenya, or as otherwise agreed between the Client and the Consulting Engineer, and
- b) a reasonable charge for the use of equipment, which charge shall be agreed between the Client and the Consulting Engineer before the work is put in hand.

7.4 Payment for Site Supervision

In addition to any other payment to be made by the Client to the Consulting Engineer under this Agreement the Client shall pay the Consulting Engineer for all Site Staff employed by the Consulting Engineer pursuant to Clause 4 of these Conditions.

Unless otherwise agreed, payment for Site Staff shall be on a time basis and at the rate or rates for technical staff seconded to site in accordance with the scale of charges set by the Engineers Board of Kenya. Where Site Staff are employed on site on a part time basis or full time for a period of less than nine weeks' duration, the rates for office based technical staff given in the scale of charges set by the Engineers Board of Kenya shall apply.

Notwithstanding the foregoing, the Client and the Consulting Engineer may agree upon inclusive monthly or other rates to be paid by the Client to the Consulting Engineer for each member of site staff employed by the Consulting Engineer.

7.5 Reimbursable Expenses

7.5.1 The Client shall in all cases reimburse the Consulting Engineer in respect of all the Consulting Engineer's disbursements properly made in connection with:-

- a) Printing, reproduction and purchase of all documents, drawings, maps, records and photographs.
- b) Communication (fax, telephone calls, e-mails, etc)
- c) Postage and similar delivery charges
- d) Traveling, hotel expenses and other similar disbursements.
- e) Advertising for tenders and site staff.
- f) Site meetings, visits and inspections.

7.5.2 The Client, by agreement with the Consulting Engineer and in satisfaction of his liability to the Consulting Engineer in respect of these disbursements, may make to the Consulting Engineer a lump sum payment or as tabulated in appendix C.

7.6 Payment for Variation or Disruption of Consulting Engineer's Work

7.6.1 If the Consulting Engineer has to carry out additional work and/or suffers disruption in the performance of the Services because the Project or Works or Brief is or are varied by the Client, or because of any delay by the Client in fulfilling his obligations under Clause 3.2, 3.3 or 3.4 of these Conditions, or in taking any other step necessary for the execution of the Project or the Works, or because the Consulting Engineer is delayed by others (or by particular events which were not reasonably foreseeable), or because the Project or the Works is damaged or destroyed, or for other reasons beyond the control of the Consulting Engineer, the Client shall make an additional payment to the Consulting Engineer in respect of the additional work carried out and additional resources employed (unless and to the extent that the additional work has been occasioned by the failure of the Consulting Engineer to exercise reasonable skill, care and diligence) and/or the disruption suffered. Unless otherwise agreed between the Client and Consulting Engineer, this additional payment shall be on the basis of time based fees in accordance with the scale of charges set by the Engineers Board of Kenya.

The Consulting Engineer shall advise the Client when he becomes aware that any such additional work will be required and shall, if so requested by the Client, give an initial estimate of the additional payment likely to be incurred. Where the Client requests that payment for such additional work is to be in the form of lump sums, these lump sums should be agreed by the parties prior to the additional work being commenced.

For the avoidance of doubt, it is hereby agreed that if the Consulting Engineer carries out any work which subsequently becomes nugatory, the Client shall (unless otherwise agreed) pay the Consulting Engineer therefore on the basis of time based fees in accordance with the scale of charges set by the Engineers Board of Kenya.

7.6.2 Where in the Consulting Engineer's opinion the Client's instruction necessitates a fundamental redesign of the part or parts of the Works affected by the instruction such that designs, specifications, drawings and other documents prepared by the Consulting Engineer cannot be modified or revised to take account thereof or where the modification or revision instructed by the Client results in a reduction in the cost of the part or parts of the Works affected thereby as contained in the Consulting Engineer's most recent estimate by 10% or more, then such part or parts shall be deemed to have been abandoned and the Consulting Engineer shall be paid therefore in accordance with Clause 6.1 of these Conditions and this payment shall also include any appropriate reimbursements in accordance with Clause 6.5 of these Conditions.

7.6.3 The Consulting Engineer shall carry out such further work and shall produce such further designs, specifications, drawings and other documents as may be necessary

to comply with the Client's instructions and the Consulting Engineer shall be paid therefore in accordance with the Provisions of this Agreement.

- 7.6.4 Should there be a need to redesign part or parts of the project or Works due to a fault or negligence of the Consulting Engineer, he shall perform the extra services to remedy the fault at his own expense.

7.7 Payment Following Termination Or Suspension By The Client

- 7.7.1 Upon a termination-or suspension by the Client in pursuance of Clause 5.2 and 5.3, the Client shall pay to the Consulting Engineer the sum specified in (a), (b) and (c) below less the amount of payments previously made to the Consulting Engineer under the terms of this Agreement.

(a) A fair and reasonable proportion of the sum which would have been payable to the Consulting Engineer under Clause 6 if no such termination or suspension has taken place. In the assessment of such proportion, the services carried out by the Consulting Engineer up to date of termination or suspension and in pursuance with Clauses 5.2 and 5.3 shall be compared with reasonable assessment of the services which the Consulting Engineer would have carried out but for the termination or suspension. In any case in which it is necessary to assess the payments to be made to the Consulting Engineer in accordance with this sub-clause by reference to the cost of the Works, then to the extent that such cost is not known the assessment shall be made upon the basis of the Consulting Engineer's best estimates of cost.

