



**Recommended  
Conditions of Engagement  
and  
Schedule of Professional Fees  
for  
Building Projects**

**Endorsed & Supported by  
The Consulting Engineers of Alberta  
(CEA)**

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This document is based on the “Recommended Conditions of Engagement and Schedule of Professional Fees,” October 13, 1992, produced by The Alberta Association of Architects. Permission to use and modify this document is gratefully acknowledged.

Certain provisions of this document are derived, with modifications, from publications produced by the Architectural Institute of British Columbia, the Association of Professional Engineers, Geologists and Geophysicists of Alberta, the Consulting Engineers of Alberta and the Ontario Association of Architects. Permission to use these materials from these Associations is gratefully acknowledged.

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## INTRODUCING A CANADIAN FIRST

“The Recommended Conditions of Engagement and Schedule of Professional Fees for Building Projects” has been cooperatively developed by The Alberta Association of Architects (AAA) and The Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) and is endorsed by The Consulting Engineers of Alberta (CEA). It replaces separate documents previously distributed by these three organizations.

The product of two years of work, this is the first-ever joint initiative of its kind in Canadian history. It is a significant step forward in the evolution of both the AAA and APEGGA. While the disciplines of architecture and engineering have different training, both professions are united in their aims of protecting and serving the interests of the public and enhancing the quality of life enjoyed by Albertans.

By providing a single source of guidance on undertaking building projects, the document fills a long-standing need for clarity in one of the most important sectors of economic activity in the province.

### **The value of starting at “Square One”**

*“Method goes far to prevent trouble in business.”* Three hundred years have passed since philosopher William Penn made this observation. The premise remains sound. Accurately forecasting the scope of work ahead is one of the most challenging aspects of any building project, particularly when a project may span months or even years and involve a small army of specialists and subtrades.

The document provides a method of identifying, at the outset of a building project, the professional services that will be required and the nature of the relationship that will be established between the owner and the prime consultant. It is not intended to take the place of open and ongoing communication between owner and prime consultant but has been developed as a working tool to focus and facilitate these discussions.

As such, the “Recommended Conditions of Engagement and Schedule of Professional Fees for Building Projects” has value for consultants as well as for those planning to undertake building projects in Alberta. For owners, it provides an overview of the entire process. Clarifying all aspects of the building project at the outset enables accurate planning, assists in sound decision making and streamlines the development process. For the prime consultant and the consultant team, it will prove invaluable as a tool to define and clarify owner needs and therefore help in developing accurate calculations of time and resources required. Ultimately, it is intended to assist in building solid owner/prime consultant relationships.

### **Keeping Pace with Change**

Updated versions of this document will be developed and distributed as required. Owners and consultants are encouraged to comment on the document and provide suggestions for change. For more information, advice on any aspect of building projects in Alberta, or to provide suggestions for the content for future editions of this document, contact the office of either:

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(Effective January 25, 1999, the area code in Edmonton will change to 780)

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## TERMS AND DEFINITIONS

**The Alberta Association of Architects (AAA)** - is the self governing professional association charged under the Architects Act with the responsibility of regulating the restricted scope of practice of architecture for the protection of the public and administration of the profession.

**Architect** - is the restricted title applied to individuals registered under the Architects Act who have successfully completed a university degree in architecture, three years of practical training under the supervision of the profession and nine examinations designed to test health and public safety issues. In order to protect the public, an architect is required to assume professional responsibility for certain categories of buildings defined under the Architects Act and the Alberta Building Code.

**The Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)** - is the self-governing professional association charged with the responsibility of regulating the practice of engineering, geology and geophysics to enhance the quality and value of professional services provided to the public.

**The Consulting Engineers of Alberta (CEA)** - is a business organization consisting of consulting engineering companies that serves its members and society by promoting the engineering industry as a catalyst for economic growth, wealth generation and the application of technology. **The Association of Consulting Engineers of Canada (ACEC)** is the national body representing consulting engineering companies. It produces a number of national documents.

**Consultant Team** - refers to the architects and professional engineers who provide design and consulting services to the owner. Depending upon the nature of the project, the members of a consulting team may vary but usually include at least the following professionals: an architect and structural, electrical and mechanical engineers.

**Owner** - throughout this document, the term "owner" is used to refer to the owner or client, who originates the building project and hires the prime consultant.

**National Practice Program (NPP)** - is the national affiliation of the ten provincial associations of architecture and the Royal Architectural Institute of Canada. NPP produces a number of national documents and programs on behalf of Canadian architects.

**Prime Consultant** - is used to refer to either the architect or the professional engineer who is acting as the leader or coordinator of the consulting team and who usually signs a prime consultant agreement with the owner.

**Professional** - is an individual who is registered pursuant to a piece of provincial legislation and who is entitled to practice the scope of practice and to use the professional title defined under that legislation.

**Professional Engineer** - is the restricted title applied to individuals registered under the Engineering, Geological and Geophysical Professions Act who have successfully completed a university degree in engineering, four years of practical training satisfactory to the Board of Examiners, and examinations as determined by the Board of Examiners. In order to protect the public, a professional engineer is required to assume professional responsibility for certain categories of buildings defined under the Engineering, Geological and Geophysical Professions Act and the Alberta Building Code.

**Subconsultant** - is the term used in this document to refer to the architects and professional engineers who are members of the consultant team and not the prime consultant. Normally, the subconsultants are engaged by the prime consultant, on behalf of the owner.

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## SECTION 1.0

### The Professional Relationship

#### 1.1 General

Selecting a prime consultant is one of the most important decisions an owner makes when undertaking a building project — because the success of a project depends largely on the prime consultant's ability. The thoughtful owner will select a registered professional who is knowledgeable regarding current building design and construction practices and procedures and will base this selection on a careful evaluation of the prime consultant's professional experience and capabilities.

This document describes the professional services a consultant offers, the fees recommended for these services and the conditions of engagement.

Fees for the prime consultant and subconsultants are related to the level of services required. The services and fees described are based on the premise that:

- A professional is required to deliver the minimum scope of service necessary to protect the public.
- Each project requires a minimum level of scope of service in order for all members of the consultant team to fulfill their professional obligations.
- The more complex the project, the greater the level of services required.
- The level of fees is directly related to the level of service.
- The level of service is the critical factor in the success of the project.

Architects and Professional Engineers are professionals who are entitled under the Architects Act and the Engineering, Geological and Geophysical Professions Act to practice within the restricted practices of architecture and engineering, respectively. In order to protect

public safety, only appropriately qualified individuals, who have the required education and practical training and have passed extensive examinations, are allowed to assume professional responsibility and so designate by applying their seals to the drawings of buildings as defined under the two Acts and the Alberta Building Code.

As professionals, Architects and Professional Engineers are required to support governing professional associations which are responsible for regulating the professions for the purpose of protecting the public. In addition to being professionally responsible for their services, Architects and Professional Engineers are each governed by a Code of Ethics, which describe their responsibilities to their clients and the public. Breach of these standards can lead to disciplinary action.

#### 1.2 Selecting a Prime Consultant

When a building project is undertaken, a management group is usually formed. This group consists of the owner, a consultant team, and specialist consultants as required. The consultant team typically includes an architect, structural, mechanical and electrical engineers, and may also involve specialty consultants engaged by the prime consultant.

The owner appoints either an architect or a professional engineer as the prime consultant. The prime consultant is then responsible for the overall management and coordination of the consultant team.

Selection of a prime consultant and discussion of fees are based on defined, specific information about the project to be undertaken. This enables the owner to select the prime consultant on the basis of:

- professional capability
- experience
- suitability for the particular project and
- ability to provide the required services within the fee guidelines of this document.

AAA, APEGGA and CEA have documents to guide the owner through the process of selecting a consultant.

When the owner has selected a prime consultant, detailed discussions about services and fees are undertaken. These negotiations are based upon the specifics of the project and known variables.

The prime consultant's fee is based on the value and amount of professional and technical time that will be spent in design, development and construction of the project in order to provide the level of services required.

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## **SECTION 2.0**

### **Agreement Between Owner and Prime Consultant**

#### **2.1 Content of an Agreement**

A prime consultant provides the most effective service when there is a clear understanding between owner and prime consultant about their respective involvements. The prime consultant must fully explain their:

- duties
- responsibilities
- obligations and
- liability involved in undertaking the work.

The agreement must also include the expected involvement of the owner.

All services the prime consultant is to provide to the owner should be clearly set out in a written contract. Standard contract forms are available that establish the relationship between owner and prime consultant, as well as between prime consultant and subconsultant. These documents have been developed to protect the interests of both the owner and the prime consultant, and the prime consultant and the subconsultants. Use of these documents, based on recognized standards, is recommended.

These documents include:

- Canadian Standard Form of Agreement Between Client and Architect, NPP Document No. 6
- Canadian Standard Form of Agreement Between Client and Architect Abbreviated Version, NPP Document No. 7
- Prime Agreement Between Client & Engineer, ACEC Document No. 31
- Canadian Standard Form of Agreement Between Architect and Consultant, NPP Document No. 9
- Agreement Between Engineer and Subconsultant, ACEC Document No. 32

These documents are available at offices of AAA, APEGGA and CEA.

#### **2.2 Types of Fee Arrangements**

A fair fee is essential to a successful project. Methods of determining the fee are described in Section 4 Determining the Fee. Three commonly used fee arrangements are:

- percentage-based fee where the fee is calculated as a percentage of construction cost;
- fixed fee where services are provided for a fixed sum; and
- hourly-rate based fee where services are provided at hourly rates for time spent.

The amount of the fee can be arrived at using the fee schedules in Section 6.0 Determining Percentage Fee for Services and Section 7.0 Determining Hourly Billing Rates.

#### **2.3 Insurance Coverage**

The need for insurance varies from project to project and in relation to the risk involved for the client and the consultants. The owner, in consultation with the prime consultant, reviews the type and amounts of coverage needed on the project.

Types of insurance may include:

- general liability,
- owned and non-owned automobiles,
- valued documents,
- errors and omissions,
- occupational health and safety,
- workers compensation and
- project specific insurance.

When a project is large or complex, insurance requirements may need to be determined by specialists.

## **2.4 Project Coordination**

Coordinating the work of the consultant team is vital to the successful completion of a project. This coordination is usually undertaken by the architect or professional engineer appointed by the owner as prime consultant.

### **2.4.1 Prime Consultant**

The prime consultant coordinates the design and administration of the project and ensures that members of the consultant team are properly informed of, and fulfill, their responsibilities so that the project moves ahead.

The coordinating duties of the prime consultant benefit the owner. The prime consultant should be compensated fairly for performing this role whether the subconsultants and specialists are retained by the prime consultant or directly by the owner. Compensation for the coordinating role is usually called the coordination fee. This fee varies depending on the complexity of the project, subconsultant's discipline, the magnitude of the coordination activity, and the level of coordination undertaken by the prime consultant and the subconsultants. The coordination fee is normally 20 per cent of the subconsultant's fee.

### **2.4.2 Subconsultants**

Subconsultants are usually retained by the prime consultant to perform the designated services outlined in Section 8.0 Schedule of Designated Services. Specialist consultants may also be required for the project team.

Before the agreement with the prime consultant is formalized, it is in the owner's best interests to ensure that contracts arranged between the prime consultant and other consultants are appropriate to meet owner and project needs. There should be formal contracts, with clear, written definitions of:

- scope,
- schedule,
- responsibility and
- financial terms.

### **2.4.3 Professional Review of Construction**

The Alberta Building Code requires that the prime consultant or other suitably qualified persons perform reviews to determine general conformance with construction documents. This would include review of:

- the construction of any building or part thereof;
- all shop drawings and other related documents and
- workmanship, materials and all reports of material tests.

