RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11 rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Issuing Office - Bureau de distribution
Consultant Services Division/Division des services d'experts-conseils
11 Laurier St./11 Rue Laurier
3C2, Place du Portage
Phase III
Gatineau, Québec K1A 0S5

Title - Sujet
Advocate Architect

Solicitation No. - N° de l'invitation	Date
5Z011-170038/A	2016-06-16

Client Reference No. - N° de référence du client
5Z011-170038

GETS Reference No. - N° de référence de SEAG
PW-$$FE-172-71102

File No. - N° de dossier	CCC No./N° CCC - FMS No./N° VME
fe172.5Z011-170038	

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2016-07-29

Time Zone
Fuseau horaire
Eastern Daylight Saving Time EDT

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☐ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à:	Buyer Id - Id de l'acheteur
Boujenoui(fe172), Nabil	fe172

Telephone No. - N° de téléphone	FAX No. - N° de FAX
(873) 469-4905 ( )	( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:
LIBRARY AND ARCHIVES CANADA
PLACE DE LA CITE 8TH FL.
550 DE LA CITE BLVD
GATINEAU
Quebec
K1A0N4
Canada

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
See Herein	

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

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SUPPLEMENTARY INSTRUCTIONS TO PROPONENTS (SI)

SI 1 INTRODUCTION

1. Public Services and Procurement Canada (PSPC) (formally known as Public Works and Government Services Canada – PWGSC) intends to retain an individual consulting firm or joint venture to provide the professional services for the project as set out in this Request for Proposal (RFP).

2. Through the Gatineau 2 Preservation and Access Facility Project, Library and Archives Canada (LAC) is preparing to construct a new archival preservation and access facility that supports LAC's long-term archival collection and program requirements. The project plans to undertake the work through a Public-Private Partnership, or P3, model. This partnership will undertake the financing, design, construction, operating and maintenance of the new facility.

3. The Project Scope may also include optional scope for the retrofit of certain areas and systems in the existing adjacent Preservation Centre (PC) in Gatineau, Quebec, as well as the provision of Facility Management services and maintenance to the PC. Upon completion of the construction of Gatineau 2, it may also include the provision of Facility Management services to the new facility for up to a 30-year period.

4. The services of an Advocate Architect (AA) are required to provide various architectural, engineering and related services to LAC in support of the P3 procurement and delivery. The AA will support four phases of the project as summarized here and detailed in the Project Brief further below. Phase I includes obtaining and reviewing the existing project documentation, developing an indicative design, performance specifications, and service specifications to be included in the P3 RFP. Phase II involves assisting the client during the P3 procurement process, including attendance at proponent meetings, responding to proponent questions and participating in the proposal evaluations. Phase III involves assisting LAC during the design and construction of the facility by the P3 contractor, including reviewing the P3 design documents and carrying out LAC's monitoring and oversight responsibilities during construction. Phase IV is the post-construction phase which includes overseeing the contractor in the finalization of deficiencies, commissioning, closeout documents, and occupancy of the building by LAC. The AA contract is expected to be for a period of almost four years, from approximately September 2016 to June 2020. If the Optional Services described later in this RFP are procured, the AA's mandate would extend to approximately March 2021.

5. This is a single phase selection process. The nature of the requirement and the anticipated limited number of responses by the industry leads PSPC to believe that this approach will not unduly force a large number of firms to expend an overall unreasonable amount of effort in response to PSPC.

6. Proponents responding to this RFP are requested to submit a full and complete proposal. The proposal will cover not only the qualifications, experience and organization of the proposed AA team, but also the detailed approach to the work, and the pricing and terms offered. A combination of the technical and price of services submissions will constitute the proposal.

7. In agreeing to take on the role of AA for the Project, the Consultant, its firm and potential affiliates will not be eligible to provide services, directly or indirectly, to any potential bidder in relation to the P3 for the Project. Signing of the Contract will restrict the Consultant's future involvement with teams competing in any selection process for some or all of the work related to the delivery of the P3 for the Project. Please note that a team bidding for delivery of the P3 for the Project would be disqualified from participating in the Project's competitive selection process if the Consultant was to become a member of their team. An individual or organization will be considered a member of a proponent team if they have a direct financial interest in the success of a proposal or assist in the development of a proposal.

SI 2 PROPOSAL DOCUMENTS

1. All instructions, general terms, conditions and clauses identified in the RFP by number, date and title, are hereby incorporated by reference into and form part of this solicitation and any resultant contract.

   All instructions, general terms, conditions and clauses identified in the RFP by number, date and title, are set out in the Standard Acquisition Clauses and Conditions Manual (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Services and Procurement Canada.

2. The following are the proposal documents:
   (a) Supplementary Instructions to Proponents (SI);
   R1410T (2016-04-04), General Instructions (GI) – Architectural and/or Engineering Services – Request for Proposal;
   Submission Requirements and Evaluation (SRE);
   (b) the general terms, conditions and clauses, as amended, identified in the Agreement clause;
   (c) Project Brief
   (d) the document entitled "PPP Canada Schematic Design Estimate Guide";
   (e) the Security Requirements Check List (SRCL);
   (f) any amendments to the solicitation document issued prior to the date set for receipt of proposals; and
   (g) the proposal, Declaration/Certifications Form and Price Proposal Form.

3. Submission of a proposal constitutes acknowledgment that the Proponent has read and agrees to be bound by these documents.

SI 3 QUESTIONS OR REQUEST FOR CLARIFICATION

Questions or requests for clarification during the solicitation period must be submitted **in writing** to the Contracting Authority as listed below at nabil.boujenoui@tpsgc-pwgsc.gc.ca as early as possible.