(b) Amounts due to the Consulting Engineer under any other clauses of this Agreement

(c) A disruption charge equal to one-sixth of the difference between the sum of which would have been payable to the Consulting Engineer under Clause 6 but for the termination or suspension, and the sum payable under (a).

- 7.7.2 Upon a termination or suspension by the Client in pursuance of Clauses 5.2 and 5.3, the Client shall pay to the Consulting Engineer the sums specified in (a) and (b) below.

(a) A fair and reasonable proportion of the sum which would have been payable to the Consulting Engineer under Clause 6 in respect of the services affected if no such termination 'or suspension had taken place. The proportion shall be calculated in accordance with the provisions of Clause 6.7.1 (a): and

(b) A disruption charge, to be calculated in accordance with the provision of Clauses

- 7.7.3 In any case in which the Client has required the Consulting Engineer to suspend the carrying out of the Consulting Engineer's duties in pursuance of Clauses 5.2 or 5.3 hereof, the Client may, at any time within the period of 12 months from the date of the Client's notice, require the Consulting Engineer in writing to resume the performance of such duties. In such event:

(a) the Consulting Engineer shall within a reasonable time of receipt by him of the Client's said requirement in writing resume the performance of his duties in accordance with this Agreement, the payment made under Clause 6.7.1(a) or 6.7.1(b) as the case may be ranking as payment on account towards the total sum payable to the Consulting Engineer under Clause 6 but,

(b) notwithstanding such resumption, the Consulting Engineer shall be entitled to retain or receive as an additional payment due in accordance with this Agreement the disruption charge referred to in Clause 6.7.1(c) or 6.7.2.(b) as the case may be.

7.7.4 If the Consulting Engineer shall need to perform any additional duties in connection with the resumption of his duties in accordance with Clause 5 the Client shall pay the Consulting Engineer in respect of the performance of such additional duties in accordance with the Scale of Charges set out in Clause 6 and any appropriate reimbursements in accordance with Clause 6.5.

7.8 Payment Following Termination By The Consulting Engineer

Upon a termination by the Consulting Engineer in pursuance of Clause 5.5 the Client shall pay the Consulting Engineer the sums specified in Clause 6.7.1(a) and (b) less the amount of payments previously made to the Consulting Engineer under the terms of this Agreement. Upon the payment of such sums, the Consulting Engineer shall deliver to the Client such completed drawings, specifications and other similar documents relevant to the Works as are in his possession. The Consulting Engineer shall be permitted to retain copies of any documents so delivered to the Client.

The provisions of this Clause are without prejudice to any other rights and remedies which the Consulting Engineer may possess.

7.9 Payments For Bills Of Quantities

The following shall be charges to be made to the consulting engineer for bills of quantities:

- 1) Taking out and preparing of bills of quantities
 - a. New works – 2 ½ % of the cost of the works.
 - b. Existing works – 3 ½ % of the cost of the works.
- 2) Measuring and making up accounts of variations upon contracts, including pricing and agreeing totals with contracts/subcontracts
 - a. 3% of the gross amount of addition.
 - b. 1 ½ of the gross amount of omission less the total of the provisional sums omitted or work omitted as a whole.
- 3) Measuring from drawings and specifications and preparing bills of quantities of labour only or materials only the fee shall be double the forgoing rates.
- 4) Taking out and preparing bills of quantities or measuring for and making up accounts for decoration contracts:- 2% above the rates of the foregoing paragraphs.
- 5) Pricing of bills of quantities:- 1/2% of the cost of the works.
- 6) Preparing approximate quantities and estimating upon the same:- ½ % of the cost of the works.

- 7) Surveying work in progress, taking particulars and reporting for interim payments:-
1/2 % upon each valuation less the amount of any previous valuations upon which fees shall have been paid.
- 8) Taking particulars on site and writing specifications for works of alteration of repair:- 7 1/2 % of the cost of the works
- 9) Measuring from completed works and preparing bills of quantities:
3% of the cost of works.
- 10) Preparing a full cost analysis 1/2 % of the cost of the works.
- 11) Giving information to the profession to enable him incorporate the engineering services quantities in the main bills of quantities:- 1 1/2 % of the cost of works.

7.10 Contested Invoices

If any part of any invoice submitted by the Consulting Engineer is contested, payment shall be made in full of all that is not contested.

7.11 Time for Payment

All amounts due to the Consulting Engineer in accordance with this Agreement shall be paid within 30 days of the date of the Consulting Engineer's invoice. Interest shall be added to all amounts remaining unpaid thereafter (including any amounts of any contested invoices remaining unpaid under Clause 6.8 of these Conditions to the extent that they or it shall subsequently be agreed or determined to have been due to the Consulting Engineer). Interest shall be charged at the prevailing mean annual commercial rate of lending plus one percent on all overdue payments.

7.12 Re-Use of Plans and Specifications

Remuneration for services that adapt plans and specifications from one existing project to another similar or identical project at a different site for the same client is a royalty of 1% of the new construction cost plus additional fees for whatever extra work is required.

7.13 Alternative Designs

When the consulting engineer is required to complete designs on one or more alternative methods of construction or installation for the purpose of tendering, the fee is based on the tender price of the accepted alternative plus charges for extra work required as in Method 1.