The owner is responsible for ensuring compliance with this provision.



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## **SECTION 3.0**

### **Scope of Services**

A project is initiated by the owner, who describes the scope of work involved. The role of the owner will vary, depending on the experience of the owner and the complexity of the project. Therefore, the owner's role in planning, financing, managing or coordinating a project should be clearly defined before the scope of services for the prime consultant is established.

The scope of services defined for the prime consultant must reflect the prime consultant's duty both to satisfy the expectations of the owner and to protect public safety.

The following are guidelines for establishing the scope of services for a project.

- The scope of services must ensure the design meets the requirements of the governing codes and regulations.
- The prime consultant is responsible for ensuring that the scope of services for the whole project team is adequate and based on the defined needs of the owner. This responsibility includes formally advising the owner of the consequences of scope restrictions.
- Subconsultants must make the prime consultant aware, at the beginning of a project, of any special scope requirements that will affect their professional service or the professional service of other subconsultants.
- Each subconsultant is responsible for their scope of services based on their qualifications and expertise. Each subconsultant takes part in determining an adequate fee in relation to that scope.

- Each subconsultant is responsible for the design and review of all aspects of the project falling within that subconsultant's discipline. The owner, the public and the authorities having jurisdiction have a right to expect that this will be the case, unless appropriate scope restrictions are clearly identified in any documents bearing the consultant's seal.

### **3.1 Designated Services Summary Chart**

The Designated Services Summary Chart is a summary of Section 8.0 Schedule of Designated Services. The Chart shows the basic minimum services, potential additional services and special consultants services that may be required for the phases of a typical project. The phases of a typical project are also included in Section 8.0 Schedule of Designated Services and the basic minimum services and potential additional services to be provided are described in greater detail.

Both the Designated Services Summary Chart and Section 8.0 Schedule of Designated Services are designed to assist the owner and prime consultant determine the scope of services to be provided. In addition, Section 8.0 Schedule of Designated Services is also available as a separate document, specially formatted with signature lines for both the prime consultant and the owner. It is highly recommended that the owner and prime consultant review each phase of the project, identifying the basis and additional services required. These services then become the basis for the contract between the owner and prime consultant.

### 3.1 Designated Services Summary Chart

The Designated Services Summary Chart lists the scope of work on a typical project and the services the consultant team is expected to provide on a phase of work basis.

PRE-DESIGN	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	CONSTRUCTION DOCUMENTS
<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Site Analysis</li> <li>● Presentations</li> <li>● Concept Development Study</li> <li>● Agency Review</li> <li>● Off-Site Utility Review</li> <li>● Project Scheduling</li> <li>● Project Budgeting</li> <li>● Owner-Supplied Data Coordination</li> <li>● Programming Review</li> <li>● Preparation of Owner &amp; Consultant Services Agreement</li> </ul>	<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Project Administration</li> <li>● Disciplines Coordination &amp; Document Checking</li> <li>● Agency Consulting, Review &amp; Approval</li> <li>● Owner Supplied Data Coordination</li> <li>● Architectural Design &amp; Documentation</li> <li>● Structural Design &amp; Documentation</li> <li>● Mechanical Design &amp; Documentation</li> <li>● Electrical Design &amp; Documentation</li> <li>● Materials Research &amp; Specifications</li> <li>● Project Scheduling</li> <li>● Construction Cost Updates</li> </ul>	<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Project Administration</li> <li>● Disciplines Coordination &amp; Document Checking</li> <li>● Agency Consulting, Review &amp; Approval</li> <li>● Owner Supplied Data Coordination</li> <li>● Architectural Design &amp; Documentation</li> <li>● Structural Design &amp; Documentation</li> <li>● Mechanical Design &amp; Documentation</li> <li>● Electrical Design &amp; Documentation</li> <li>● Materials Research &amp; Specifications</li> <li>● Project Scheduling</li> <li>● Construction Cost Updates</li> </ul>	<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Project Administration</li> <li>● Disciplines Coordination</li> <li>● Agency Consulting, Review &amp; Approval</li> <li>● Owner Supplied Data Coordination</li> <li>● Architectural Drawings &amp; Specifications</li> <li>● Structural Drawings &amp; Specifications</li> <li>● Mechanical Drawings &amp; Specifications</li> <li>● Electrical Drawings &amp; Specifications</li> <li>● Bidding Documents &amp; Scheduling</li> <li>● Project Schedule Update</li> <li>● Construction Cost Update</li> <li>● Application for Building Permits</li> </ul>
<p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Re-zoning Applications</li> <li>○ Presentations</li> <li>○ Soils Report &amp; Surveys</li> <li>○ On-Site Utility Studies</li> <li>○ Market Studies</li> <li>○ Economic Feasibility Studies</li> <li>○ Specific Fit Programming</li> <li>○ Existing Facility Surveys</li> <li>○ Site Analysis &amp; Selection</li> </ul>	<p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Design &amp; Documentation</li> <li>○ Landscape Design &amp; Documentation</li> <li>○ Interior Design &amp; Documentation</li> <li>○ Coordination of Specialist Services</li> </ul>	<p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Design &amp; Documentation</li> <li>○ Landscape Design &amp; Documentation</li> <li>○ Interior Design &amp; Documentation</li> <li>○ Coordination of Specialist Services</li> </ul>	<p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Provision of Building Permits</li> <li>○ Civil Design &amp; Documentation</li> <li>○ Landscape Design &amp; Documentation</li> <li>○ Interior Design &amp; Documentation</li> <li>○ Coordination of Specialist Consultants</li> <li>○ Special Bidding Documents &amp; Scheduling</li> </ul>
<p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Legal Survey</li> <li>○ Geotechnical Analysis</li> </ul>	<p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Design Concepts</li> <li>○ Landscape Concepts</li> <li>○ Statements of Probable Costs</li> <li>○ Interior Design Concepts</li> <li>○ Coordinate Specialists</li> </ul>	<p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Design Development</li> <li>○ Landscape Development</li> <li>○ Detailed Construction Cost Estimates, Quantity Surveys</li> <li>○ Interior Design Development</li> <li>○ Coordinate Specialists</li> </ul>	<p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Construction Documents</li> <li>○ Landscape Documents</li> <li>○ Detailed Construction Cost Estimates, Quantity Surveys</li> <li>○ Interior Design Documents</li> <li>○ Coordinate Specialists</li> </ul>

**Key**

- Basic Minimum Services
- Additional Services

**Designated Services Summary Chart** (continued from previous page)

BIDDING OR NEGOTIATIONS	CONSTRUCTION AND POST-CONSTRUCTION CONTRACT ADMINISTRATION	SUPPLEMENTAL SERVICES
<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Project Administration</li> <li>● Bidding Materials</li> <li>● Addenda</li> <li>● Bidding &amp; Negotiations</li> <li>● Analysis of Alternates &amp; Substitutions</li> <li>● Bid Evaluation</li> <li>● Construction Contract Agreements</li> </ul> <p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Special Bidding Services</li> <li>○ Coordination of Specialist Services</li> </ul> <p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Issue Bidding Documents</li> <li>○ Issue Addenda</li> <li>○ Bid Evaluation</li> </ul>	<p><b>Basic Minimum Services</b></p> <ul style="list-style-type: none"> <li>● Project Administration</li> <li>● Disciplines Coordination (Checking)</li> <li>● Agency Consulting, Review &amp; Approval</li> <li>● Owner Supplied Data Coordination</li> <li>● Office Construction Administration</li> <li>● Construction Field Observation</li> <li>● Field Observation Coordination</li> <li>● Quotation Requests &amp; Change Orders</li> <li>● Project Schedule Monitoring</li> <li>● Construction Cost Monitoring</li> <li>● Project Closeout &amp; Substantial Performance</li> <li>● Systems Startup</li> <li>● Maintenance &amp; Operational Programming</li> <li>● Review of Record Drawings, Operations &amp; Maintenance Manuals</li> <li>● Startup Assistance</li> <li>● Year-End Warranty Inspection</li> </ul> <p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Project Representation &amp; Clerk-of-Works</li> <li>○ Supplemental Documents</li> <li>○ Coordination of Specialist Services</li> <li>○ Additional Administration</li> <li>○ Safety/Prime Contractor Responsibilities</li> <li>○ Application for Occupancy Permits</li> <li>○ Building Commissioning</li> <li>○ Deficiency Inspections Beyond Final Inspection</li> <li>○ Redrawing of Record Drawings</li> <li>○ Preparation of As-Built Documents</li> <li>○ Preparation of Operations &amp; Maintenance Manuals</li> <li>○ Project Evaluation Services</li> </ul> <p><b>Special Consultants' Services</b></p> <ul style="list-style-type: none"> <li>○ Civil Construction Inspection</li> <li>○ Landscape Inspection</li> <li>○ Detailed Cost Accounting</li> </ul>	<p><b>Additional Services</b></p> <ul style="list-style-type: none"> <li>○ Special Studies</li> <li>○ Renderings</li> <li>○ Model Construction</li> <li>○ Life Cycle Cost Analysis &amp; Value Analysis</li> <li>○ Quantity Surveys</li> <li>○ Detailed Construction Cost Estimates</li> <li>○ Energy &amp; Environmental Studies &amp; Reports</li> <li>○ Environmental Monitoring</li> <li>○ Tenant-Related, Services</li> <li>○ Graphics Design</li> <li>○ Fine Arts &amp; Crafts Services</li> <li>○ Special Furnishings Design Investigation &amp; Research</li> <li>○ Non-Building Equipment Selections</li> <li>○ Project Promotion &amp; Public Relations</li> <li>○ Leasing Brochures</li> <li>○ Expert Witness &amp; Arbitrator</li> <li>○ Computer Application</li> <li>○ Presentations</li> <li>○ Reproduction, Printing &amp; Copying</li> <li>○ Travel</li> <li>○ Legal Consulting</li> <li>○ Contractor Insolvency</li> <li>○ Computer Modeling</li> <li>○ Providing Special Insurance</li> <li>○ Research &amp; Development &amp; Innovative Design</li> <li>○ Fund Raising</li> <li>○ Materials &amp; Systems Testing</li> <li>○ Photographic Records</li> <li>○ Coordination with Non-Design Professionals</li> <li>○ Safety/Prime Contractor Responsibilities</li> </ul>

● Basic Minimum Services    ○ Additional Services

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## SECTION 4.0

### Determining the Basic Fee

When the owner and prime consultant have agreed on the scope of services for the project and identified specific requirements and variables, they then arrive at an appropriate fee for the professional services to be provided. Fees for basic services are directly related to the specific requirements and variables identified.

There are a number of ways to determine fees for professional services. Three methods are most commonly used: percentage based, fixed fee, and hourly rate based.

- A percentage based fee is determined as a percentage of the cost of construction.
- A fixed fee is calculated using costing data from similar projects in the past.
- An hourly rate based fee is determined based on the estimated number of hours plus expenses needed to complete the work.

Calculating a fee based on a percentage of the cost of construction is a reliable method of establishing appropriate fee levels and is supported by long use. The percentage can either be used as the basis of the final fee (percentage based fee), as a guide to agreement for a fixed fee, or as a guide to establishing a budget for an hourly based fee.

A written agreement is essential. It describes in detail the services to be provided and all categories of cost. It covers schedule, time limits, inflation and other identifiable items that influence costs. If there are changes in the scope of the work or in the estimated value of the projects after the fee has been established, adjustments are made to the fee. Adjustments can be either on the basis of an hourly rate or by negotiating an adjustment to the fee for each change.

