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## **A.1 GENERAL PROJECT REQUIREMENTS**

### **A.1.1 General**

A.1.1.1 The requirements for engineering services to be provided by the Consultant are specified in the Request for Proposal and in the Appendices A.1 to A.8, inclusive. It is the responsibility of the Consultant to ascertain the full scope of the engineering services required for the project. The Consultant shall become fully familiar and comply with the City's project management requirements.

A.1.1.2 "Engineering services" are inclusive of any and all professional services required for the completion of the project.

### **A.1.2 Reports & Drawings Stamping**

A.1.2.1 All final engineering reports, drawings and specifications are to be signed and sealed by a Professional Engineer, licensed in the Province of Ontario. The structural drawings are to be signed and stamped according to the requirements of the Ontario Ministry of Transportation Structural Manual.

### **A.1.3 City Project Manager (PM)**

A.1.3.1 Role of Project Manager

1. The City will assign a Project Manager for the project. The Consultant's contact with the City is the assigned Project Manager. The City's Project Manager will provide direction to the Consultant and disseminate required information as required, throughout the duration of the project.

A.1.3.2 Correspondence

1. All correspondence to the City shall include the contract number provided by the City. All correspondence either written or electronic should be addressed to the City's Project Manager, except where agreed upon or otherwise specified by the Project Manager.

### **A.1.4 Co-ordination with Other City Division's and Sections**

A.1.4.1 The Project Manager will liaise with and coordinate work with other City sections and/or departments. The Project Manager may direct the Consultant when appropriate to work directly with other City section or department staff.

### **A.1.5 Project Meetings / Documentation / Tracking**

A.1.5.1 Studies/EA/Design

1. The consultant shall schedule a project commencement meeting and progress meetings monthly at a minimum. The Consultant shall schedule additional meetings/workshops for the review of draft documents, milestone design reviews, and other events as defined in the RFP or as deemed required and agreed by the Project Manager.
2. For all design documents, allow for additional design workshops to discuss the findings and information presented in the reports.

A.1.5.2 Contract Administration

1. When providing site administration and engineering services during project construction, the Consultant shall schedule site meetings every two weeks, with weekly meetings during commissioning.
2. Arrange, chair and minute all meetings during the project to report status, activities, review submissions and discuss design or construction issues.

A.1.5.3 Agendas and Notes of Meeting

1. For each project meeting, unless otherwise directed, the Consultant shall prepare and distribute an agenda 2 days prior to meeting and conduct the meeting in an efficient manner. The Consultant shall take notes or minutes of the meeting, and the minutes of meeting are to be distributed no later than five (5) working days after the meeting.

A.1.5.4 Project Tracking

1. The Consultant is expected to track/monitor the status of the project and decisions, etc., through the use of standard project management tools such as Request for Information (RFI) logs, decision logs, change order logs, deliverable logs, etc. The Consultant Project Manager is responsible for flagging issues that the City must resolve due to impacts on the critical path, and to provide the City with a requested completion date for resolution by the City.

A.1.5.5 Decision Log

1. Through all phases of the project maintain and update every two weeks the decision log, including name of the issue, description on how resolved and the dates when the issue was first discovered and when it was resolved.

**A.1.6 Submissions – Specific Operations Requirements**

A.1.6.1 To facilitate communication with the operating staff the base scope includes the following:

1. All documents / reports such as Technical Memoranda (TMs), Pre-Design Reports, Engineering Studies, and Conceptual Design Reports shall include:
  - a) A brief executive summary, at the beginning of each document, highlighting key findings of the report, allowing someone with limited knowledge of the project to understand what the report contains.
  - b) A tabular summary of key design elements, findings and recommendations.

**A.1.7 Project Schedules**

A.1.7.1 General

1. The Consultant shall produce a detailed Project Schedule and adhere to it once the assignment has been awarded and the City has issued the notice of award of the project, and a purchase order has been issued.

**A.1.7.2 Baseline (Gantt Chart)**

1. The baseline schedule shall be provided prior to submission of the Consultant's first invoice and shall include all deliverables and major milestones. Baseline schedule must be approved by the City prior to first payment.
2. The schedule shall show the sequence of work, any interdependencies, and the project critical path.