7.14 Disbursements

Unless otherwise agreed between the consulting engineer and client and properly reflected in the fee, separate charges are made for disbursements borne by the consulting engineer. Disbursements are subject to handling charges and include:

- Reproduction of information, drawings and documents
- Use of messenger and courier services
- Electronic transmission of documentation
- Long distance telephone calls, fax and telex messages
- Travel and living expenses for personnel when authorized by the client
- Advertising on behalf of the client
- Use of specialist consultants approved by the client
- Use of specialized equipment such as survey, computer aided design and drafting equipment
- The cost of any insurance that the consulting engineer is required by the client to carry and that would not otherwise be carried
- Any other expenses incurred that are not contemplated in the normal fee

7.15 Taxes

Any and all federal and provincial taxes, recoverable or not by the client, are additional and are applicable to fees and disbursements

8.0 OWNERSHIP OF DOCUMENTS AND COPYRIGHT

8.1 Copyright

The copyright in all drawings, reports, specifications, bills of quantities, calculations and other documents and information prepared by or on behalf of the Consulting Engineer in connection with the Project or the Works for delivery to the Client shall remain vested in the Consulting Engineer but, subject to the Consulting Engineer having received payment of all fees and disbursements agreed as due under this Agreement, the Client shall have a license to copy and use such drawings and other documents and information for any purpose related to the Project or the Works including, but without limitation, the construction, completion, maintenance, letting, promotion, advertisement, refurbishment and repair of the Project or the Works as the case may be. Such licence shall enable the Client to copy and use the drawings and other documents and information for the extension of the Project or the Works but such use shall not include a license to reproduce the designs contained therein for any extension of the Project or the Works. Save as above, the Client shall not make copies of such drawings or other documents or information nor shall he use the same in connection with any other works without the prior written approval of the Consulting Engineer, which shall not unreasonably be withheld, and upon such terms as may be agreed between the Client and the Consulting Engineer.

The Consulting Engineer shall not be liable for use by any person of any drawings, reports, specifications, or other documents or information for any purpose other than that for which the same were prepared by or on behalf of the Consulting Engineer.

8.2 Publication by the Consulting Engineer

The Consulting Engineer shall not, without the written consent of the Client, publish alone or in conjunction with any other person any articles, photographs or other illustrations relating to the Project.

The Consulting Engineer shall not disclose to any person any information provided by the Client unless so authorized by the Client.

9.0 INSURANCE FOR EQUIPMENT, LIABILITY AND PROFESSIONAL INDEMNITY

9.1 Insurance

Unless notice to the contrary is given in writing by the Client, the Consulting Engineer shall, at the Client's expense, take out and maintain, on terms and conditions approved by the Client, insurance against loss or damage to equipment being used by the Consulting Engineer for the project or the Works.

9.2 Liability

Notwithstanding anything to the contrary contained elsewhere in these Conditions the total liability of the Consulting Engineer, whether in contract or in tort, in negligence or for breach of statutory duty or otherwise for any claim shall be limited to the total fees received. The Consulting Engineer has no liability whatsoever for any part of the Works not designed by him nor for any damage resulting from any act of the Client, the Contractors or the suppliers which is not covered by the scope of services of the Consulting Engineer.

9.3 Professional Indemnity Insurance

The Consulting Engineer shall maintain, at his own cost, reasonable professional liability coverage for any one occurrence or series of occurrences arising out of this consultancy engagement for the entire duration of the Project or Works, provided always that such insurance is available at commercially reasonable rates. The Consulting Engineer shall immediately inform the Client if such insurance ceases to be available on the terms required by this Condition at commercially reasonable rates in order that the Client and the Consulting Engineer can discuss means of best protecting the respective positions of the Client and the Consulting Engineer in the absence of such insurance.

10.0 DISPUTES AND DIFFERENCES

10.1 Mediation or Conciliation

The relationship between the parties to this Agreement is that of client and professional adviser in which both parties recognize that the Project and the Works are most likely to be successfully achieved if the Client and the Consulting Engineer co-operate fully. Every effort shall be made by both parties to resolve any difference between them amicably but if this appears impossible the parties shall seek the assistance of a Mediator or Conciliator to attempt to resolve such difference as quickly and amicably as possible.

The parties shall not resort to adjudication or arbitration (save in the case where arbitration arises out of the dissatisfaction of either party with any decision of an Adjudicator) in accordance with these Conditions unless informal attempts to reach a settlement by way of mediation under these Conditions have been unsuccessful.

If no settlement has been reached within six weeks of the first appointment of or attempt to appoint a Mediator the mediation shall be deemed to have been unsuccessful.

If a difference should arise between the Consulting Engineer and the Client in connection with or arising out of this Agreement and the mediation required under the terms of these Conditions shall have been unsuccessful, it shall be deemed a dispute. Should such a dispute arise prior to completion or alleged completion or abandonment of the Project or the Works or determination of the appointment of the Consulting Engineer it shall be settled in accordance with Clauses 9.2 and 9.3 of these Conditions.

10.2 Adjudication

The parties shall refer the dispute to an Adjudicator who shall be an independent person to be agreed between the parties or, failing agreement, appointed at the request of either party by the institution of engineers of Kenya. The Adjudicator shall act as an expert and be entitled to request either party to provide oral or written statements, documents and information and shall fix the timetable for the provision of such statements, documents and information and for the adjudication. He shall give written notice of his decision to both parties within such period as may be agreed or, failing agreement, as determined by the Adjudicator.