### 4.1 Percentage Based Fee

The percentage based fee establishes the fee as a percentage of the cost of construction. This calculation takes into account both cost of work and category of building. Past and current data have been correlated to establish the percentages set. The minimum recommended percentage based fee for basic services is outlined in Section 6.2 Schedule of Minimum Recommended Percentage Fee for Basic Services. The method of calculating the level of fee is as follows.

#### 4.1.1 Cost of Construction

Cost of construction means the contract price(s) of all elements of the project designed or specified by the consultants, including all applicable taxes whether recoverable or not.

Where there is no contract price for all or part of the project or if the construction does not proceed, the construction cost is the estimated cost at market rates at the estimated time of construction, as initially determined by the owner and consultant.

Fees must be able to be revised as specific project information is determined. Fee revisions are sometimes done at the end of each phase of the project or they may be done at a specific, pre-agreed point in the process. The recommended time to revise fees is when the pre-tender estimate and construction documents are reviewed and agreed to by the owner before the tender phase.

Except for the Phase 5.0 Bidding or Negotiation and Phase 6.0 Construction Contract Administration phases of a project (see Section 8.0 Schedule of Designated Services), adjusting the prime consultant's fee based upon the awarded tender amount is not recommended. The fluctuations of the economic and tendering climate may create a punitive situation for the consultant, the owner, or both.

In the event that labour or material is furnished by the owner below market cost or that old materials are re-used, the construction cost, for purposes of establishing the fee, is interpreted as the cost of all materials and labour necessary to complete the work, as if all materials had been new and all labour had been paid for at market prices at the time of construction or, if construction does not proceed, at existing market prices at the estimated time of construction.

The construction cost of the work does not include:

- prime consultant's fee and disbursements
- salaries of the owner's technical site personnel
- cost of the land
- other project costs that are the responsibility of the owner
- the cost of machinery or equipment related to the specific use of the building for production, manufacturing, treatment or processing purposes, where the consultant is not required to design or specify or coordinate the installation of the items.

#### **4.1.2 Building Categories**

A building will generally belong in one of the seven categories listed in Section 6.1 Categories of Buildings. If a building is not specifically listed, it belongs in the category to which it is most closely related. Categories are determined according to how the space is used. Where a building is multi-use or where the usage is complex, it may be necessary to consider it in more than one category to determine the appropriate fees. (For percentage fees for basic services, see Section 6.2 Schedule of Minimum Recommended Percentage Fee for Basic Services.)

#### **4.1.3 Project Variables**

Project variables are factors not normally associated with a typical project in the selected category of building. These are factors such as specific owner requirements or unusual site, location, climate, or soil conditions. They may or may not have

impact on construction cost, but they require the consultant team to provide a level of service that goes beyond the basic scope of services.

This higher level of service may be provided by the prime consultant team or the services of other specialist consultants may be required. In either case, the effect of variables both on services and fees must be recognized and must be reflected in the agreement between owner and prime consultant. This ensures that the owner receives the level of service necessary for the variables to be dealt with successfully.

Typically, when the prime consultant is selected through a proposal call, the variables will not have been determined. The proposal assumes that the basic scope of services is required and that the project has no variables.

When the owner has selected the prime consultant, the owner and prime consultant will discuss in detail the specific requirements and the variables. This ensures that the impact of the variables is identified and appropriately reflected in the scope of services and in the corresponding fees.

To determine the extent to which a variable may affect a project, each variable is rated on a scale from zero to five. The ratings are cumulative and when added together may not be more than five. If the total exceeds five, then the maximum value of five is used. (For a description of project variables and rating factors, see Section 6.3 Project Variables). The final total rating is reached through discussion, negotiation and agreement between owner and prime consultant and is based on both parties' understanding of the factors that affect the project.

The percentage fee for project variables is then identified. It is based on the final total rating for variables and the total cost of construction as set out in Section 6.4 Schedule of Project Variables. This percentage is added to the percentage determined from Section 6.2 Schedule of Minimum Recommended Percentage Fee for

Basic Services and the sum is the total percentage fee for the project.

In some cases, the effect of one or more of the variables may be so great that it is not possible to determine appropriate compensation using the above method. In that case, the owner and prime consultant negotiate these terms.

**4.1.4 Sample Project Fee Calculations**

The following is an example of how a fee would be calculated for a multi-purpose, multi-user, building complex located in a discontinuous permafrost region in northern Alberta. There are no zoning problems relative to this building, however the design calls for spans up to 60 metres, using non-standard, owner-generated specifications and a sequential tendering system. The construction budget for the project is \$2.3 million.

**1. Calculation of the Basic Fee on a Percentage Basis**

Based on Section 6.1 Categories of Buildings, the building falls in Category 5, Community Multi-Use Centre. Referring to Section 6.2 Schedule of Minimum Recommended Percentage Fees for Basic Services, for a Category 5 Building with a construction budget of \$2.3 million, the recommended percentages are:

On the first \$1.2 million 10.43% or	\$125,160
On the next \$1.1 million 10.15% or	<u>111,650</u>
Total Basic Fee	\$236,810

**2. Determination of Project Variables**

By referring to Section 6.3 Project Variables, the following project variables not normally associated with buildings in Category 5 can be identified.

	Scale Factor
A. Site & Context - <i>Permafrost</i>	1.0
B. Function & Program - <i>Normal</i>	0.0
C. Equipment & Context - <i>Multi Users</i>	0.5
D. Building Envelope - <i>Cold Climate, Long Spans</i>	1.5
E. Design Process - <i>Normal</i>	0.0
F. Tendering - <i>Normal</i>	0.0
G. Construction - <i>Multiple Contractors</i>	1.2
H. Renovations - <i>None</i>	<u>0.0</u>
Total Project Variables (not to exceed 5.0)	4.2

From Section 6.4 Schedule of Project Variables, this building falls between scale 4 and 5, therefore total project variables for the building are 4.2. For a building with a construction budget of \$2.3 million, the calculation of the adjustment to the percentage based fee resulting from the project variables would be:

On the first \$1.2 Million 3.75% or	\$45,000
On the next \$1.1 Million 3.36% or	<u>36,960</u>
Total Fee for project variables	\$81,960
 Total Project Fee (basic plus variables)	 <u>\$318,770</u>
(13.86% of the estimated cost of the work)	

**4.1.5 Small Projects**

For small projects, a percentage fee calculation would not reflect the amount of work required of the prime consultant, therefore fees for projects up to \$300,000 are negotiated at a higher percentage of the cost of the work than fees for projects over \$300,000.

## 4.2 Fixed Fee

A fixed fee is used primarily for projects or components of projects where the scope of the work is clearly defined and where construction, if applicable, will be completed over a known schedule. The fixed fee for such assignments is negotiated after the prime consultant has prepared a comprehensive estimate of work hours and applicable overhead costs and/or has calculated a fee based on a percentage of the construction estimate. In fee negotiations it is important to identify and agree on the key assumptions made in developing the estimate.

## 4.3 Hourly Rate Based Fee

An hourly rate based fee takes into account the detailed scope of the services provided, the complexity of the project, the time required to undertake these services and the associated costs.

A fee based on an hourly rate is particularly applicable:

- when it is not appropriate to calculate fees as a percentage of construction cost
- when the scope of the assignment is not well defined
- at certain stages of a project when the consultant may not have control over hours worked and disbursements
- when the prime consultant provides additional services or spends additional time, including time spent:
  - in the consultant's office
  - on the owner's premises
  - on the job site
  - traveling, etc.

When the prime consultant's fee is based on an hourly rate, the cost of professional services is determined by multiplying the number of hours each member of the prime consultant's staff spends on the project by their respective hourly billing rates.

The hourly billing rate is the hourly payroll cost multiplied by a payroll factor.

The payroll cost includes:

- salary
- statutory holidays and vacation pay
- unemployment insurance
- Workers' Compensation
- Canada Pension Plan
- medical plan coverage.

The payroll factor includes overhead and profit. For calculations of payroll cost and payroll factors, see Section 7.0 Determining Hourly Billing Rates.

Hourly billing rates vary according to individual qualifications and level of experience. They reflect the authority and responsibility associated with the individual position.

The hourly billing rate on a project also reflects the prime consultant's level of risk on the project.

## 4.4 Reimbursable Expenses

The prime consultant is entitled to reimbursement for all reasonable expenses. Such expenses are discussed and agreed to when the owner/prime consultant agreement is being defined. Reimbursable expenses are normally approved in advance by the owner.

Typically, reimbursable expenses include costs such as:

- reproduction and plotting
- photography
- long distance telephone calls
- computer disk copies
- mail, courier and delivery
- facsimile transmissions
- travel and other expenses required for the project.

Traveling time outside the prime consultant's community to the project is paid by the owner at the full hourly rates that apply.

A minimum markup of 10% on expenses is recommended to cover the prime consultant's administrative costs. Alternately, a lump sum disbursement allowance for the project can be determined.

#### 4.5 Allocation of Project Fees

For fixed fees and percentage based fees outlined both in the owner/prime consultant agreement and this document, the fees for basic services are typically allocated as follows:

- Pre-design & Schematic Design . . . . 12.5%
- Design Development . . . . . 12.5%
- Construction Documents . . . . . 50%
- Bidding/Negotiation . . . . . 5%
- Construction/Post Construction . . . . . 20%

For specific projects, it may be appropriate to vary these percentages.

Owner and prime consultant should agree on the terms and schedule of payment when the owner/prime consultant agreement is being defined. The owner should not delay payment of fees to the prime consultant without just cause and withholding of fees is not recommended. If the withholding of fees becomes essential to a contract, it is recommended that the holdback be released immediately when the phase is completed during construction. In addition, during the construction phase, the holdback should be released at least at 50% and 100% completion.

If any portion of the fee is retained, the owner should pay the consultant interest on the holdback amount at a rate previously agreed in the owner/prime consultant agreement.

The prime consultant should pay the consultant team for their services promptly on receiving payment from the owner.

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## SECTION 5.0 Other Considerations

### 5.1 Additional Services

When a project is planned and undertaken, the requirements are many and varied. The owner should, therefore, consider retaining the consultant for services beyond those regarded as normal for the project. The scope of these additional services will depend on the nature and complexity of each project and the owner's own planning and development capabilities.

Possible additional services are identified in Section 3.1 Designated Services Summary Chart and Section 8.0 Schedule of Designated Services. These are considered services over and above those basic services included in the basic services fee (see Section 6.2 Schedule of Minimum Recommended Percentage Fee for Basic Services).

A factor considered to be a project variable, which therefore affects the fee, cannot also be considered an additional service.

### 5.2 Re-use of Documents or Design

Ownership of drawings, specifications and other documents used in the construction of a project is often confused with ownership of copyright.

The ownership of drawings and related documents means ownership of the actual drawings and documents. This is governed by the contract between consultant and owner.

The ownership of copyright means ownership of the idea embodied in the drawings and of the right to reproduce that idea.

The following statements are taken from "The Canadian Law of Architecture and Engineering", 2nd edition, by Beverly M. McLachlin, Wilfred J. Wallace, and Arthur M. Grant, 1994:

- a) *The Engineer or Architect who creates the idea of copyrighted work retains it unless it is expressly assigned to another or is allowed to enter the public domain, i.e., by publication in magazines and journals, without reservation of copyright.*



- b) *The drawings, specifications and other documents produced by an Engineer or Architect are the property of the Client once they have been paid for unless the Client/Consultant agreement contains provisions to the contrary.*
- c) *Documents, such as design notes, calculations and communications records, which are produced by an Engineer or Architect for the sole purpose of assisting him in carrying out an assignment for a Client are the property of the Engineer or Architect.*

To prevent re-use of drawings, specifications and other documents prepared by a consultant, an appropriate clause is inserted in the owner/prime consultant agreement. The clause states that the documents are the property of the consultant and are not to be used on any other project without prior written consent and payment of the appropriate fee.

