CONDITIONS OF ENGAGEMENT FOR ENGINEERS

Association of Professional Engineers of Trinidad and Tobago
P.O. Box 935, Port of Spain
www.apett.org
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TABLE OF CONTENTS

Foreword ............................................................................................................ 5

1.0 Obligations of the Engineer ................................................................. 6
   1.1 Provision of Services ........................................................................ 6
      1.1.1 Service Categories. ................................................................. 6
   1.2 Skill and Care. ...................................................................................... 6
   1.3 Assignment. .......................................................................................... 6
   1.4 Resident Engineering Services. ....................................................... 7

2.0 Obligations of the Client ..................................................................... 7
   2.1 Payment. .............................................................................................. 7
   2.2 Provision of Information. ................................................................. 8
   2.3 Assistance. .......................................................................................... 8
   2.4 Client Decisions. ............................................................................... 8

3.0 Payment ................................................................................................. 9
   3.1 Time for payment. ............................................................................. 9
   3.2 Repetitive Work. ................................................................................ 9

4.0 Variations ............................................................................................... 9
   4.1 Variation to Services. ......................................................................... 9
   4.2 Alterations or Modifications to Design. ......................................... 9
   4.3 Damage or Destruction of Works. .................................................. 10

5.0 Ownership and Copyright of Documents ........................................ 10

6.0 Liability and Insurance .................................................................... 11
   6.1 Liability .............................................................................................. 12
   6.2 Insurance ............................................................................................ 12

7.0 Disputes ................................................................................................. 12
   7.1 Mediation. .......................................................................................... 12
   7.2 Arbitration. .......................................................................................... 12
8.0 Abandonment, Cancellation or Suspension of Services .................13

9.0 Termination .................................................................13
   9.1 Termination by the Client ..........................................13
   9.2 Termination by the Engineer ......................................13
   9.3 Payment on Early Termination ....................................13

SECTION 2 ............................................................................14

10.0 Guidelines for Remuneration of the Engineer ............................14

11.0 Definitions 10
   11.1 Cost of Works. .........................................................14
   11.2 Personnel Costs ......................................................16

12.0 Remuneration Types ........................................................16
   12.1 TYPE I – Civil Engineering and Infrastructure Projects .......16
      12.1.1 Design Services. ................................................16
      12.1.2 Supervision Services. .........................................18
   12.2 TYPE II: Civil, Structural, Mechanical & Electrical
      Engineering Services on Building Projects .....................18
      12.2.1 Design Services. ................................................18
   12.3 TYPE III: Time Fees. ................................................18
   12.4 TYPE IV: Project and Construction Management
      For Construction Projects ............................................21

13.0 Schedule A – Additional Charges .........................................22
   13.1 Civil/Structural Engineering. .......................................22
   13.2 Mechanical/Electrical/Sanitary Engineering. ..................22
   13.3 General. ...................................................................22

14.0 Schedule B – Reimbursable Expenses .....................................23
The Conditions of Engagement for Professional Engineers were developed by The Association of Professional Engineers of Trinidad and Tobago in 1984. This second edition was revised and has updates arising from the use of the first edition.

These Conditions are recommended for general use for contracts for procuring and providing engineering services, and establishes the minimum remuneration that the Engineer should receive for professional services in the absence of an agreement stipulating higher fees.

These Conditions cover a range of engineering services, which may include advisory services, undertaking research and studies, or the preparation of designs, plans and specifications. In addition, the Engineer may render service during the course of construction and/or installation and commissioning of plant, machinery and technology, and may be allocated special assignments relative to a project.

It is the Client’s responsibility to ensure that they engage the services of engineers who are registered with the Board of Engineering of Trinidad and Tobago.

Since levels of remuneration are established by consensus and indicated in the Conditions, Engineers should be selected on the basis of their competence and reputation, and not on the basis of competitive fees.

Updated lists of Engineers registered under the Engineering Act, Consulting Firms, printed copies of the Code of Ethics and other relevant information may be obtained by writing to the Association at P.O. Box 935, Port of Spain or by calling at the Association’s Office, or online at: www.apett.org
1.0 Obligations of the Engineer

1.1 Provision of Services
The Engineer shall provide the services set out in the Scope of Services in accordance with the agreed upon timetable.

1.1.1 Service Categories
The following outlines typical services offered by the Engineer. Individual projects will determine the specific Scope of Services, which describe in detail the services that may fall within these broad categories.