The decision of the Adjudicator shall be final and binding on both parties until completion or alleged completion or abandonment of the Project or the Works or the determination of the appointment of the Consulting Engineer as the case may be.

10.3 Arbitration

If a dispute should arise between the Consulting Engineer and the Client following completion or alleged completion or abandonment of the Project or the Works or the determination of the appointment of the Consulting Engineer or out of any contested invoice or any determination of the appointment of the Consulting Engineer under Clauses 5.4 or 5.5 of these Conditions or should either party be dissatisfied with any decision of an Adjudicator, the dispute shall be referred to the arbitration of a person to be agreed between the parties to act as arbitrator, or failing agreement within one month of a Notice by either party to the other requesting agreement to an arbitrator appointed by the Institution of Engineers of Kenya.

10.4 Subsequent Proceedings

Records of evidence given and opinions expressed in mediation and adjudication proceedings in respect of any difference or dispute in connection with the Project or the Works shall not be admissible as evidence in any subsequent proceedings solely on the grounds that they were included in such records. Nevertheless, facts once established and agreed upon by the parties may be recorded and then accepted in later proceedings.

No person appointed as Mediator or Adjudicator in respect of any difference or dispute in connection with the Project or the Works may be called to give witness thereon in any subsequent proceedings.

11.0 NOTICES

Any Notice to be given by the Client under this Agreement shall be deemed to be duly given if it is in writing and delivered by hand at or sent by courier to the Consulting Engineer at the address of the Consulting Engineer as shown on the Memorandum of Agreement. Any Notice to be given by the Consulting Engineer shall be deemed to be duly given if it is in writing and delivered by hand at or sent by courier to the Client at the address of the Client as shown on the Memorandum of Agreement.

APPENDIX A: SERVICES OF THE CONSULTING ENGINEER

This Appendix describes broadly the services to be performed by the Consulting Engineer at all stages of the Project or Works. These services shall comprise Normal Services and, as required, Additional Services as described below:

1 NORMAL SERVICES

The Normal Services to be provided by the Consulting Engineer at each stage shall comprise all or any of the following as may be necessary in the particular case:-

1.1 Design Stage 1 (Preliminary or Sketch Plan Stage)

- a) Visiting the site and investigating any reasonably accessible data and information relevant to the Project and particular Works, and considering any reports relating to the Project or Works;
- b) Advising the Client on the need to carry out any further investigations and surveys under the Consulting Engineer's direction which may be necessary to supplement the information already available and arranging for such investigations and surveys after authorization by the Client.
- c) Advising the Client on the need for arrangements to be made for the carrying out of special surveys, special investigations or model tests, and advising the Client of the results of any such surveys, investigations or tests carried out.
- d) Consulting any local or other approving authorities, service and utility providers on matters of principle in connection with design of the Project or Works.
- e) Analyzing and evaluating alternative design concepts, project location, methods of operations, socio-economic conditions and similar matters in order to establish principal features that determine design requirements and specifications.
- f) Preparing such reports and documents (including sketch drawings, outline calculations and specification notes, where necessary) as are reasonably necessary to enable the Client to consider and approve the Consulting Engineer's design proposals in the light of the investigations carried out at this stage.
- g) Advising the Client on the financial aspect of the Project or Works.

1.2 Design Stage II (Detail Design and Tender Documentation Stage)

- a) Developing detail design of the approved scheme design of the Works and preparing calculations, drawings, and any specifications needed for submission to appropriate approving authorities.

- b) Advising on the conditions of contract relevant to the Works and forms of tender and invitations to tender as they relate to the Works.
- c) Preparing tender documents, including conditions of contract, drawings, specifications, schedules and bills of quantities, that are necessary to enable the Client to obtain tenders or otherwise award a contract for carrying out the works.
- d) Preparing any further designs, specifications and production drawings necessary for the information of the Contractor to enable him to carry out the Works.
- e) Examining shop fabrication drawings prepared by Contractors or his sub-contractors or suppliers for the Works, or any part thereof, in respect of general dimensions and structural adequacy of members and connections.

1.3 Tender Stage

- (a) Advising the Client on the technical suitability for carrying out the Works of persons and firms tendering for the main contract and for any specialist sub-contract involving the supply and/or installation of parts of the Works.
- (b) Advising the Client on the relative merits of tenders, prices and estimates received for carrying out the Works.
- (c) Advising on and preparing the formal contract documents relating to accepted tenders for carrying out the Works or any part thereof.

1.4 Construction or Installation Stage

The Consulting Engineer shall not accept any tender in respect of the Works unless the Client gives him instructions in writing to do so, and any acceptance so made by the Consulting Engineer on the instructions of the Client shall be on behalf of the Client. After the award of the Works contract by the Client, the Consulting Engineer shall then proceed to render his services as follows:-

- a) Inspecting and testing during manufacture and installation of electrical and mechanical materials, machinery and plant supplied for incorporation in the Works and arranging and witnessing acceptance tests.
- b) Advising the Client on the need for special inspection or testing in addition to or other than that referred to in Clause 1.4 (a) above.
- c) Advising the Client on the appointment of site supervisory staff
- d) Examining and approving the Contractor's construction proposals, working drawings and programmes relating to the works.
- e) Preparing additional or revised designs and drawings for the works as may be necessary.
- f) Attending relevant site meetings and making such other periodic visits to the site as the Consulting Engineer shall consider necessary to ensure that the

Works are being executed generally in accordance with the contract drawings and specifications and otherwise in accordance with good engineering practice. The frequency of site visits shall depend on the performance of the Contractor and the site staff, if any, appointed by the Consulting Engineer. It is recommended that such visits be held at least once a month, provided that if the need for more frequent visits arises because the Client has not provided for engagement of site staff as recommended by the Consulting Engineer, these additional site visits shall be considered as Additional Services. The presence of the Consulting Engineer, his employees, agents or any site staff appointed pursuant to Clause 4 of the Conditions of Contract, on site shall not relieve the Contractor of his responsibility for the correctness of the materials and methods used by the Contractor, nor for the safety of the Works or any temporary works during the course of the construction.