### **5.3 Repeat Work**

From time to time a project is undertaken as a repeat project for the same owner, from the identical design and using the same documents. In such a case, when consulting services for the original or prototype project were charged to the owner at the full basic fee, it is recommended that a repeat fee be calculated. The fee for a repeat project is expected to be between 50% and 100% of potential full-service charges.

The repeat fee consists of four components:

- basic charges
- redesign charges
- bidding or negotiation services
- contract administration and post-construction charges.

#### **5.3.1 Basic Charges**

On all repeat projects, the prime consultant receives a royalty. This royalty is 25% of the potential full service charges for the new project, to cover:

- negotiation and drafting of a new owner/consultant agreement,
- receipt of the owner's instructions,
- assistance in obtaining development permits,
- presentation of construction estimates,
- minimum changes to original drawing title blocks,
- provision of ongoing professional liability insurance coverage related to the repeat project,
- royalty for use of the consultant's original design and
- general advice related to starting a new project.

#### **5.3.2 Redesign Charges**

Redesign charges cover the cost of any redesign work necessary and any changes to the original drawings and specifications, building orientation, building layout, etc.

Redesign charges are variable and can be up to 50% of the original project fee. They depend on the extent of redesign and changes to original documents. It is recommended that owner and prime consultant negotiate appropriate redesign charges for the particular project.

#### **5.3.3 Bidding or Negotiation Services**

To cover bidding procedures or negotiation of the construction contract including assistance with contract drafting, the prime consultant receives an amount of 5% of the potential full service charges for the project.

#### **5.3.4 Contract Administration and Post-Construction Charges**

To cover contract administration and field services during construction, services during construction and services during the building warranty period, the prime consultant receives an amount of 20% of the potential full service charges for a new project.

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## SECTION 6.0

### Determining a Percentage Based Fee

#### 6.1 Categories of Buildings

The following is a list of types of building by category for use with 6.2 Schedule of Minimum Recommended Percentage Fees for Basic Services.

##### Category 1

- Warehouse (10% maximum office area not exceeding 600 m<sup>2</sup>)
- Barn, Stable, Storage Shed, Kennel
- Demolition (total)

##### Category 2

- Apartment, Multiple Residential, Row Housing, Cluster and Townhousing
- Non-Complex Motel, Motor Hotel, and Apartment Hotel

##### Category 3

- Armed Forces Warehouse, Armory, Drill Hall
- Customs, Immigration Building
- Building shell only for: Summer Camp, Park Building, Resort/Tourist Building
- Marina, Trailer Park
- Maintenance Building, Service Garage, Gas Station, Parking Structure (above ground and free standing)
- Commercial Office Building, General Purpose Office Building (tenant layouts not included)
- Mercantile Building - Store, Shop, Market Building, Shopping Centre and Department Store (tenant layouts not included)

- Student or Institutional Residence, Senior Citizens' Apartment
- Industrial Building such as Cold Storage, Printing, Bakery, Laundry or Light Manufacturing Facility
- Specialized Agricultural Building
- Kindergarten and Elementary School
- Minimum Security Level Correctional Camp

##### Category 4

- Junior and Senior Academic High School, University and College Non-Technical Classroom Building
- Administrative Office Building, Owner Occupied Office Building (provided tenant work is tendered with the building shell)
- Bank and Trust Company Facility
- Stock Exchange
- Grandstand, Stadium, covered Ice Rink with minimal support facility
- Convention Hall, Exhibition Building
- Summer Camp, Park Building, Resort/Tourist Building
- Plant: Manufacturing, Processing, Specialized Storage
- Facility for a high level of residential support including Specialized Housing, Senior Citizens' Lodge.
- Animal Clinic
- Police Station, Fire Station, Emergency Measures Facility, Ambulance Facility
- Store, Market Building, Warehouse Sales Outlet
- Hotel or Complex Motor Hotel

- Club: Town, Country, Sports, Health
- Settlement House, Inner City Core Housing, “Y” Facility
- Telephone Equipment Building
- Community Centre (single hall with support space)
- Parking Structure above ground attached to an existing or new building
- Minimum Security Level Institution, Jail, Penitentiary, Reformatory, Corrections Centre, Remand Centre, Rehabilitation Centre
- Museum (exhibition hall as shell space, non-complex program without specialized environmental conditions)
- Medium Security Level Institution, Jail, Penitentiary, Reformatory, Corrections Centre, Remand Centre, Rehabilitation Centre
- Bar, Restaurant, Lounge
- Place of Worship, Monastery, Convent
- Facility for a Medium Level of Medical Care including Mental Health Hospital, Auxiliary Hospital, combined Auxiliary Hospital and Nursing Home, Special Care Facility (e.g., for severely handicapped children), Convalescent Rehabilitation Facility.

### Category 5

- Terminal: Traffic, Passenger, Freight, Road, Rail, Air, Water, Armed Forces Hangar or Terminal or Specialty Building
- Amusement Park Building
- Community Multi-Use Centre
- Swimming Pool, Ice Arena, Recreation Building, Physical Education Building
- Zoo, Animal Hospital, Botanical Garden
- Licensed Day Care
- University, College Non-Technical Classroom Building and Vocational Senior High School
- Theatre, Opera House, Auditorium, Concert Hall
- Cemetery Chapel, Mausoleum, Crematorium
- Funeral Home, Undertaking Establishment
- City Hall, Town Hall
- Chancery and Embassy, Consulate or Legation in Alberta

- Parliament Building, Post Office, Mint, Treasury, Courthouse, Archives Building, Library

### Category 6

- Facility for High Level of Medical Care including Active Treatment Hospital, Combined Active Treatment and Auxiliary Hospital with Nursing Home
- Medical Research Building, Medical Clinic, Blood Donor and Transfusion Centre
- Communications Building, Radio or TV Facility, Studio, Computer Centre
- Science Building
- Laboratory Building
- Dental Building
- Observatory, Planetarium
- Museum, Art Gallery
- Aquarium

- Plus 15 or below grade pedway, link between buildings, Rapid Transit Station, Passenger Loading Bridge
- Maximum or Mixed Security Level Institution, Jail, Penitentiary, Reformatory Corrections Centre, Remand Centre, Rehabilitation Centre

### **Category 7**

- Custom Residence and Custom Residence Swimming Pool, Fraternity House, Official Government Residence
- Decorative Work, Exhibition Display, Public Garden, Promenade, Fountain
- Commemorative Monument, Funeral Monument
- Air Traffic Control Tower, Control Centre and Flight Service Station
- Tenant Space Planning
- Restoration of Historic Monument or Building
- Alterations, upgrade and/or modernization to existing building in Categories 1 through 6

For alterations to buildings in Category 7, the fee is the percentage fee in 6.2 Schedule of Minimum Recommended Percentage Fees for Basic Services, plus 1%.

Additions to existing buildings are considered to be in Category 7, with the exception of additions over 100 m<sup>2</sup>. These are charged as new work in the appropriate building category. If the addition makes it necessary to alter the existing building, fees for this work are set as for alterations.

For vertical additions to buildings not previously prepared for such additions, the fee for all extra framing, utilities and services required in the existing building is set as for alterations. Fees for the new addition are then set as for new work, providing the addition is over 100 m<sup>2</sup>.

## 6.2 Schedule of Minimum Recommended Percentage Fees for Basic Services

For each building, the fee is established in proportion to the total cost of the work.

Division	Category of Building						
	1	2	3	4	5	6	7
on the first \$300,000	Fee to be negotiated at a rate higher than those indicated below						
on the first \$600,000	6.58%	7.58%	8.58%	9.58%	10.58%	11.58%	12.58%
on the first \$1,200,000	6.43%	7.43%	8.43%	9.43%	10.43%	11.43%	12.43%
on the first \$2,500,000	6.15%	7.15%	8.15%	9.15%	10.15%	11.15%	12.15%
on the first \$5,000,000	5.75%	6.75%	7.75%	8.75%	9.75%	10.75%	11.75%
on the first \$8,500,000	5.37%	6.37%	7.37%	8.37%	9.37%	10.37%	11.37%
on the first \$12,500,000	5.08%	6.08%	7.08%	8.08%	9.08%	10.08%	11.08%
on the first \$25,000,000	4.61%	5.61%	6.61%	7.61%	8.61%	9.61%	10.61%
on the first \$35,000,000	4.42%	5.42%	6.42%	7.42%	8.42%	9.42%	10.42%
Repeat work for same owner, see Section 5.3 Repeat Work							

When the total cost of the work is greater than the lower division but less than the next division (e.g., the total cost of work is \$2,300,000 which is greater than \$1,200,000 but less than \$5,000,000), it is recommended that the calculation on the first amount of the cost be governed by the percentage for the lower division and the remaining amount by the percentage for the higher division. For example: On a project of \$2,300,000 in Category 5, the first \$1,200,000 would be at 10.43%; the remaining \$1,100,000 at 10.15%.

### 6.3 Project Variables

Project Variable are factors not normally associated with a typical project in the selected category of building which require the consultant team to provide a level of service that goes beyond the basic scope of services. For each project variable (e.g. Site and Context), a scale factor is negotiated. The scale factor for each variable has a range of 0 to a recommended maximum of 5.0. The total of all scale factors for all project variables should not be more than 5.0. If the sum of the scale factors is more than 5.0, 5.0 is used. For further information on project variables, refer to section 4.1.3 Project Variables.

#### A. Site and Context: Scale Factor 0 to 2.0

##### Normal

*Relatively uncomplicated site, compatible land use, stable soils, good access, services available, similar neighbours.*

##### Variable

- Site problems due to insufficient working area.
- Major soil problems, stability, fill, etc.
- Difficult access leading to complex design solution.
- Compatibility problems with land use/zoning requiring unusual design features for building type.

#### B. Function and Program: Scale Factor 0 to 1.5

##### Normal

*Function and program is typical for building type. Program is complete.*

##### Variable

- Detail program review and expansion. (Program preparation an Additional Service)
- Unique and non-repetitive space requirements.
- Complex circulation and relationship patterns not normally expected within building type.

#### C. Equipment and Content: Scale Factor 0 to 2.0

##### Normal

*Equipment and content typical for building type.*

##### Variable

- Coordination for specialized equipment.
- Specialized services not normally required for building type.
- Space planning for multiple user functions.
- Detail room elevations required where not typically required.

#### D. Building Envelope and Engineering Systems Complexity: Scale Factor 0 to 3.0

##### Normal

*Typical building envelope and engineering solutions for structural, mechanical and electrical systems.*

##### Variable

- Building envelope requires special consideration of internal/external environment.
- Special structural solutions, long spans, new materials, unusual loading, etc.
- Special mechanical systems, such as high efficiency, sterile air, lab requirements, environmental restrictions, medical gases, special fire suppression, automated material handling, or other elements requiring special consultation.
- Special electrical systems, such as special power, computer installations, shielding, communication, high security, or other elements requiring special consultation.

**E. Design Process, Innovation, Uniqueness:  
Scale Factor 0 to 3.0**

**Normal**

*Design process, consistent with "Owner/Prime Consultant Agreement", one Owner group, one basic review authority, approvals at completion of each stage, systems and design within normal scope of office.*

**Variable**

- Multiple Owners (such as user group, society, government funding).
- Multiple authorities, such as two levels of government.
- Complex approval process (design committees, community approval).
- Environment Assessment Reviews.
- Innovative systems and/or details, risk factor.
- Unique design program (landmark quality).
- Owner CADD requirements differs from Consultant CADD setup.