- Advisory Services. These services can include feasibility and impact studies, environmental and social impact studies, technical assistance and advice
- Preliminary and Detailed Design Services for construction or engineering work
- Documentation and Procurement Services
- Contract Administration, which includes supervision and quality assurance
- Construction and Project Management

1.2 Skill and Care
The Engineer is expected to perform these services with skill, care, diligence and respect for the needs of his Client, and is governed by the Engineering Profession Act, No.34 of 1985.

1.3 Assignment
The Engineer shall not, without the written consent of the Client, assign the benefits, other than the assignment of any monies due or to become due under the Agreement between Client and Engineer.

The Engineer shall not, without the written consent of the
Client, in any way assign or transfer the obligations of the Agreement or any part thereof.

The Agreement shall not be dissolved by the death or demise of the Client, instead his rights and obligations shall pass to his successors.

Should the Engineer be a partnership and at any time take an additional partner or partners, he or they shall be included in the expression “the Engineer”.

Should the Engineer be a partnership, the Agreement shall not be dissolved by the death or withdrawal of one or more members of the partnership.

1.4 Resident Engineering Services
Subject to the approval of the Client, which shall not be unreasonably withheld, the Engineer shall appoint such resident site staff as he considers necessary for the efficient supervision of work on site.

The Client shall at his own cost arrange for such local office accommodation, furniture, telephones, equipment and transport as shall be reasonably necessary for the use of the resident staff.

In the event of such resident staff not being appointed or not being available, the Engineers shall be entitled to charge for any supervision additional to the site visits of inspection as defined by the duties of the Engineer.

2.0 Obligations of the Client

2.1 Payment
The Client shall pay the Engineer for the services in accordance with the terms and conditions set out in Section
2, Remuneration for Engineering Services, and elsewhere in this document.

2.2 Provision of Information

The Client shall supply to the Engineer, without charge and within a reasonable time, all necessary and relevant information in the possession of the Client or available to the Client, or their respective servants and agents.

The information to be provided by the Client to the Engineer shall include:

- All reports, data, and research that may be required to complete the engineering services.
- All such drawings as may be necessary to make the Client’s or the Architect’s requirements clear, including plans, sections and details
- Copies of all contract documents, including a priced bill of quantities, relating to those parts of the Project which are relevant to the Works.
- Copies of all variation orders and supporting documents relating to the Project.

2.3 Assistance

The Client shall give, and shall ensure the provision of, all such assistance reasonably required by the Engineer in the performance of his services.

2.4 Client Decisions

The Client shall give his decision on all sketches, drawings, reports, recommendations, tender documents and other matters properly referred to him for decision by the Engineer in such reasonable time as not to delay or disrupt the performance by the Engineer of his services.
3.0 Payment

3.1 Time for Payment
Payments shall be made by the end of the month following the month of billing.

Overdue balances shall be subject to a monthly interest charge equivalent to the prevailing prime lending rate as established by the Central Bank of Trinidad and Tobago.

3.2 Repetitive Work
When engaged on a commission for the same project for several complete and independent units, and where typical drawings and specifications can be re-used without modification, fees for design services may be reduced. This fee reduction may be negotiated and applied with prior written agreement with the Client, and only in respect to the repetitive element. Fees must not be reduced by more than 40 percent (40%) for repetitive work.

4.0 Variations

4.1 Variation to Services
The Client may, in writing, order a change in the Scope of Works/Services, which would constitute a Variation to the Services. The Client may also ask the Engineer to propose a Variation to the Services.

The Client and the Engineer shall agree, in writing, the value of the Variation and its impact on the completion date for the Services.

4.2 Alterations or Modifications to Design
If after completion of the Engineer’s duties any design, whether completed or in progress, or any specification, drawing or other document prepared in whole or part
by the Engineer shall require to be modified or revised by the reason of instructions received by the Engineer or by reason of circumstances which could not reasonably have been foreseen, such modification or revision and any consequential reproduction of documents shall be the subject of additional payment computed on a time basis in accordance with the Scale of Fees or such other basis as may be agreed.

4.3 Damage or Destruction of Works
If at any time before the completion of the Works any part of the Works or the equipment therefrom shall be damaged or destroyed, the Client shall pay to the Engineer the appropriate remuneration for any additional work or expense resulting from such damage or destruction.

5.0 Ownership and Copyright of Documents
All of the Engineer’s reports, research, original drawings, specifications, data and other documents are and shall remain the property of the Engineer. Prints needed for the proper designing of the Project and its Engineering Works shall be exchanged between the Engineers and the Client as required.