**A.1.7.3 Tasks**

1. Scheduling of tasks shall allow for City document review time and Consultant's QA/QC time. Task bars should show percent complete.

A.1.7.4 The schedule shall be updated monthly and reviewed at progress meetings. The updated schedule shall be attached to all invoices.

A.1.7.5 Changes to the project schedule require a written explanation and must be approved, in writing, by the City.

**A.1.8 Workplan**

A.1.8.1 At the beginning of the project, the Consultant is to confirm and refine the workplan included in the proposal for review and approval by the City. The approved work plan becomes the baseline work plan.

A.1.8.2 Include in the workplan an update of the time task breakdown included with the Proposal.

**A.1.9 City's Reviews**

A.1.9.1 All documents, designs, plans, etc., shall first be submitted in draft form to the City, unless specified otherwise.

A.1.9.2 Draft documents shall be essentially complete to allow for proper evaluation of material submitted. Any unfinished or missing sections or elements shall be clearly identified in the draft, and a brief description of the intended material is to be provided.

A.1.9.3 A minimum of three (3) weeks is required for City review and comment.

A.1.9.4 The City will provide written comments to each submission in a standard template provided either by the Consultant or the City.

A.1.9.5 The Consultant shall provide a response to the City's comments clearly indicating concurrence or non-concurrence, and if comments are not to be incorporated the Consultant shall indicate the reason.

A.1.9.6 The comment tracking sheet shall form a part of the next revision of the submittal and will be continually updated until the submission is considered final.

**A.1.10 Document Management**

**A.1.10.1 General**

1. A record of submission, electronic or hard copy, is required with all deliverables submitted to the City. The record of submission shall provide the project title, contract number, and list the included documents.

#### A.1.10.2 Electronic Document Management

1. When submitting draft or final reports, site surveys, CCTV files, design drawings, contract documents, and other deliverables, the consultant shall also provide one electronic (native formats and PDF) copy on CD/DVD/USB drive for input to the City's electronic document management system. Alternatively, the consultant may provide the electronic files via a file transfer website or via a File Transfer Protocol (FTP) server. This must be provided at the same time as the paper copy.
2. All electronic copies shall be editable by the City. Provide Microsoft Word, Microsoft Excel and other native files. All PDF files shall be searchable and unlocked. Provide hydraulic modelling data files in their native software.
3. Prior to finalizing each submission, the consultant is to confirm the City's preferred software package and version for that submission. As part of the final submission of major deliverables, such as contract documents, tender specifications, and drawings, the consultant must supply, as well as the individual files in the native formats, one consolidated PDF file containing all sections and details. This consolidated PDF file is to be contained on the same CD/DVD/USB drive as the other files. All CD/DVD/USB drives are to be properly labelled.
4. All files produced by the consultant for the project become the property of the City.

#### A.1.10.3 Hard Copies

1. Paper print versions of documents shall be submitted to the City as per the Summary of Deliverables (Part 3 of the RFP).

#### A.1.10.4 Final Design Submissions

1. The Consultant shall submit one set of tender documents in electronic format to the City. Drawings shall be submitted in both PDF and CADD formats, labelled as "Issued for Tender" and dated, with all revision notes removed.
2. Before award of construction contract, the Consultant shall submit "Issued for Construction" drawings in PDF and CADD formats as required.
3. Specifications shall be submitted in PDF and Microsoft Word files.
4. Engineering estimates shall be entered in the City's PTP system and shall be submitted in both PDF and Microsoft Excel format.

#### A.1.10.5 As-Built Drawings

1. After the completion of construction, submit one electronic copy of As-Built Drawings on CD/DVD/USB drive. The City will verify that the CADD files meet City standards. All drawings not meeting City standards will not be accepted and must be re-issued at no additional cost to the City.

### A.1.11 Quality Assurance and Quality Control

#### A.1.11.1 General

1. The City requires the Consultant to exercise internal Quality Assurance (QA) and Quality Control (QC) for all project deliverables submitted at each stage of project development. This is to ensure that the project will be executed to the City's requirements and expectations. Each deliverable must be signed off by the QA/QC reviewer, specialty designer and project manager.