**F. Tendering Process: Scale Factor 0 to 2.0**

**Normal**

*Open or pre-qualified tender, basic documents, standard agreement forms, stipulated sum contract.*

**Variable**

- Owner with non-standard formats and general conditions, or contracts.
- Sequential tendering, additional packages.
- Construction management contracts.
- Project management contracts.

**G. Construction Process:  
Scale Factor 0 to 2.0**

**Normal**

*General Contractor, normal construction site, periodic site visits, prequalified tenderers.*

**Variable**

- Early occupation of site by owner, phased construction, unusual construction sequencing.
- Multiple Contractors.
- Continuous or frequent site visits.
- Unique contract issues such as third party agreements.

Sequencing of construction and sequencing of construction of owner-occupied facilities during construction must be recognized as adding to the complexity level of a project and applied to both G. Construction Process and H. Renovations and Additions.

**H. Renovations and Additions:  
Scale Factor 0 to 2.0**

**Normal**

*Addition or renovations to existing facilities that must be retained in part or in whole.*

**Variable**

- Owner occupying space during renovations.
- Heritage or historic designation of existing building.
- Building safety upgrading as part of project.
- Renovation to a complex building type (Category 6 or 7).

Sequencing of construction and sequencing of construction of owner occupied facilities during construction must be recognized as adding to the complexity level of a project and applied to both G. Construction Process and H. Renovations and Additions.

## 6.4 Schedule of Project Variables

For each building, the fee is established in proportion to the total cost of the work.

Divisions	Project Variables Factors					
	Scale 0	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5
on the first \$300,000	n/a	n/a	n/a	n/a	n/a	n/a
on the first \$600,000	0	0.94%	1.89%	2.83%	3.77%	4.72%
on the first \$1,200,000	0	0.89%	1.79%	2.68%	3.57%	4.46%
on the first \$2,500,000	0	0.80%	1.60%	2.40%	3.20%	4.00%
on the first \$5,000,000	0	0.67%	1.33%	2.00%	2.67%	3.33%
on the first \$8,500,000	0	0.54%	1.08%	1.62%	2.16%	2.70%
on the first \$12,500,000	0	0.44%	0.89%	1.33%	1.78%	2.22%
on the first \$25,000,000	0	0.29%	0.57%	0.86%	1.14%	1.43%
on the first \$35,000,000	0	0.22%	0.44%	0.67%	0.89%	1.11%
Repeat work for same owner, see Section 5.3						

When the total cost of the work falls between two divisions (e.g., the total cost of the work is \$2,300,000 which is greater than \$1,200,000 but less than \$5,000,000), it is recommended that the calculation on the first part of the cost be governed by the percentage for the lower division and the remaining amount by the percentage for the higher division. For example, on a project of \$2,300,000 with a variables factor of 4, the first \$1,200,000 would be at 3.57% and the remaining \$1,100,000 at 3.2%.



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## SECTION 7.0

### Determining Hourly Billing Rates

In a professional practice, hourly billing rates have three basic components:

- direct payroll costs
- overhead costs
- profit.

For uniformity and practical purposes, the rates are based on actual hourly payroll costs, with a payroll factor multiplier to cover overhead and profit.

#### 7.1 Direct Costs

Direct costs are payroll and disbursements chargeable directly to the project and incurred by staff on an assignment.

##### 7.1.2 Hourly Payroll Costs

Hourly payroll costs are usually expressed as an hourly rate, based on a 37½ hour work week, using the following formula:

Hourly payroll costs =

$$\frac{\text{Annual salary + fringe benefits}}{52 \text{ weeks} \times 37\frac{1}{2} \text{ hours per week}^*}$$

Fringe benefits, including annual vacation and statutory holidays, are typically 25% to 35% of salary. They include the employer's share of:

- employment insurance charges
- workers' compensation levies
- medical and hospitalization insurance
- life, dental and other insurance premiums
- statutory holiday provisions
- sick leave provisions
- vacation pay
- Canada Pension and company pension.

**\*Note.** The actual cost of fringe benefits and the actual annual working hours are used to calculate the hourly payroll cost. Annual working hours are defined as the regular working hours per week multiplied by 52.

#### 7.2 Overhead Costs

Overhead costs are the costs of operating and maintaining a professional practice that are not chargeable directly to the project. They include:

- office rental and operating costs
- furnishings
- usual tools and equipment (excluding computers and specialized equipment)
- switchboard, telephones, telex, fax, etc.
- typewriter, word processing equipment, copiers, printers, plotters, etc.
- business and professional licences
- professional and general liability insurance
- stationery and office supplies
- technical library and periodicals
- staff recruitment, training and severance
- audit and legal fees
- bad debts
- financing
- salaries of administrators and secretaries whose time is not directly chargeable to owner projects
- time spent by professional and technical staff in updating procedures, attending technical seminars and on other activities that are not directly chargeable to projects
- business development.

#### 7.3 Profit

The level of profit on a project should reflect the prime consultant's level of risk on that project.

## 7.4 Payroll Factor

The payroll factor multiplier to cover overhead costs and profit varies according to circumstances.

The following are general guidelines for selecting an appropriate payroll factor. These factors are based on normal conditions, where the consultant bears the cost of overhead items. When some of the overhead items are provided by the owner, or when contract employees are used instead of regular full-time employees, this should be taken into account in setting the payroll factor.

### **Payroll Factor 2.75**

Projects, regardless of size, which have distinctly intermittent workhour demands and in which all services (except resident services during construction) involve less than approximately 2,000 workhours.

### **Payroll Factor 2.5**

Projects in which all services (except resident services during construction) involve between 2,000 and 10,000 workhours.

### **Payroll Factor 2.3**

Projects in which all services (except resident services during construction) involve more than 10,000 workhours.

### **Payroll Factor 2.0**

Resident services during construction are normally factored at 2.0, regardless of size, when the services are a continuation of other categories of service provided by the same consultant. However, a larger factor is appropriate for very small projects or when workhour demands are intermittent.

## 7.5 Principals

The hourly rate for principal consultants (when providing service at the principal consultant level and based on qualifications) is in the range of \$135 – \$250 per hour.

The hourly rate for principals when performing services such as those of an arbitrator or expert witness, including time spent attending hearings or meetings, is a minimum of \$250 per hour.

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## **SECTION 8.0**

### **Schedule of Designated Services**

This Schedule describes in detail the basic and additional services the prime consultant provides. It enables the prime consultant to identify the full range of services being provided.

In addition to Section 8.0 Schedule of Designated Services being available as part of this document, the Schedule is available as a separate document, specially formatted with signature lines for both the prime consultant and the owner. It is highly recommended that the owner and prime consultant review each phase of the project, identifying the basic and additional services required. These services then become the basis for the contract between the owner and prime consultant.

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## **Phase 1.0**

### **PRE-DESIGN SERVICES**

In the pre-design phase, the consultant provides the services necessary to analyze the owner's data, space requirements and construction budget. This establishes the basic criteria to begin the design phase. If the consultant finds that there is not enough data to proceed to the design, the consultant tells the owner what information is still needed. Consultant and owner also discuss any additional services that might be required from the consultant or specialty consultants.

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### **Basic Services**

1.01 Site Analysis

For a pre-selected site, to provide initial site consultation, in order to assist in the establishing of site related limitations and requirements for the project, reviewing and checking the documents prepared or provided by the Owner.

1.02 Presentations

To present the analysis and recommendations resultant of the pre-design phase to pre-selected Owner representatives.

1.03 Concept Development Study

Based upon the information provided by the Owner, to undertake diagrammatic studies and document review in sufficient fashion, so as to provide the degree of analysis and comment required.

1.04 Agency Review

To undertake preliminary consultations with appropriate agencies in order to identify critical, applicable regulations and attitudes towards the project concept. These services apply to applicable laws, statutes, regulations and codes of regulating entities.

1.05 Off-Site Utility Review

To undertake a review of provided data necessary for the location, size and adequacy of utilities serving the site, connections to utilities, planning for off-site utilities extensions and facilities.

1.06 Project Scheduling

Based upon the research and review of the information provided by the Owner, to analyze the proposed project schedule and to provide, to the Owner, the associated implications.

1.07 Project Budgeting

Based upon the research and review of the information provided by the Owner, to analyze the proposed project budget and to provide, to the Owner, the associated implications.

1.08 Owner Supplied Data Coordination

At the start of the process, to review and coordinate data furnished for the project by the Owner to undertake site visits required to confirm criteria, to advise the Owner in obtaining existing title information, contracting for surveys, surface site data and sub-surface site data.

1.09 Programming Review

Based upon the research and review of the information provided by the Owner, to preliminarily review the proposed project programming information and to provide, to the Owner, the associated implications.

1.10 Preparation of Owner/Consultant Services Agreement

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## **Additional Services**

1.20 Re-Zoning Applications

To provide services relating to research and documentation as may be necessary, so as to assist the Owner with the rezoning of the selected site.

1.21 Presentations

To provide presentation material and formal presentations to groups and individuals other than those as initially agreed to be the Owner representatives.

1.22 Soils Report and Surveys

To obtain and/or to coordinate the necessary information specifically required, so as to analyze the project site.

1.23 On-Site Utility Studies

To establish requirements and prepare initial designs for on-site electrical service and distribution, gas service and distribution, water supply and distribution, site drainage, sanitary sewer collection and disposal, process waste water treatment, storm water collection and disposal, central plant mechanical systems, fire systems, emergency systems, security, pollution control, site illumination, communications systems, and master planning of on-site utilities for future development.

1.24 Market Studies

To provide services necessary, so as to undertake the determination of the marketability of the project.

1.25 Economic Feasibility Studies

To provide services necessary, so as to determine the viability of the project with respect to economics.

1.26 Specific Fit Programming

To coordinate and/or to provide those services necessary to identify the specific programmatic requirements for the project.

[ ] 1.27 Existing Facility Surveys

To research, assemble, review and supplement information for projects involving alterations and additions to existing facilities or determining new space usage in conjunction with a new building program, including photography, field measurements, review of existing design data, analysis of existing structural, mechanical and/or electrical capabilities and the review of existing drawings for critical inaccuracies and for measured drawings.

[ ] 1.28 Site Analysis and Selection

To assist the Owner with initial site determination by providing services consisting of identification of potential sites, on-site investigations, studies for movement, traffic and parking systems, and topographic analysis.

For Further Clauses As Required

[ ] 1.29

[ ] 1.30

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## **Phase 2.0**

### **SCHEMATIC DESIGN SERVICES**

Based on project criteria established and agreed in phase 1.0, the consultant provides the services necessary to prepare schematic design documents. The number of design options the consultant presents to the owner depends both on the category of building and the type of project. It is recommended that owner and consultant discuss and agree on the number of options to be prepared before the consultant begins work on the schematic design.

The schematic design documents are drawings and other documents illustrating the general scope, scale and relationship of project components. The designs are conceptual. They:

- indicate the proposed plan form, site plan and appearance of the project in relation to orientation, topography, adjacent land use and utilities;
- show the general approach to structural, mechanical and electrical systems; and
- take into account the time constraints determined and the estimates of construction cost. It is recognized, however, that the consultant cannot guarantee the accuracy of such estimates, which are subject to conditions beyond the consultant's control.

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## **Basic Services**

[ ] 2.01 Project Administration

To provide schematic design administrative functions, including consultation, research, conferences, communications, progress reports and direction of the work of in-house Consultant personnel.

[ ] 2.02           Disciplines Coordination/Document Checking

To provide coordination between the architectural work and the work of structural, mechanical and electrical engineering disciplines for the project, including the review and checking of documents prepared for the project.