The Client is entitled to a copy of the reports, research, designs, engineering drawings, specifications, data and other documents for record purposes only. The Client shall not use, or permit the use of any of these for another project, or for the installation of other engineering work for the Project without obtaining prior consent and remunerating the Engineer for the re-use of these reports, research, designs, drawings, specifications, data and other documents.

The Engineer may also supply the client with any reports and drawings in secured uneditable electronic format. If electronic reports, designs and drawings are supplied, the Engineer must
stipulate in writing the limitations put on the use of such material. The Engineer’s reports, designs, working drawings and specifications comprising all engineering plans, drawing, details and descriptions, shall be complete enough to closely define the extent, quantity and quality of the Engineering works and or Service

6.0 Liability and Insurance

Liability
If according to the Agreement the Engineer has certain liabilities for errors and omissions the indemnification to be paid by the Engineer shall only be based on the seriousness in character thereof and shall be determined in relation to the Engineer’s fee for the Works and shall never be in excess of that fee.

The Client shall indemnify and hold harmless the Engineer for and against any and all claims, damages, expenses or costs (including those asserted by third parties directly or indirectly related to the Services.

This indemnification and hold harmless by the Client shall not apply in cases where such claims, damages and expenses arise from gross negligence or criminal action by the Engineer.

The Engineer has no liability for any part of the Works not designed by him or under his responsibility, or for any damage resulting from any act of the Client, the Contractors or the suppliers which is not covered by the Scope of Services or the Engineer’s instructions or written advice.

The Engineer has no liability for the proper construction of the works. The Contractor alone is responsible for the accuracy and quality control of his work in terms of the contract between himself and the Client.
Insurance
The Engineer shall maintain at his own cost a minimum professional indemnity insurance cover as generally determined by his volume of work and a minimum of ten percent of turnover.

At the request of the Client, the Engineer shall (at the Client’s expense and on terms and conditions approved by the Client) take out and maintain any additional professional Indemnity Insurance.

7.0 Disputes
If a dispute arises at any point during the provision of services by the Engineer or after, the Client and Engineer will attempt to resolve the dispute themselves through direct negotiations.

7.1 Mediation
If the dispute is not resolved within a reasonable time, Alternative Dispute Resolution (ADR), such as mediation, may be employed.
A certified Mediator chosen from the register of approved mediators – or an approved mediation agency chosen from the list of approved Mediation Agencies, maintained by the Mediation Board of Trinidad and Tobago – may be appointed to facilitate the negotiation between the Client and Engineer to arrive at a voluntary agreement.

7.2 Arbitration
Any dispute or difference arising out of any agreement, between the Client and Engineer that is not resolved within a reasonable time through mediation may be referred to arbitration under the provisions of the Arbitration Act 5.01 of 1939 as amended. The arbitrator shall be mutually agreed upon or, failing agreement, appointed by the President of the Association of Professional Engineers of Trinidad and Tobago.
8.0 Abandonment, Cancellation or Suspension of Services
If the project or any portion of the Engineering Services is abandoned or suspended in whole or in part, the Engineer shall be paid for the services rendered on account of such work in accordance with the Schedule of remuneration of the Engineer with such appropriate adjustments as may be necessary having regard to the Engineering Services performed prior to the cancellation or postponement.

If, within two (2) years the Engineering Services which had been suspended or abandoned or any portion thereof, is again proceeded with, the Engineer’s Basic Fee on such resumed work shall be increased by one per cent (1 %) of the cost of project.

If the services have been postponed for a period longer than two (2) years, the project shall have been considered to be abandoned. If the client decides to resume the project thereafter new fees shall apply.

9.0 Termination
This Agreement is terminated upon completion of Services.

9.1 Termination by the Client
The Client may terminate the Agreement at any time by written notice to the Engineer.

9.2 Termination by the Engineer
The Engineer may terminate this Agreement by written notice in the event that the Client breaches the terms of this Agreement.

9.3 Payment on Early Termination
In the case of early termination, where either the Client or the Engineer terminates the Agreement, the Client shall immediately pay the Engineer for Services rendered to the date of termination.
SECTION 2

10.0 Guidelines for Remuneration of the Engineer
The following section outlines the process for determining the minimum fees that the Engineer shall be paid for the Services. The complexity of the work may in some cases require greater remuneration than indicated.