- g) Giving all necessary instructions to the contractor, provided that the Consulting Engineer shall not without the prior approval of the Client give any instructions which in the opinion of the Consulting Engineer are likely substantially to increase the cost of the Works unless it is not in the circumstances practicable for the Consulting Engineer to obtain such prior approval.
- h) Preparing interim valuations and issuing certificates for payment to the Contractor as are required in the construction contract.
- i) Approving and supervising the Contractor's commissioning procedures and performance tests, and inspecting the Works on completion.
- j) Performing services that may be required to approve the contractor's work during defects liability period.
- k) Performing any other services which the Consulting Engineer may be required to carry out under the contract for the execution of the Works.
- l) Delivering to the Client on completion of the Works copies of design and construction drawings, as-built drawings, Contractor's operating instructions, manufacturer's manuals, certificate of works tests and any other documents supplied to the Contractor for the purpose of constructing the Works and all records as are reasonably necessary to enable the Client to operate and maintain the Works.
- m) Deciding any dispute or difference which may arise between the Client and the Contractor in connection with the works and submitted to the Consulting Engineer for his decision, provided that this professional service shall not extend to advising the Client following the taking of any step in or towards any arbitration or litigation in connection with the Works.

1.5 General

Without prejudice to the preceding provisions of this clause, the Consulting Engineer shall from time to time as may be necessary advise the Client as to the

need for the Client to be provided with additional services in accordance with Clause 2 of this Appendix.

2 ADDITIONAL SERVICES

2.1 As services additional to those specified in Clause 1 of this Appendix the Consulting Engineer shall, if agreed with the Client, provide any of the services specified in Clause 2.2 of this Appendix and provide or take all reasonable steps to arrange for the provision by others of any of the services specified in Clause 2.3 of this Appendix.

2.2 Additional services provided by the Consulting Engineer

- a) Preparing any report or additional contract documents required for consideration of proposals for the carrying out of alternative Works.
- b) Carrying out work in connection with any application by the Client for any order, sanction, license, permit or other consent, approval or authorization necessary to enable the Works to proceed.
- c) Carrying out work arising from the failure of the Client to award a contract in due time.
- d) Providing or carrying out special cost investigations, detailed valuations or cost analyses for cost planning purposes.
- e) Preparing details of shop fabrication of structural steelwork, ductwork, metal, timber or plastic frameworks or other specialist supplied components.
- f) Carrying out surveys of existing works or installations or checking and advising upon any other part of the Project not designed by the Consulting Engineer.
- g) Carrying out work consequent upon any assignment of a contract by the Contractor or upon the failure of the Contractor properly to perform any contract or upon delay by the Client in fulfilling his obligation or in taking any other step necessary for the due performance of the Works.
- h) Making visits to the site in addition to those needed for basic representation of the Client on site as provided for in Clause 1.4 of this Appendix.
- i) Advising the Client and carrying out work following the taking of any step in or towards any litigation or arbitration relating to the Works.
- j) Negotiating any contract or sub-contract with a Contractor selected otherwise than by competitive tendering, including checking and agreeing quantities and net costs of materials and labour, arithmetical checking and agreeing added percentages to cover overheads and profit.
- k) Checking and advising upon any part of the Project not designed by the Consulting Engineer.
- l) Inspecting or witnessing the testing of materials or machinery during manufacture and carrying out commissioning procedures or performance tests.

- m) Providing manuals and other documents describing design, operation and maintenance of the Works.
- n) Carrying out such other additional services if any, as are specified in Article 5 of the Memorandum of Agreement or other special procedures required by the Client or the Architect.

2.3 Services provided by Other Specialists

- a) Specialist technical advice on any aspect of the Works.
- b) Architectural, legal, financial and other professional services.
- c) Services in connection with the funding, valuation, purchase, sale, leasing or letting of the Project or lands including all necessary liaison with legal and financial advisors, consultants, surveyors etc. including the obtaining of way-leaves.
- d) Investigation of the nature and strength of existing works and the making of model tests or special investigations.
- e) The surveying of sites or existing works.
- f) Any other specialist services that may be required

2.4 The Consulting Engineer shall obtain the prior agreement of the Client to the arrangements which he proposes to make as agent for the Client for the provision of any of the services specified in Clause 2.3 of this Appendix. The Client shall be responsible to any person or persons providing such services for cost thereof. The Consulting Engineer shall have no liability whatsoever for such services.

APPENDIX B: EBK SCALE OF FEES FOR CONSULTING ENGINEERS

1. BASIS OF FEE CALCULATIONS

1.1 Time Charges

1.1.1 When the project cost cannot be estimated in advance, a suitable charging mechanism is a time charge for staff actually employed on the project. The standardized rates are tabulated in Table 1 titled ***Rates for Payment on Time Basis***. This table shall be subject to revision from time to time subject to changes in consumer price index, inflation and currency devaluation.