[ ] 2.03           Agency Consulting/Review/Approval

Including consultations with appropriate agencies, research of critical, applicable regulations, preparation of written and graphic explanatory material, appearances on the Owner's behalf at agency and other pre-agreed group's meetings, and services that apply to applicable laws, statutes, regulations and codes of regulating entities and to the review required of user of community groups, with limited or no statutory authority, but significant influence on approving agencies and individuals.

[ ] 2.04           Owner Supplied Data Coordination

Services necessary to review and coordinate data furnished for the project by the Owner, assistance in establishing project criteria, and assistance in obtaining project data.

[ ] 2.05           Architectural Design/Documentation

To provide services responding to the program requirements and consisting of preparation of conceptual site and building plans, preliminary sections and elevations, preliminary wall section of building, systems and materials, development of approximate dimensions, areas and volumes, perspective sketch(es), and/or concept study model(s).

[ ] 2.06           Structural Design/Documentation

Services consisting of recommendations regarding basic structural materials and systems, analysis and development of conceptual design solutions for a pre-determined structural system and alternate structural systems.

[ ] 2.07           Mechanical Design/Documentation

Services consisting of consideration of alternative materials, systems and equipment and development of conceptual design solutions for energy source(s), energy conservation, heating and ventilating, air conditioning, plumbing, fire protection, special mechanical systems, process systems and general space requirements.

[ ] 2.08           Electrical Design/Documentation

Services consisting of consideration of alternate systems, recommendations regarding basic electrical materials, systems and equipment, analysis, and development of conceptual design solutions for power service and distribution, lighting, telephones, fire detection and alarms, security systems, electronic communications, special electrical systems, and general space requirements.

[ ] 2.09           Materials Research/Specifications

Services consisting of identification of potential architectural materials, systems and equipment and their criteria and quality standards consistent with the conceptual design. Investigation of availability and suitability of alternative architectural materials, systems and equipment and coordination of similar activities of structural, mechanical and electrical disciplines.

2.10 Project Scheduling

Services consisting of reviewing and updating previously established project schedules or initial development of project schedules for decision making, design, documentation, contracting and construction.

2.11 Construction Cost Updates

Services consisting of development of a probable construction cost range for the project, based on the most recent schematic design studies, current and historic area, volume, or other unit cost, expected project delivery process, and appropriate contingencies.

2.12 Civil ; Landscape ; Interior ; Design/Documentation

Where sufficient construction value related to the disciplines of civil engineering and/or landscape consultant and/or interior design are included within the construction cost for fee determination, the services as described within additional services below, including coordination, shall be provided as a normal service.

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## **Additional Services**

2.20 Civil Design/Documentation

Service consisting of consideration of alternative materials and systems and development of conceptual design solutions for off-site utilities, fire protection systems, drainage systems and paving.

2.21 Landscape Design/Documentation

Documentation services consisting of consideration of alternative materials, systems and equipment, and development of conceptual design solutions for land forms, lawns and planting, based on program requirements, physical site characteristics, design objectives and environmental determinants.

2.22 Interior Design/Documentation

Services consisting of space allocation and utilization plans, based on functional relationships, consideration of alternative materials, systems and equipment, and development of conceptual design solutions for architectural, mechanical, electrical and equipment requirements, in order to establish partition layout and furniture and equipment layouts.

2.23 Coordination of Specialist Services  
(Such as Acoustics, Theatre, Food, Laboratory, etc.)

Services consisting of schematic design activities for coordination between the architect, structural, mechanical and electrical work with other involved disciplines or specialists for the project, including review and checking of documents prepared.

For Further Clauses As Required

2.24

2.25

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## **Phase 3.0**

### **DESIGN DEVELOPMENT SERVICES**

In the design development phase, the consultant provides the services necessary to prepare sketch drawings, based on the schematic design option selected, to determine more precise aspects of planning, appearance and construction. These documents illustrate and define the design concept in terms of siting, plan form, character, materials, and structural, mechanical and electrical systems.

The consultant revises the estimates of construction cost for the owner. However, the consultant cannot guarantee the accuracy of such estimates, which are subject to conditions beyond the consultant's control.

The drawings and preliminary specifications produced during this phase are based on the selected and approved schematic design option. They are normally sufficiently detailed to allow a basic development permit to be applied for. They are not, however, sufficient to enable construction or tendering of the project.

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### **Basic Services**

[ ] 3.01      Project Administration

To provide design development administrative functions, including consultation, research, conferences, communications, progress reports and direction of the work of in-house Consultant personnel.

[ ] 3.02      Disciplines Coordination/Document Checking

To provide coordination between the architectural work and the work of structural, mechanical and electrical engineering disciplines for the project, including the review and checking of documents prepared for the project.

[ ] 3.03      Agency Consulting/Review/Approval

Including consultations with appropriate agencies, research of critical, applicable regulations, preparation of written and graphic explanatory material, appearances on the Owner's behalf at agency and other pre-agreed group's meetings, and services that apply to applicable laws, statutes, regulations and codes of regulating entities.

[ ] 3.04      Owner Supplied Data Coordination

Services necessary to review and coordinate data furnished for the project by the Owner, assistance in establishing project criteria, and assistance in obtaining project data.

[ ] 3.05      Architectural Design/Documentation

Services consisting of continued development and expansion of Architectural schematic design documents to establish the final scope, relationships, forms, size and appearance of the project, through plans, sections and elevations, typical construction details, three dimensional sketch(es), study model(s), final materials selections and equipment layouts.



[ ] 3.06 Structural Design/Documentation

Services consisting of continued development of the specific structural system(s) and schematic design documents in sufficient detail to establish basic structural system and dimensions, final structural design criteria, foundation design criteria, preliminary sizing and major structural components, critical coordination clearances, and outline specifications or materials list(s).

[ ] 3.07 Mechanical Design/Documentation

Services consisting of continued development and expansion of mechanical schematic design documents and development of outline specifications or materials lists to establish approximate equipment sizes and capacities, preliminary equipment layouts, required space for equipment, required chases and clearances, acoustical and vibration control, visual impacts and energy conservation measures.

[ ] 3.08 Electrical Design/Documentation

Services consisting of continued development and expansion of electrical schematic design documents and development of outline specifications and materials lists; to establish criteria for lighting, electrical and communications systems, approximate sizes and capacities of major components, preliminary equipment layouts, required space for equipment, and required chases and clearances.

[ ] 3.09 Materials Research/Specifications

Services consisting of identification of potential architectural materials, systems and equipment and their criteria and quality standards consistent with the conceptual design. Investigation of availability and suitability of alternative architectural materials, systems and equipment and coordination of similar activities of structural, mechanical and electrical disciplines.

[ ] 3.10 Project Scheduling

Services consisting of reviewing and updating previously established project schedules or initial development of project schedules for decision making, design, documentation, contracting and construction.

[ ] 3.11 Construction Cost Updates

Services consisting of updating and refining the schematic design phase, cost update, taking into consideration the availability of materials and labour, project delivery procedures, construction sequencing and scheduling, changes in scope of the project, and adjustments in quality standards.

[ ] 3.12 Civil [ ]; Landscape [ ]; Interior [ ]; Design/Documentation

Where sufficient construction value related to the disciplines of civil engineering and/or landscape consultant and/or interior design are included within the construction cost for fee determination, the services as described within additional services below, including coordination, shall be provided as a normal service.

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## **Additional Services**

[ ] 3.20 Civil Design/Documentation

Services consisting of continued development and expansion of civil schematic design documents and development of outline specifications or materials lists to establish the final scope and preliminary details for on-site, off-site and/or specialty civil engineering work.

[ ] 3.21 Landscape Design/Documentation

Services consisting of continued development and expansion of landscape schematic design documents and development of outline specifications or materials lists to establish final scope and preliminary details for landscape work.

[ ] 3.22 Interior Design/Documentation

Services consisting of continued development and expansion of interior schematic design documents and development of outline specifications or materials lists to establish final scope and preliminary details relative to interior construction of the project, special interior design features, furniture, furnishing and equipment selection, materials, finishes and colours.

[ ] 3.23 Coordination of Specialist Services  
(Such as Acoustics, Theatre, Food, Laboratory, etc.)

Services consisting of continued coordination of the design development documents and development of outline specifications or materials lists to establish final scope and preliminary details for the specialist activity.

For Further Clauses As Required

[ ] 3.24

[ ] 3.25

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## **Phase 4.0 CONSTRUCTION DOCUMENTS SERVICES**

In the construction documents phase, the consultant provides the services necessary to prepare construction documents. These documents consist primarily of working drawings and specifications. Working drawings are graphic representations that include plans, elevations, sections, construction details, and site plans. The drawings also illustrate the coordination of architectural, structural, mechanical, electrical and utility plans and details where applicable.

The major part of working drawings consists of detail drawings. These are large scale representations of certain parts of the project. They clearly show arrangements, assemblies, profiles and dimensions. These detail drawings may be supplied with the working drawings, or they may be supplied when construction is in progress.

Specifications are written descriptions of all elements that are best described rather than drawn. These elements include requirements related to the manufacture, methods of installation, design, performance criteria, and workmanship of materials and equipment.

Other necessary documentation may include bid forms, information on time limitations, special site requirements, and a stipulation of the form of contract between owner and contractor.

Before the construction documents are complete and ready for bidding, the consultant advises the owner of any adjustments to previous estimates of construction cost. If the lowest bona fide bid or lowest negotiated proposal exceeds the latest approved estimate of construction cost by more than 15%, the owner provides services in accordance with the contract terms.

Preparing multiple documents for sequential bidding or phased construction, preparing special forms of documentation, and negotiating the necessary contracts, generally follow the sequence described above. However, this involves additional work and is, therefore, beyond the scope of basic services. The same applies to projects that might involve design-build, project management or construction management approaches.

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## **Basic Services**

### 4.01 Project Administration

To provide construction drawing and specifications document administrative functions, including consultation, research, conferences, communications, progress reports and direction of the work of in-house Consultant personnel.

### 4.02 Disciplines Coordination

To provide coordination between the architectural work and the work of structural, mechanical and electrical engineering disciplines for the project, including the review and checking of documents prepared for the project.

### 4.03 Agency Consulting/Review/Approval

Including consultations with appropriate agencies, research of critical, applicable regulations, preparation of written and graphic explanatory material, appearances on the Owner's behalf at agency and other pre-agreed groups meetings, and services that apply to applicable laws, statutes, regulations and codes of regulating entities.

### 4.04 Owner Supplied Data Coordination

Services necessary to review and coordinate data furnished for the project by the Owner, assistance in establishing project criteria, and assistance in obtaining project data.

### 4.05 Architectural Drawings and Specifications

Services consisting of preparation of drawings and project specifications, based on the approved design development documents, setting forth, in detail, the architectural construction requirements for the project.

4.06 Structural Drawings and Specifications

Services consisting of preparation of final structural engineering calculations, drawings and specifications, based on the approved design development documents, setting forth, in detail, the structural construction requirements for the project.

4.07 Mechanical Drawings and Specifications

Services consisting of preparation of final mechanical engineering calculations, drawings and specifications, based on the approved design development documents, setting forth, in detail, the mechanical construction requirements for the project.

4.08 Electrical Drawings and Specifications

Services consisting of preparation of final electrical engineering calculations, drawings and specifications, based on the approved design development documents, setting forth, in detail, the electrical construction requirements for the project.

4.09 Bidding Documents/Scheduling

Services consisting of the preparation and coordination of drawings and specifications for obtaining bids or prices on the project, including the review and update of established schedules for the project.