The Engineer may also consider any of the following general criteria when determining fees:
- The time and labour required, the novelty and complexity of the engineering issues involved and the skills required to perform the engineering service properly;
- The likelihood that the acceptance of the particular employment will preclude other employment by the Engineer;
- The fee customarily charged in the locality for similar engineering services;
- The quantity of engineering services;
- The time limitations imposed by the client or by the circumstances;
- The nature and length of the professional relationship with the client;
- The experience, reputation and ability of the Engineer concerned; and
- Any scale of fees or recommended guide as to charges prescribed by law or by the Association of Professional Engineers of Trinidad and Tobago or the Board of Engineering of Trinidad and Tobago

11.0 Definitions

11.1 Cost of Works
The Cost of the Engineering Works is the cost to the Owners of all labour, materials, equipment and expenses necessary
to complete the Engineering Works. These include all contractor expenses, overhead, profits and all taxes (excluding VAT), levies, duties, etc.
Where the Works are carried out as a sub-contract or sub-contracts awarded under a main contract, the allowances made in the main contract to cover attendance and profit relating to the Works, together with the cost of items of builder’s work required in connection with the Works, and a part of the cost of the preliminary and general items included in the main contract being the proportion that the cost of the sub-contract of sub-contracts bears the total cost of the main contract.

Whenever the Owners furnish material or equipment, new or used, labour, or other services, that are incorporated in the Engineering Works, and for which the Engineers rendered professional services, the fair market value of the materials or equipment as though they were purchased new, and current prices of labour or other services when the work was executed, shall be included in the total cost of the Engineering Works.

No deductions shall be made from the “Cost of the Engineering Works” on account of any penalties or damages claimed by the Owners from any contractor on the Engineering Works, or of other sums withheld from such contractors.

Where duty free materials are incorporated in the Works, the cost of the Works shall be increased by an amount equivalent to the duty that would have been payable had the project not had Duty-Free Concessions.

The cost of the Engineering Works shall not include:
• Any professional fees and reimbursement paid to or due to the Engineers and any architects or other consultants engaged on the Project and employed by the Client.
• Administrative expenses incurred by the Client.
• Interest on capital during construction, and the cost of raising moneys required for carrying out the construction of Works.
• Cost of land and way leaves.

11.2 Personnel Costs
Personnel Cost include the following:
• Direct pay
• Bonuses
• Per requisites
• Allowances
• Sick leave
• Vacation holiday pay applicable
• Unemployment levy
• Payroll taxes
• Contributions for National Insurance
• Employment Compensation Insurance
• Pension Contributions
• Retirement Benefits
• Medical and Insurance benefits
• Other

Personnel Cost so defined normally is a minimum 1.5 of payroll cost.

Adjustments to personnel costs can be renegotiated after one year of employment and annually thereafter.

12.0 Remuneration Types

12.1 TYPE I – Civil Engineering and Infrastructure Projects

12.1.1 Design Services
a. Percentage Fee for design services to be applied to the total cost of that portion of the Works for which the Engineer is responsible. The fee
is computed as a percentage of the Cost of the Works on the basis of the curve in Fig. I
b. Additional Charges as per schedule (A)
c. Payments shall be made by monthly, quarterly or other interim instalments within the following limits:
   i. 10% of total fee on acceptance of the Proposal from the Engineer.
   ii. A further 35% when preliminary design services have been completed.
   iii. A further 55% when final design services have been completed.

The cost of works on which the consulting fee is based, shall be the final construction costs. Interim payments may be made on the engineer’s estimated cost in the first instant and the Accepted Tender Price when this is available.

![Figure 1]

**Figure 1**
12.1.2 Supervision Services
These services shall be billed on a monthly time charge based on a fixed monthly fee that is evaluated based on the amount of technical and professional staff and principals’ time. This fixed monthly can be converted to a lump sum project supervision fee based on an assumed construction period.

The cost of material testing, legal advice, surveying, stationery, transportation, site offices overheads and other related overheads shall be charged as reimbursables.

12.2 TYPE II: Civil, Structural, Mechanical & Electrical Engineering Services on Building Projects

12.2.1 Design Services
a. Percentage fee where an Architect or Project Manager has been appointed to administer the building contract and where it is preferred to relate the percentage to the total construction cost of the project. There is a percentage fee for the structural work and a percentage fee for the mechanical/electrical work both of which are illustrated in Fig. 2 and 3.
b. In order to cater for the relative complexity of design of different types of buildings, the fee percentage derived from Fig. 2 and 3 should be adjusted by the factors shown in Table 1 below.
c. Additional charges as per Schedule (A).
d. Payments shall be made by monthly, quarterly or other interim instalments within the following limits:
   i. 10% of total fee on acceptance of the Proposal from the Engineer.
   ii. A further 25% when preliminary design services have been completed.
iii. A further 40% when final design services have been completed.
iv. The remaining 25% for construction services by equal monthly instalments as the work based on the Contractors Work Program. The cost of the Works to which this 25% allocation applies would be the final construction cost.