#### A.1.11.2 Quality Assurance (QA) Program

1. The QA program provided for preliminary and detailed design services shall include all those planned and systematic actions required to ensure that the works to be constructed are designed in accordance with applicable codes, guidelines, standards and specifications.

2. Ensure it has been performed in accordance with:
  - a) Good engineering practice
  - b) Considerations for Constructability, Functionality, and Reliability
  - c) Practical layout of equipment from an operation and maintenance perspective
  - d) Compliance with relevant code(s) and standard(s)
  - e) The City's requirements for structural integrity of bridge infrastructure
  - f) Health and Safety Requirements applicable to the design and construction
  - g) The City's requirements as specified herein and in the Request for Proposal
  - h) Other specific requirements to the project
3. The Quality Assurance (QA) program provided for contract administration services for construction projects shall consist of planned and systematic actions to verify that the works are being constructed as specified in the contract documents in accordance with applicable codes, guidelines and standards.

A.1.11.3 Quality Control (QC) Program

1. Perform QC for the project to ensure that the design work, when completed, has been reviewed and checked and demonstrates that these services and works meet contractual and regulatory requirements.
2. The engineering drawings have been checked:
  - a) For design errors
  - b) For drafting errors
  - c) To ensure proper co-ordination has been exercised between the various engineering disciplines within the firm and those performed by sub-consultant(s)
  - d) To ensure constructability and operability
  - e) To ensure coordination with other existing projects under planning, design and/or construction stages within the project area.
  - f) For health and safety requirements
3. The specifications have been checked for completeness to ensure:
  - a) All regulatory, design and construction guidelines and City's bylaws requirements are met
  - b) The standards referenced in the tender are current.
  - c) That relevant codes and/or standards have been specified
  - d) That all required approvals and permits have been specified
  - e) That all specifications included are tailored to the project and contain clauses relevant to the project only.

A.1.11.4 The Quality Control (QC) program provided by the Consultant for the City of Toronto shall consist of the examination of services and work performed by the Contractor. The QC shall include management and documentation necessary to demonstrate that these services and work provided by the Contractor meet contractual and regulatory requirements during the construction phase.

A.1.11.5 All reports, technical memoranda, drawings, manuals, contract documents and specifications, both initial draft and final copies, as a minimum, must be reviewed with QA/QC completed by the consultant prior to submission to the City. The consultant shall use the "Consultants QA/QC" table shown below on the front page of the document and shall be signed by the appropriate staff prior to submission to the City. A document with no signature will not be reviewed and will be returned.

PRIME CONSULTANT:	
SUB-CONSULTANT:	

SUBMISSION	DATE	REVIEWED BY QA/QC STAFF	DATE	REVIEWED BY PROJECT MANAGER
Draft 1				
Draft 2				
Draft 3				
Final				

**A.1.12 Invoicing Requirements****A.1.12.1 General**

1. Invoices throughout the project must be submitted in a format acceptable to the City. Invoices for engineering services shall be submitted monthly, unless otherwise stipulated.

**A.1.12.2 Standard Format**

1. All invoices shall include the City's Purchase Order number, billing period and the City project number. Invoices shall be addressed to the City's Project Manager, unless otherwise stipulated.
2. The invoice summary sheet must be broken down into tasks, including sub-consultants, and associated disbursements per the Fee Proposal. In addition, the summary sheet shall also show the following for each task: the task value, the amount billed for the billing period, the amount billed previously, the total to date, the per cent complete and the balance of the fees remaining. The individual task information must be summarized for the entire project. The Approved Change Order Amount, used and remaining balance of provisional and contingency amounts, Total Invoice Amount, Amount Previous Payment, Holdbacks, Taxes and Total Amount Payable are to be identified separately. Charges against the contingency allowance provided for by the City will not be permitted without prior written approval.

**A.1.12.3 Supporting Documentation**

1. For tasks billed on time-based services to an Upset Limit, the invoice must identify the hours charged to each task by each staff, and the corresponding hourly rate and project role. An up-to-date rate table is to be submitted with each invoice. Billing rates for staff and project roles must be consistent with those provided in the time task matrix within the Financial Proposal.
2. Billing rates for staff or project roles other than those identified in the Financial Proposal shall be submitted in writing for review and shall be subject to approval prior to the utilization of the personnel on the assignment.
3. With each invoice, the Consultant shall provide an updated budget tracking form identifying the approved budget, expenditure for the billing period, expenditure for previous month, percent spent and remaining balance for each project task. The budget tracking form shall track base scope services, provisional items and contingency allowances and follow the cost breakdown identified in the RFP and Consultant Agreement.