The rates have been most conveniently calculated by applying a multiplier, which covers overheads and profit, to the remuneration cost and then adding the net amount of other payroll costs.

The major part of the multiplier is attributable to the Consulting Engineer's overheads, which may include, among other things the following indirect costs and expenses:

- a. Rent and other expenses of upkeep of his office, its furnishing, equipment and supplies;
- b. Insurance premiums other than those recovered in the payroll costs;
- c. Administrative, accounting, secretarial and financing costs;
- d. The expense of keeping abreast of advances in engineering and continuing professional development;
- e. The expense of preliminary arrangements for new or prospective projects;
- f. Loss of productive time of technical staff between assignments.

1.1.2 When calculating amount chargeable on a time basis, a Consulting Engineer is entitled to include recoverable expenses plus 10% top up for all expenses incurred by the firm, on behalf of the Client, in rendering their services in connection with the performance of the services.

1.1.3 The Consulting Engineer shall also recover the following expenses:

- a. Traveling expenses for the conveyance of the Consulting Engineer or his staff members;
- b. Traveling time on the basis of rate set out in Table 1 for time spent on traveling in connection with the works. The maximum chargeable time shall be 8 hours a day.
- c. Accommodation and subsistence allowance incurred by the Consulting Engineer or his staff members
- d. Agreed cost of lithography when preparing the project documents such as drawings, contract documents, reports tender documents and manuals, excluding general correspondences and contractual reports

- 1.1.4 Alternatively, a lump sum or percentage of cost of works may be agreed upon for any or all of the above expenses.
- 1.1.5 The time spent by secretarial staff or by staff engaged on general accountancy or administration duties in the Consulting Engineer's office is not chargeable unless otherwise agreed.
- 1.1.6 The Engineers Board of Kenya (EBK) recommends the use of time-based charges for studies, advisory services, consultations, and the Additional Services described in Appendix A of the Conditions of Engagement.

POSITION	RATES IN (KShs.)		
	HOURLY	DAILY	MONTHLY
Level A - (Specialist)	10,800-13,500	64,800-81,000	1,080,000-1,350,000
Level B - (Principal)	9,000-12,000	54,000-72,000	900,000-1,200,000
Level C - (Senior Engineer)	6,500-9,000	42,000-54,000	700,000-900,000
Level D - (Engineer)	4,500-6,500	33,000-42,000	550,000-700,000
Level E - (Graduate Engineer)/ (Senior Technician)	3,000-4,500	21,000-27,000	350,000-450,000
Level F - (Technician)	2,000-3,000	15,000-21,000	250,000-350,000
Level G - (Technical Assistant) / Secretary	1,350-2,000	9,000-15,000	150,000-250,000

TABLE 2: RATES FOR PAYMENT ON TIME-BASIS

Notes for Table :

- i) These rates shall be reviewed from time to time depending on the behavior of the consumer index, inflation rate and currency devaluation.
- ii) The daily rates are based on hourly rates multiplied by 6 Working Hours, while the monthly rates are based on the hourly rate multiplied by 100 Working Hours.

- iii) **Specialist** shall mean a Consulting Practitioner/Engineer with specific skills and minimum experience of fifteen (15) years, whose expertise and relevant experience is considered to be exceptional and is recognized as that of an expert, in a particular field.
- iv) **Principal** shall mean a Director, a Partner or an Associate in the firm registered by EBK as a Professional Engineer and having a minimum experience of twelve (12) years from the date of registration.
- v) **Senior Engineer** shall be a professional engineer registered as such by EBK, and having a minimum experience of Ten (10) years from the date of registration.
- vi) **Engineer** shall be a professional engineer registered as such by EBK, and having Not less than Seven (7) years experience from the date of graduation.
- vii) **Graduate Engineer** shall be a Graduate Engineer registered as such by EBK.
- viii) **Senior Technician** shall be a HND holder from a recognized College and has had a minimum experience of ten years from the date of graduation.
- ix) **Technician** shall be a HND holder from a recognized College whose experience is less than ten years from the date of graduation.
- x) **Technical Assistant** shall be an Ordinary Diploma holder from a recognized College with a minimum experience of five years from the date of graduation.
- xi) **The rates are applicable** for the infrastructure works, building works or any other works.
- xii) The rates are exclusive of Value Added Tax.

1.2 Fixed Contract/Lump Sum Fees

Lump sums, which may be broken down into components applicable to particular duties or stages of work, have the advantage that they are decided in advance by negotiation or tender and are then firm. It is not possible to provide guidance for Clients on likely lump sums, but comparison with fees calculated by the percentage method will give an indication of appropriate levels. Lump sums will inevitably incorporate an allowance for the additional risk involved in making such arrangements.

As mentioned above, lump sum fees may be arrived at after going through the whole process of normal competitive bidding, and finally agreeing on a firm figure, that has taken into account all the cost elements of the project. This is suitable where the full extent of the services can be determined, and it enables the client to know his budgetary commitments in advance.

1.3 Percentage Fees

These fees are calculated as agreed percentages of the cost of the project or cost of the works, and apply to the Normal Services described in Appendix A of the Conditions of Engagement. The amount paid therefore varies with changes in the construction cost. There are different ways of arranging fees and interim payments. The most usual is to base the fee on the final cost of the project or works, and to invoice interim accounts on estimates of what that cost will be. Sometimes, however, it is decided to have different percentages of the estimated or actual costs at different stages of work. The Conditions of Engagement should include provisions for variations of such methods.