The cost of works on which the fee for preliminary and design services apply would be the engineer’s estimated cost. The final cost would only vary if changes are made to the works that Engineer is required to provide additional design services.
Figure 3

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Single Storey Bldgs</th>
<th>Multi-Storey Offices Apartments</th>
<th>Hotels</th>
<th>Hospitals</th>
<th>Schools</th>
<th>Specialist Training Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural</td>
<td>70%</td>
<td>100%</td>
<td>105%</td>
<td>105%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Mech/Elec</td>
<td>50%</td>
<td>100%</td>
<td>120%</td>
<td>130%</td>
<td>85%</td>
<td>110%</td>
</tr>
</tbody>
</table>
**TYPE III: Time Fees**

Time Fees shall be based on the following Scale of Charges (include business overheads etc.):

1. Principals: Negotiable
2. Technical: 2.5 times Personnel Cost
3. Clerical Staff:
   a. General Clerical Work: No charge
   b. Reports, Specifications, etc.: 2.5 times Personnel Cost.
4. Reimbursables: As per Schedule (B)

**TYPE IV: Project and Construction Management for Construction Projects**

The range and scale of fees for the provision of project management services vary considerably from project to project and is dependent upon a number of factors including the size, complexity and whether the role of the Engineer is that of Project Manager or Construction Manager (the manager of the construction project where there is no single General Contractor responsible for the execution of the project).

Generally, the fee scale increases when the role is that of Construction Manager, where the level of responsibility and the complexity of the services provided is greater.

It is customary for the Project Manager’s fee to be a fixed lump sum that does not vary with the final cost of the project and is not time dependent or time sensitive.

As a guideline, Project Management Services can be priced from 4% to 8% of the cost of construction.
13.0 Schedule A – Additional Charges
In addition to the percentage fees indicated under Type 1 and 11, Engineers shall be paid where applicable for the following services according to the Scale of Charges listed:

13.1 Civil/Structural Engineering
a. Pre-stressed Concrete Design
   1½ % cost of concrete structure
b. Structural Steel Fabrication Drawings
   Time (Type III)
c. Geotechnical and Environmental Engineering
   Time (Type II & Type III)
d. Structures of irregular shape and those having lengthy design methods
   Time (Type III)
e. Engineering surveys (for design and construction) and photo-grammetry
   Time (Type III)

13.2 Mechanical/Electrical/Sanitary Engineering
a. Builder’s Work Drawings
   Time (Type III)
b. Fabrication or Shop Drawings
   Time (Type III)
c. Commissioning of plant, preparation of maintenance and operating instructions and manuals, as installed drawings training of personnel and assistance in operation of facilities
d. Carrying out survey of existing installations
   Time (Type III)

13.3 General
a. Site visits other than required for construction services
   Time (Type 111)
b. Resident Engineering Staff (fulltime) 2.5 times personnel cost time on site assignment
c. Reimbursables
As per schedule (B)

d. Preparation of applications and supporting documents for loans from lending agencies or for Government grants or advances  **Time (Type III)**

e. Travelling outside of T & T (Ground transportation & waiting & flying time) 1.5 times personnel cost

f. Alterations and/or modifications to designs or specifications at the request of the Client or the Architect.

**Time (Type III)**

g. On Building projects where more than 25% of the project cost is civil engineering works, Fees for the Engineering design services for this portion of the works shall be based on the Type I Schedule of Fees.

### 14.0 Schedule B – Reimbursable Expenses

The Engineer shall be paid for the following out of pocket expenses in connection with the Works at the cost actually and properly incurred plus a maximum of 10% handling charge.

- a. Reasonable living and traveling expenses of employees, partners, and Principals when away from the home office on business connected with the Project.
- b. Identifiable communication expenses such as overseas telephone, telex, cablegrams, express charges, and postage other than for general correspondence
- c. Service directly applicable to the Work, such as special legal and accounting expenses, computer rental and programming costs, special consultants, boring, laboratory charges, and required advertising.
- d. Identifiable reproduction costs applicable to the Work, such as plotting, blue printing, photocopying, mimeographing, printing, etc.
- e. Letterheads, tracing paper and other stationery specially printed for the project.