**A.1.12.4 Disbursements**

1. Unless stated otherwise in the RFP, disbursements will be paid pro-rated based on the value of the work performed during the billable period, as indicated in the Fee Proposal Submission Requirements, therefore back-up receipts are not required to be provided with the invoice.

2. Where indicated in the RFP, certain disbursements shall be paid at cost. Allowable disbursements will be paid at cost subject to detailed expense sheets, copies of receipts, vehicle travel records, and all such documentation and materials needed in respect to such valid expenses to be provided as back up to the invoice.

**A.1.12.5 Work Status Report Requirements**

1. With each invoice, the Consultant shall provide a status report for the work completed for the billing period. The status report shall identify the overall project status, a brief description of the work completed for each task, percent complete, project-risk, proposed corrective actions, changes in the scope of work and project staffing, schedule update, expenditure update (budget tracking), cash flow projections and the work planned for the next billable period.

**A.1.12.6 Statutory Declaration**

1. With the request for final progress payment, the Consultant shall submit an original of the Statutory Declaration Schedule SD-F, certifying that the services performed and the disbursements claimed for the project were properly incurred in accordance with the provisions of the Consulting Services Agreement, and that no further invoices or claims will be made against the project. Note that the Statutory Declarations are required whether or not an engineering agreement is executed for the project. The Statutory Declaration is to be signed and sealed by a Commissioner of Oaths.

**A.1.12.7 Audits**

1. The proponent shall submit an accounting audit at the end of each phase of an assignment. If the assignment extends beyond a period of two years, audit reports are required at the end of the second year and at the end of each subsequent year in which services are performed. For more detailed information, refer to the engineering agreement.
2. Financial report shall be performed by an external auditor duly licensed under the latest version of the Ontario Public Accounting Act (as amended) to the effect that in his/her opinion the charges set forth in such final statement are properly chargeable under the associated engineering agreement. The report shall be in the form prescribed by the Canadian Institute of Chartered Accountants (CICA) guidelines.

**A.1.13 Project Cost Control**

**A.1.13.1 General**

1. The Consultant is required to maintain effective project cost control when providing engineering services to the City. Project cost control means the monitoring and control of engineering fees and construction cost throughout the life of the project.
2. The Consultant shall provide written notice within 15 days for potential scope changes and/or cost overruns to the Project Manager to ensure that action can be taken to mitigate cost and/or other such action so that additional funding can be obtained for the project.
3. Where the Consultant does not exercise proper cost control and has incurred additional cost, the City of Toronto is not obligated to honour payment for such services.

**A.1.13.2 Upset Limits**

1. Consultants must not exceed the approved Upset Limit without first obtaining written approval from the City.
2. Where the Consultant has exceeded the Upset Limit without prior written approval of the City, the Consultant shall assume full responsibility for the cost of such services.



3. The City accepts no responsibility for costs incurred by the Consultant for fees or additions to the contract cost where approval has not been granted for the inclusion of such work and fees to the project. If the Consultant is requested to provide engineering services which it believes to be outside the approved scope of work, the Consultant must identify the cost of the extra work and seek written approval from the City prior to commencement of the work.

A.1.13.3 Engineering Change Orders

1. All changes in engineering services provided by Consultants must be confirmed by Change Orders and authorized by the City.
2. The request for a Change Order must identify the following:
  - a) Description of scope change complete with rationale and time/task breakdown to undertake the work
  - b) Impact on Engineering Fees inclusive of disbursements
  - c) Impact on Schedule (working days)
  - d) Impact on Construction Cost (if applicable)

A.1.13.4 Contingency & Provisional Items

1. The contingency allowance is for potential extra work that may be required beyond the base scope work and is subject to the approval of the City. Provisional items and allowances are for specific items as identified in the Agreement. Payments from the contingency or provisional allowance will only be made following issuance of a Change Order approved by the City.

**END OF APPENDIX A.1**