4.10 Project Schedule Update

Services consisting of reviewing and updating previously established project schedules or initial development of project schedules for decision making, design, documentation, contracting and construction.

4.11 Construction Cost Update (Pre-tender Estimate)

Services consisting of updating and refining the design development phase, cost update, taking into consideration the availability of materials and labour, project delivery procedures, construction sequencing and scheduling, changes in scope of the project, and adjustments in quality standards.

4.12 Application for Building Permits

Services to ensure that the construction documents reflect that the contractor must provide and pay for any and all permits required for the project.

4.13 Civil ; Landscape ; Interior ; Design/Documentation

Where sufficient construction value related to the disciplines of civil engineering and/or landscape architecture and/or interior design are included within the construction cost for fee determination, the services as described within additional services below, including coordination, shall be provided as a normal service.

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## Additional Services

4.20 Provision of Building Permits

Services when the prime consultant, rather than the contractor, is responsible to provide and pay for any and all permits required for the project.

4.21 Civil Design/Documentation

Services consisting of preparation of final civil engineering calculations, drawings and specifications, based on the approved design development documents, setting forth, in detail, the civil construction requirements for the project.

4.22 Landscape Design/Documentation

Services consisting of preparation of final landscape drawings and specifications, based on the approved design development documents, setting forth, in detail, the landscape construction requirements for the project.

4.23 Interior Design/Documentation

Services consisting of preparation of final interior design drawings and specifications, based on the approved design development documents, setting forth, in detail, the interior construction requirements for the project.

4.24 Coordination of Specialist Consultants

Services consisting of continued coordination of the schematic design documents and development of outline specifications or materials lists to establish final scope and preliminary details for the specialist activity.

4.25 Special Bidding Documents/Scheduling

Services consisting of the preparation and coordination of special drawings and specifications for: obtaining bids or prices on alternate subdivisions of the work, obtaining alternate bids or prices on changes in the scope of work, out-of-sequence bidding or pricing of subdivisions of the work, multiple prime contracts for subdivisions of the work, and the review and update of established schedules based upon special requirements.

For Further Clauses As Required

4.26

4.27

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## **Phase 5.0**

### **BIDDING OR NEGOTIATIONS SERVICES**

The bidding or negotiations phase follows after the owner has approved construction documents and the most recent statement of probable construction cost. In this phase, the consultant provides the services necessary to assist and advise the owner in obtaining competitive bids or negotiated proposals, and in awarding the construction contract. This is a critical stage in the project's development — the consultant must ensure that the integrity of the bidding process is maintained.

---

#### **Basic Services**

[ ] 5.01      Project Administration

Services consisting of bidding or negotiation administrative functions, including consultation, research, meetings, communications, progress reports and direction of work of in-house Consultant personnel.

[ ] 5.02      Bidding Materials

Services consisting of organizing and handling bidding documents for coordination, reproductions, completeness review, distribution records, retrieval, receipt and return of document deposits, and review, repair and re-assembly of returned materials.

[ ] 5.03      Addenda

Services consisting of preparation and distribution of addenda which may be required during bidding or negotiation and including supplementary drawings, specifications, instructions and notice(s) of changes in the bidding schedule and procedure.

[ ] 5.04      Bidding/Negotiations

Services consisting of assistance to the Owner in establishing a list of bidders or proposers, pre-qualification of bidders or proposers, participation in pre-bid meetings, responses to questions from bidders or proposers and clarifications or interpretations of the bidding documents, attendance at bid opening(s) and documentation and distribution of bidding results.

[ ] 5.05      Analysis of Alternates/Substitutions

Services consisting of considerations, analyses, comparisons and recommendations relative to alternates or substitutions proposed by bidders or proposers, either prior or subsequent to receipt of bids or proposals.

[ ] 5.06      Bid Evaluation

Services consisting of the general review of the bids or proposals received, in order to determine their conformity to the construction documents, review of the credentials submitted, and review of the bid values with respect to their reasonableness.

[ ] 5.07 Construction Contract Agreements

Services consisting of notification of contract award(s), assistance and preparation of construction contract agreement forms for approval by Owner; preparation and distribution of sets of contract documents for execution by parties to the contract; receipt, distribution and processing for Owner's approval or required certificates of insurance, bonds and similar documents; and preparation and distribution to contractor, on behalf of Owner, of notices to proceed with the work.

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## **Additional Services**

[ ] 5.20 Special Bidding Services

Services consisting of attendance at bid openings for the purpose of participation in negotiations and documentation of decisions for multiple contracts or phased construction, technical evaluation of proposals for building systems, and participation in detailed evaluation procedures for building systems proposal.

[ ] 5.21 Coordination of Specialist Services

Services related to the coordination and review of activities required during the bidding or negotiation services by appointed specialists and consultants.

For Further Clauses As Required

[ ] 5.22

[ ] 5.23

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## **Phase 6.0**

### **CONSTRUCTION CONTRACT ADMINISTRATION SERVICES**

In the construction contract administration phase, the consultant provides the services necessary to administer the construction contract as set out in the general conditions of the contract for construction. The consultant acts as the owner's professional advisor in interpreting the contract documents and consults with the owner on the contractor's performance. The consultant is not responsible for the performance of the contractor, but does have an obligation to provide a general review of the construction.

During this phase, the consultant's primary duties are:

a. In-office administration

- ⊗ Establish lines of communication between the consultant, other consultants, owner and contractor.
- ⊗ Obtain from the contractor bonds and insurance policies and forward them to the owner for scrutiny by the owner's legal advisors.
- ⊗ Review the contractor's construction schedule.
- ⊗ Advise on the interpretation of the contract.
- ⊗ Issue supplementary details and instructions as required during construction.
- ⊗ Review the contractor's shop drawings and samples for conformance with the general design concept and the contract requirements. (Although shop drawings do not supersede the documents, they do show the manner in which the work will be executed.)

- Process and coordinate the contract.
- Review changes to cost and time adjustments.
- Prepare reports and certificates concerning the field instructions.
- Review the warranties and as-built drawings and documents submitted by the contractor at the completion of the project.

b. Field administration

- Make periodic visits to the site to become familiar with the progress of the work and to determine if the work is in general conformity with the contract documents.
- Coordinate the engineering general review.
- Keep the owner informed of the progress of the work.
- Report on deficiencies in the work of the contractor and attend site meetings, when required, to assist the contractor in the proper execution of the work. (It is understood that only work that the consultant has actually seen when examining representative samples can be said to have been appraised. Comments on the balance of the work are assumptions based upon extrapolation.)
- Establish with the contractor the procedures for testing and inspecting specific materials.
- Evaluate and advise on construction performed and materials supplied, before the owner issues a certificate of payment requested by the contractor.
- Determine the date of substantial performance and the date of completion.

The consultant's services vary according to the size and nature of the project and type of contract. Where the project requires contract administration different from that outlined above, the owner and the consultant agree in advance on the extent of the services required.

If continuous representation at the site is required during the progress of construction, technical site personnel acceptable to both the consultant and the owner are retained and paid for by the owner. The site personnel take instructions from the consultant, and report their observations directly to the consultant. The consultant keeps the owner informed of the progress of construction. It is the contractor's responsibility to carry out the work in accordance with the contract documents.

During construction, changes in the scope of services, either at the expressed request of the owner or for reasons beyond the control of the consultant, may require adjustments to the consultant's fee.

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## Basic Services

[ ] 6.01 Project Administration

Services consisting of construction contract administrative functions, including consultation, research, meetings, communications, progress reports and direction of work of in-house Consultant personnel.

[ ] 6.02 Disciplines Coordination (Checking)

Services consisting of construction contract administration activities for coordination between the architectural work and the work of structural, mechanical and electrical engineering and the review and checking of documents prepared for the project.



6.03 Agency Consulting/Review/Approval

Including consultations with appropriate agencies, research of critical, applicable regulations, preparation of written and graphic explanatory material, appearances on the Owner's behalf at agency and other pre-agreed group's meetings, and services that apply to applicable laws, statutes, regulations and codes of regulating entities.

6.04 Owner Supplied Data Coordination

Services necessary to review and coordinate data furnished for the project by the Owner, assistance in establishing project criteria, and assistance in obtaining project data.

6.05 Office Construction Administration

Services consisting of processing of submittals, including receipt of, review of and appropriate action on shop drawings, product data, samples and other submittals required by the contract documents, distribution of submittals to Owner, contract and/or Consultant's field representatives as required, maintenance of master file of submittals and related communications.

6.06 Construction Field Observation

Services consisting of visits to the site at intervals appropriate to the stage of construction, or as otherwise agreed in writing, to become generally familiar with the progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the contract documents and preparing related reports and communications.

6.07 Field Observation Coordination

Services for coordination between the architectural work and the work of the structural, mechanical and electrical engineering disciplines for the project.

6.08 Quotation Requests/Change Orders

Services consisting of preparation, reproduction and distribution of drawings and specifications that describe work to be added, deleted or modified, review of proposal from contractor for reasonableness of quantities and costs of labour and materials, review and recommendations relative to changes in the time for Substantial Completion, negotiations with contractor on Owner's behalf, relative to costs of work proposed to be added, deleted or modified, assisting in the preparation of appropriate modifications of the contract for construction, and coordination of communications, approvals, notifications and record keeping relative to changes in the work. (See also 6.21.)

6.09 Project Schedule Monitoring

Services consisting of monitoring the progress of the contractor relative to established schedules and making status reports to the Owner.

6.10 Construction Cost Monitoring

Services consisting of maintenance of records of payments on account of the contract sum and all changes thereto, evaluation of applications for payment and certification for payment thereof, and review and evaluation of expense data submitted by the contractor for work performed under cost plus fee arrangements.

6.11 Project Closeout/Substantial Performance

Services initiated upon notice from the contractor that the work or a designated portion thereof, which is acceptable to the Owner, is sufficiently complete in accordance with the contract documents, to permit occupancy or utilization for the use for which it was intended. Consisting of a detailed inspection, with the Owner's representative, for conformity of the work to the contract documents to verify the list submitted by the contractor of items to be completed or corrected, determination of the amounts to be withheld until Final Completion, securing and receipt of consent of surety or sureties, if any, to reduction in or partial release of retention or the making of final payments, issuance of Certificate of Substantial Completion, inspection upon notice by the contractor that the work is ready for final inspection and acceptance, notification to Owner and contractor of deficiencies found in follow-up inspection, if any, final inspection with the Owner's representative to verify Final Completion of the work, receipt and transmittal of warranties, affidavits, receipts, releases and waivers of lien or bonds indemnifying the Owner against liens, securing and receipt of consent of surety or sureties, if any, to the making of final payment, and the issuance of final certificates for payment.

6.12 Systems Startup

Services including the architectural, structural, mechanical and electrical disciplines' work required, so as to enable the systems, as designed and installed, to be reviewed with the Owner, to review startup procedures and general operations, to generally review the ongoing operational process, and to arrange for and attend a contractor's start-up seminar.

6.13 Civil ; Landscape ; Interior ; Design/Documentation

Where sufficient construction value related to the disciplines of civil engineering and/or landscape architecture and/or interior design are included within the construction cost for fee determination, to provide disciplines coordination of disciplines and basic services as outlined above.

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## **Additional Services**

6.20 Project Representation/Clerk-of-Works

To coordinate, provide or assist in the selection of a project representative or a clerk-of-works for the project and to provide, throughout the process, the necessary administrative services and advice to the Owner.

6.21 Supplemental Documents

To supplement the construction documents by means of drawings and/or written documentations, as necessary, to change or alter the contract as directed by the Owner. Changes of scope determined not to be as a result of the consultant's services are considered to be an additional service.