The standardized Percentage Fees rates are tabulated in Tables 2 - 3 below. These tables shall be subject to revision from time to time based on changes in consumer price index, inflation and currency fluctuation

Cost of Works in KSHS.	Minimum Fees as % of Cost of Works	
	New Works	Existing Works
20,000,000 and below	10.00	12.00
From 20,000,000 to 40,000,000	8.50	10.00
From 40,000,000 to 80,000,000	7.50	9.75
From 80,000,000 to 160,000,000	7.00	8.75
From 160,000,000 to 240,000,00	6.50	7.75
From 240,000,000 to 320,000,000	6.00	7.10
From 320,000,000 to 400,000,000	5.50	6.60
From 400,000,000 to 480,000,000	5.00	6.20
From 480,000,000 to 640,000,000	4.80	5.90
From 640,000,000 to 800,000,000	4.60	5.50
From 800,000,000 to 1,200,000,000	4.40	5.20
From 1,200,000,000 to 1,600,000,000	4.30	5.10
From 1,600,000,000 to 2,000,000,000	4.20	5.05
Over 2,000,000,000	4.10	5.00

TABLE 3: PERCENTAGE CHARGES ON THE BASIS OF COST FOR ENGINEERING PROJECTS

Notes for Table 3

- i) These rates have been set on the basis of current practices in other countries, and based on the experience gained over the years in the local engineering consultancy industry.
- ii) The traveling time charge is additional to this fee.
- iii) Cost of works means the cost of that particular element (field) of the project, including the respective proportion of preliminary and general items and Value Added Tax.
- iv) The rates are applicable for either the infrastructure works, building works or any other works.

- v) The rates are exclusive of Value Added Tax.
- vi) The maximum fee as % of cost of works shall be not more than 15% of the minimum charges in table 2 above.

SERVICE	% CHARGE ON COST OF PROJECT
CIVIL	0.5% to 1.0%
STRUCTURAL	3.0% to 4.5%
MECHANICAL	1.5% to 2.0%
ELECTRICAL	1.5% to 2.0%
ENGINEERING SYSTEMS	1.0% to 1.5%

TABLE 4: PERCENTAGE CHARGES ON THE BASIS OF COST OF PROJECT FOR ENGINEERING FIELDS

Notes for Table 4

- i) This table applies to building projects for which normally the team leader is an Architect and not an Engineer. The Consulting Engineer is thus a member of the project team. Where the Consulting Engineer is appointed as the Lead Consultant, an additional fee equivalent to 1.0% of cost of project shall apply.
- ii) Lower range should be applied for projects with value of more than KSHS. 1,600,000,000 and the higher range of projects of less than KSHS. 1,600,000,000. However, where the work is complex, the higher rate should apply irrespective of the cost of the project.
- iii) Engineering Systems refers to any engineering services, which are outside the direct ambit of the conventional civil, mechanical, and electrical services, such services as but not limited to, Lifts, Escalators and other transportation systems in buildings; security systems, access control, structured cabling and other ICT systems, Video Conferencing, public address systems, conferencing systems and other telecommunication systems; generators, solar and other renewable energy sources and air cleaners.
- iv) Repetition Works (Design only) on same location:
 - First unit 100%
 - Subsequent units 70%
 - Supervision (full) (100%)
- v) The traveling time charge is additional to this fee.

- vi) Cost of project means all costs involving cost of all elements (fields) of the project, inclusive of Value Added Tax.
- vii) The rates are applicable for works in buildings only.
- viii) The rates are exclusive of Value Added Tax.

2. STAGES OF PAYMENT OF FEES

The proportions of the total fees for the works to be paid to the consulting engineer against the relevant stages of professional services shall be as shown in Table 4.

Unless otherwise specified or mutually agreed beforehand between the client and the consulting engineer, the fee apportioned to each stage shall be paid in full.

Item	Stage of Work	Fee Payable
1	Design Stage (Preliminary & Sketch Design)	30%
2	Design Stage (Detailed Design)	40%
3	Tender Stage	5%
4	Construction Stage / Installation	25%

TABLE 5: STAGES OF PAYMENT OF FEES

APPENDIX C: REIMBURSABLE EXPENSES

NO. OF COPIES REQUIRED	NUMBER OF ORIGINALS				SPIRAL BINDING
	1-50	51-200	201-500	OVER 500	
1-20	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH 60.00
21-50	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH 80.00
51-100	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH. 4.00	KSH 150.00
101-250	KSH. 3.00	KSH. 3.00	KSH. 3.00	KSH. 3.00	KSH 200.00
251-500	KSH. 3.00	KSH. 3.00	KSH. 3.00	KSH. 3.00	KSH 550.00

TABLE 6: PHOTOCOPYING AND BINDING

NOTES FOR TABLE 6

1. The rates are exclusive of Value Added Tax
2. The rates are for each copy.
3. Typing charges shall be payable at **KSH 80.00** per page.
4. Cost of binding over 500 pages shall be against production of receipts.
5. Cost of other binding other than spiral shall be against production of receipts.