6.22 Coordination of Specialist Services

Services related to the coordination and review of activities required during the construction contract administration services by appointed specialists and consultants.

6.23 Additional Administration

To provide additional inspections and/or administration subsequent to Substantial Completion by the Contractor for reasons beyond the control of the Consultant. Should anticipated Final Completion be delayed or should deficiencies during the warranty period occur through no fault of the Consultant, the services required are considered to be additional, and will be paid for by the Owner.

6.24 Safety/Prime Contractor Responsibilities

6.25 Application for Occupancy Permits

For Further Clauses As Required

6.26

6.27

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## **Phase 7.0 POST-CONSTRUCTION SERVICES**

In the post-construction phase, the consultant provides the services necessary to assist the owner in the use and occupancy of the facility.

Documents usually require a 12-month warranty on all labour and materials. During this period, as part of basic services, the consultant advises and assists the owner with regard to the contractor's performance and guarantees. Before the end of the 12-month warranty period, the consultant reviews any defects or deficiencies that the owner has observed during that time. The consultant notifies the contractor of items that require the contractor's attention to complete the terms of the contract.

One inspection is usually made during the 12-month warranty period. If, for reasons beyond the control of the consultant, a project requires additional inspections or administration, the consultant provides these services. They are considered an additional service and are paid for by the owner.

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## **Basic Services**

7.01 Project Administration

Services consisting of post-construction functions, including consultation, research, meetings, communications, progress reports and direction of work of in-house Consultant personnel.

7.02 Maintenance and Operational Programming

Services consisting of assistance in the establishment, by the Owner, of in-house or contracted operation and maintenance of the physical plant and equipment, arranging for and coordinating instructions on operations and maintenance on equipment in conjunction with the manufacturer's representative, and advice in the preparation of operations and maintenance manuals for the Owner's use.

7.03 Record Drawings and Operations and Maintenance Manuals Review

Making arrangements for obtaining, from the contractor, both record and as-built drawings, certified by them, with all changes made during construction from the initial contract documents and on the location of concealed systems, as installed during construction, review of general accuracy of information submitted and certified by the general contractor, and transmittal of record drawings and general data, appropriately identified, to the Owner. When required to be provided by others, to undertake a review of general accuracy of information submitted, with respect to formal operations and maintenance manuals.

7.04 Startup Assistance

Services consisting of on-site observation, troubleshooting and assistance in the operation of the building systems during initial occupancy, assistance in the training of the Owner's operation and maintenance personnel, and proper operations, schedule and procedures, and administration and coordination of remedial work by the contractor after Final Completion.

7.05 Year End Warranty Inspection

Services consisting of consultation and recommendation to the Owner during the duration of warranties in connection with inadequate performance and materials, systems and equipment under warranty, a single inspection prior to expiration of the warranty period to ascertain adequacy of performance of the materials, systems and equipment, and documenting defects or deficiencies and assisting the Owner in preparing instruction to the contractor for correction of noted defects.

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## **Additional Services**

7.20 Building Commissioning

To provide and to coordinate services involving architectural, structural, mechanical, electrical and specialty consultant work for the formal commissioning and verification of the various systems within the building, to undertake necessary meetings and seminars, and to provide required reporting to the Owner and other agencies.

7.21 Deficiency Inspections Beyond Final Inspection

Services related to the coordination and undertaking of additional deficiency inspections beyond those normally required for the particular project.

7.22 Redrawing of Record Drawings

To provide services and coordination, as necessary, to provide record drawings to the Owner, making arrangements for obtaining, from the contractor and other parties, information selecting all of the changes and locations of concealed systems as installed during construction, and to prepare, based on the information furnished by the contractor, the necessary documentation for the Owner.

7.23 Preparation of As-Built Documents

Based upon the record drawing information, to undertake to verify and coordinate the construction and concealed systems as installed and to document these in formal drawings, certified as-built.

7.24 Preparation of Operations and Maintenance Manuals

Services related to making arrangements for obtaining, from the contractor and other parties, information required so as to provide appropriate operations and maintenance instructions and documents to the Owner, to review the systems designs and to reflect, within these documents, the appropriate information regarding the ongoing operations of the various systems and instructions to those maintaining them, and to prepare and provide, to the Owner, the necessary formal manuals.

7.25 Project Evaluation Services

To provide services, usually following the one year warranty inspection, to study, evaluate and report on the design, program, systems and/or operation of the Project on behalf of the Owner.

For Further Clauses As Required

7.26

7.27

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## **Phase 8.0**

### **SUPPLEMENTAL SERVICES**

In addition to the general sequence of services, listed chronologically and described in phases 1.0 through 7.0, both the owner and the consultant provide supplemental services. These supplemental services are described below. They may be provided during a single phase of services or during several phases.

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## **Additional Services**

8.01 Special Studies

Services consisting of investigation, research and analysis of the Owner's special requirements for the project and documentation of findings, conclusions and recommendations for such issues as master planning, design services relative to future facilities, systems and equipment which are not intended to be constructed as part of the project during the construction phase, availability of labour force, availability of construction materials and the construction market.

8.02 Renderings

Services relating to providing graphic pictorial representations, as required by the Owner, of the proposed project.

8.03 Model Construction

Services relating to providing model representations, as required by the Owner, of the proposed project.

[ ] 8.04 Life Cycle Cost Analysis

Services consisting of assessment, on the basis of established, relevant economic consequences over a given period of time, of a given planning and design solution, alternative planning and design solutions, or selected systems, subsystems or building components for the project.

[ ] 8.05 Value Analysis

Services consisting of the review, during the design phases, of the cost, quality and time influences of proposed building materials, systems and construction methods relative to design objectives, in order to identify options for obtaining optimum value for the Owner.

[ ] 8.06 Quantity Surveys

Services consisting of a detailed determination of the quantities of materials to be used in the project, to establish the basis of price determination by bidding or negotiations.

[ ] 8.07 Detailed Construction Cost Estimates

Services consisting of development, when the construction documents are approximately 90% complete, the detailed estimate of construction cost based on quantity take-offs and unit cost pricing for materials, labour, tools, equipment and services required for the work, plus estimates for the contractor's supervision cost, work required by general and supplementary conditions, and an allowance for a reasonable contractor's overhead and profits, or continuous development during all phases of design and documentation, of an estimate of construction costs for the purposes of greater cost control, culminating in a detailed estimate of construction cost or related quantity surveys or inventories of materials, labour and equipment.

[ ] 8.08 Energy Studies

Services consisting of special analysis of mechanical systems, fuel costs, on-site energy generation and energy conservation options for the Owner's consideration.

[ ] 8.09 Environmental Studies and Reports

Services consisting of determining the need or requirements for environmental monitoring, assessment, and/or impact statements, ecological studies, assessment reports, including meetings, hearings and presentations.

[ ] 8.10 Environmental Monitoring

Services consisting of monitoring of air, water and other designated components of the environment, to establish existing conditions, and the preparation of related analyses and reports.

[ ] 8.11 Tenant-Related Services

Services consisting of design and documentation for tenants or potential tenants for space planning, partitions and furniture locations, and furniture and equipment layouts, materials and colour selections and coordination, adaptation of mechanical, electrical and other building systems to meet tenant needs, and statements of probable construction costs.

8.12 Graphics Design

Services consisting of design of interior and exterior signs and identifying symbols, design of special logos or graphics for the project, documentation of requirements for procurement of graphic work, managing procurement of graphic work, and coordination of delivery and installation.

8.13 Fine Arts and Crafts Services

Services relating to acquisition of fine arts or crafts to be part of the project and consisting of consultations or meetings on selection, commissioning and/or executing, design integration, managing procurement, and purchasing fine arts or crafts on the Owner's behalf.

8.14 Special Furnishings Design Investigation/Research

Services relating to Consultant-designed special furnishing and/or special equipment incorporated into or provided for the project, consisting of design and documentation, specifications and standards, management of procurement, coordination of installation and purchase on the Owner's behalf.

8.15 Non-Building Equipment Selections

Services relating to equipment and furnishings not incorporated in the construction of the project and consisting of establishing of needs and criteria, preparation of requirements, specifications and bidding or purchasing procedures, management of procurement, coordination of delivery and installation, and purchase of non-building equipment on the Owner's behalf.

8.16 Project Promotion/Public Relations

Services relating to presentation of the project to the public or identified groups and consisting of preparation of press releases, preparation of special brochures and/or promotional pieces, assistance in production and distribution of promotional materials, and presentations of public relations and/or promotional meetings.

8.17 Leasing Brochures

Services related to preparation of special materials to assist the Owner in leasing of the project and consisting of design, preparation of illustration and text, and arranging for and managing production.

8.18 Expert Witness/Arbiter

Services consisting of preparing to serve and/or serving as an expert witness or arbiter in connection with any public hearings, arbitration proceedings or legal proceedings.

8.19 Computer Application

Services consisting of computer program development and/or computer program research and acquisition, plus on-line computer time charges for services as previously identified within this document to be considered normal or additional and involving architectural, structural, mechanical and electrical activities, provided these are not normal services.

8.20 Presentations

Services relating to the preparation and presentation of general or specific project related issues to specialty groups or individuals considered not to be involved in the normal process of the project, including the coordination of and arranging for specialty services related to the preparation of information.

8.21 Reproduction/Printing/Copying

Services, throughout the entire project process, and on the behalf of the Owner, required to reproduce, copy or print any and all materials, drawings and specifications deemed to be required as part of the project process, and involving coordination of activities of others in undertaking these services, exclusive of those services solely related to the Consultant's office use. This may be considered a disbursement.

8.22 Travel

The provision of travel time necessary, so as to service the project on behalf of the Owner, involving the Consultant's staff, support consultants and specialists. This service may be considered as a disbursement, but nonetheless deals with the travel time required, in addition to the costs of that travel.

8.23 Legal Consulting

Services consisting of the preparation of any special material and meetings related to legal issues that may arise in relationship to the project or the individuals involved.

8.24 Contractor Insolvency

Services relating to the preparation of special material, meetings and coordination, design and planning necessary, as a result of contractor insolvency for the project.

8.25 Computer Modeling

Services necessary to coordinate, prepare and present computer models and simulations with respect to the design, systems, materials, or specific data and analysis for the project.

8.26 Providing Special Insurance

Provision of additional levels of consultant insurance determined by the Owner to be necessary as an enhancement to the normal level of insurance provided by the design team.

8.27 Research and Development/Innovative Design

Services relating to the research and development of components or specifics for the establishment of requirements, procurement of testing services, monitoring testing, review analysis and reporting of testing results related to construction materials, components, and systems considered to be unique, innovative or requiring abnormal details of review.

8.28 Fund Raising

Services relating to assistance to the Owner in evaluating, modeling and undertaking fund-raising activities for the project.



8.29          Materials and Systems Testing

Services relating to the testing of components of the completed Project for conformance with Contract requirements and consisting of establishment of requirements, provision of testing services, monitoring testing and reviews, analysis and reporting. Also services related to demolition, including preparing documents, administration and field observation and mock-up services relating to the design, management, administration, testing, monitoring and analysis of components of the Project.

8.30          Photographic Records

Services relating to still photography, motion pictures and videotaping for promotional or explanatory presentations of the Project during any of the phases. Services including aerial site photography, periscopic photography of models, construction progress photography and Consultant photography of the completed project.

8.31          Coordination with Non-Design Professionals

Services consisting of consultation and coordination with non-design professionals such as economists, sociologists, attorneys and accountants.

8.32          Safety/Prime Contractor Responsibilities

For Further Clauses As Required

8.33

8.34