SIZE	BLACK AND WHITE	TRACING	COLOUR	
			FULL	LINE WEIGHT
A4	KSH. 30.00	KSH. 35.00	KSH. 110.00	KSH. 40.00
A4	KSH. 50.00	KSH. 55.00	KSH. 210.00	KSH. 60.00
A2	KSH. 90.00	KSH. 95.00	KSH. 410.00	KSH. 110.00
A1	KSH. 170.00	KSH. 180.00	KSH. 810.00	KSH. 210.00
B1	KSH. 210.00	KSH. 260.00	KSH. 1410.00	KSH. 310.00
A0	KSH. 310.00	KSH. 360.00	KSH. 1600.00	KSH. 410.00

TABLE 7: PLOTTING OF DRAWINGS

NOTES ON TABLE 7:

- 1) The rates are exclusive of value added tax.
- 2) The rates are for each drawing.

SIZE	AMMONIA PAPER	OPAQUE LINEN CLOTH	VELLO
A4	KSH. 30.00	KSH. 250.00	KSH. 300.00
A3	KSH. 50.00	KSH. 450.00	KSH. 400.00
A2	KSH. 60.00	KSH. 800.00	KSH. 500.00
A1	KSH. 110.00	KSH. 1600.00	KSH. 850.00
A0	KSH. 210.00	KSH. 3500.00	KSH. 1600.00

TABLE 8: PRINTING OF DRAWINGS

NOTES FOR TABLE 8

- 1) The rates are exclusive of the value added tax.
- 2) The rates are for each drawing.

DISBURSEMENTS

- 1) Expenses incurred in respect to advertising for tenders, site staff and the time and expenses for interviews shall be reimbursed.

- 2) Expenses incurred on local authority inspection or other similar charges shall be reimbursed.
- 3) Any other payments made on behalf and with approval of the chart shall be reimbursed.
- 4) Fees or any other charges which arise from specialist's professional advice which have been incurred by the consultant with the authority of the client shall be reimbursed.

APPENDIX C: ITEMS SPECIFIC TO STRUCTURAL, MECHANICAL AND ELECTRICAL COST OF CONSTRUCTION

Structural

- Site preloading for structures
- Structural steel, including supply, fabrication, erection and painting by structural steel contractor
- Open web steel joist with bridging, welding and bracing
- Steel floor or roof deck
- Reinforced concrete, including reinforcing steel, forms, shoring, stripping, finishing, heating and protection, expansion joints, etc
- Plain concrete or block foundation and basement walls, including footings
- Slabs over steel joist and steel floor and roof decks, including metal pan or other forms and reinforcing
- Asbestos, gypsum and other structural units for room and floor decking
- Foundation piling (timber, steel or concrete), including pile caps and timber, steel or concrete sheet piling
- Laminated, T and G or splined structural timber roof deck and floors
- Structural timber joists, beams, girders, trusses and columns
- Structural glulam, plywood and built-up members
- Steel or cast iron hardware with bolts, washers, etc for timber or precast concrete framing
- Cast iron and aluminum structural members
- Window, door or curtain-wall framing that has to be designed or checked for structural adequacy
- Brick or concrete masonry reinforced similar to concrete
- Underpinning, including excavation for same
- Concrete floors on earth
- Excavation and backfilling for structural work
- A portion of all masonry-bearing walls
- Steel, precast, poured or placed concrete and reinforced block lintels
- Masonry chimneys

- A portion of all exterior wall framing, including timber and steel studs that have to be designed or checked for structural adequacy
- Site shoring, including related excavation and backfill
- Cladding, including precast panels, brick panels, insulated or built-up metal panels or other, that has to be designed or checked for structural adequacy, including all related connections
- Mechanical and electrical equipment supports that have to be designed or checked for structural adequacy
- Precast concrete structures, including supply, fabrication, erection and finishes by structural precast fabricator
- Any other special structural items shown and detailed

Mechanical

- Basic categories of mechanical work, including plumbing, heating, ventilation and sheet metal, refrigeration, HVAC controls, fire protection, insulation and all standard items associated with these categories
- Cost of fair new market value of all mechanical equipment supplied by the Owner
- Equipment specified or provided by others, such as lubrication systems, air, etc, for which the mechanical consultant has provided services
- All excavation and backfill pertaining to mechanical work
- Combination hose cabinets, drinking fountain, or patient service modules provided with medical gases
- Cost of all installation carried out by the municipality or by utility companies when designed and inspected by the mechanical consultant
- Weeping subsoil tile systems designed by the mechanical consultant
- All plain and reinforced concrete in place and structural steel pertaining to mechanical work that is not designed by the structural consultant
- Cost of documentation, testing, balancing and commissioning when specified by the mechanical consultant

Electrical

- Basic categories of electrical work, including normal and emergency power distribution, lighting, communication and IT distribution and interfacing, security systems, life safety systems, audio and video systems, electric heating, specialized grounding systems and all standard items associated with these categories

- Cost of fair new market value of all electrical equipment supplied by the owner; e.g., lighting fixtures and lamps, lighting standards, transformers, motor control, switch gear and standby power plants, lifts
- Integrated assemblies, including patient service modules containing electrical outlets, lighting and communication systems
- Scoreboards for sports facilities
- All excavation and backfill pertaining to electrical construction
- Cost of all installation carried out by the municipality or by utility companies when the work has been designed and/or inspected by the electrical consultant
- All plain and reinforced concrete in place and structural steel pertaining to electrical work that is not designed by the structural consultant
- Cost of all documentation, testing, adjusting and commissioning when specified by the electrical consultant