Nabil Boujenoui
Telephone: 873-469-4905

Enquiries should be received no later than ten (10) working days prior to the closing date identified on the front page of the Request for Proposal. Enquiries received after that date may not be answered prior to the closing date of the solicitation.

SI 4 BID SOLICITATIONS DISTRIBUTION

Canada will make available Notices of Proposed Procurement (NPP), bid solicitations and related documents for download through the Government Electronic Tendering Service (GETS). Canada is not responsible and will not assume any liabilities whatsoever for the information found on websites of third parties. In the event an NPP, bid solicitation or related documentation would be amended, Canada will not be sending notifications. Canada will post all amendments using GETS. It is the sole responsibility of the Proponent to regularly consult GETS for the most up-to-date information. Canada will not be liable for any oversight on the Proponent's part nor for notification services offered by a third party.

SI 5 CANADA'S TRADE AGREEMENTS

This procurement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the World Trade Organization - Agreement on Government Procurement (WTO-AGP). The Agreement on Internal Trade does not apply because architectural and engineering services are specifically excluded.

SI 6 CERTIFICATIONS

1. **Integrity Provisions – Declaration of Convicted Offences**
   In accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Proponent must **provide with its bid**, **as applicable**, to be given further consideration in the procurement process, the required documentation as per R1410T (2016-04-04), General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3b**.

2. **Federal Contractors Program for Employment Equity - Proposal Certification**
   By submitting a proposal, the Proponent certifies that the Proponent, and any of the Proponent's members if the Proponent is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Employment and Social Development Canada (ESDC) - Labour's website.

   Canada will have the right to declare a proposal non-responsive if the Proponent, or any member of the Proponent if the Proponent is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

   Canada will also have the right to terminate the Agreement for default if a Consultant, or any member of the Consultant if the Consultant is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Agreement.

   The Proponent must provide the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification (see Appendix B - Declaration/Certifications Form), before contract award. If the Proponent is a Joint Venture, the Proponent must provide

the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

SI 7 SECURITY REQUIREMENT

1. The following conditions must be met:

(a) the Proponent must hold a valid organization security clearance as indicated in Supplementary Conditions SC1;

(b) the Proponent's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirement as indicated in Supplementary Conditions SC1;

(c) the Proponent must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites.;

(d) the Proponent's proposed location of service performance or document safeguarding must meet the security requirement as indicated in Supplementary Conditions SC1;

(e) the Proponent must provide the address(es) of proposed location(s) of service performance or document safeguarding as indicated in the Declaration/Certifications Form.

2. Proponents are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Proponent to obtain the required clearance will be at the entire discretion of the Contracting Authority.

3. For additional information on security requirements, proponents should refer to the Canadian Industrial Security Directorate (CISD), Industrial Security Program of Public Works and Government Services Canada (http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html) website.

SI 8 FAIRNESS MONITOR

Canada has engaged Samson & Associates as Fairness Monitor to monitor this Request for Proposal.

SI 9 WEBSITES

The connection to some of the Web sites in the RFP is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Employment Equity Act
http://laws-lois.justice.gc.ca/eng/acts/E-5.401/index.html

Federal Contractors Program (FCP)

http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/index.shtml

Certificate of Commitment to Implement Employment Equity form LAB 1168
http://www.servicecanada.gc.ca/cgi-bin/search/eforms/index.cgi?app=profile&form=lab1168&dept=sc&lang=e

Ineligibility and Suspension Policy
http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html

Code of Conduct for Procurement
http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html

Lobbying Act
http://laws-lois.justice.gc.ca/eng/acts/L-12.4/?noCookie

Buy and Sell
https://buyandsell.gc.ca/

Supplier Registration Information
https://srisupplier.contractscanada.gc.ca

Consultant Performance Evaluation Report Form
http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913-1.pdf

Canadian economic sanctions
http://www.international.gc.ca/sanctions/index.aspx?lang=eng

National Joint Council (NJC) Travel Directive
http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php

TERMS, CONDITIONS AND CLAUSES

AGREEMENT

1. The Consultant understands and agrees that upon acceptance of the offer by Canada, a binding Agreement shall be formed between Canada and the AA and the documents forming the Agreement shall be the following:
   (a) the Front Page and this Agreement clause;
   (b) the General Terms, Conditions and Clauses, as amended, identified as:
   - R1210D (2016-04-04), General Condition (GC) 1 - General Provisions – Architectural and/or Engineering Services
   - R1215D (2016-01-28), General Condition (GC) 2 - Administration of the Contract – Architectural and/or Engineering Services
   - R1220D (2015-02-25), General Condition (GC) 3 - Consultant Services
   - R1225D (2015-04-01), General Condition (GC) 4 - Intellectual Property
   - R1230D (2016-01-28), General Condition (GC) 5 - Terms of Payment
   - R1235D (2011-05-16), General Condition (GC) 6 – Changes
   - R1240D (2011-05-16), General Condition (GC) 7 - Taking the Services Out of the Consultant's Hands, Suspension or Termination
   - R1245D (2016-01-28), General Condition (GC) 8 - Dispute Resolution
   - R1650D (2015-07-03), General Condition (GC) 9 - Indemnification and Insurance
   - Supplementary Conditions
   - Agreement Particulars

   (c) Project Brief;
   (d) the document entitled "PPP Canada Schematic Design Estimate Guide";
   (e) Security Requirements Check List (SRCL);
   (f) any amendments to the solicitation document issued prior to the date set for receipt of proposals; and
   (g) the proposal, Declaration/Certifications Form and Price Proposal Form.

2. The documents identified above by title, number and date are hereby incorporated by reference into and form part of this Agreement, as though expressly set out herein, subject to any other express terms and conditions herein contained.

   The documents identified above by title, number and date are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PSPC). The SACC Manual is available on the PSPC Web site: https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual

3. If there is a discrepancy between the wording of any documents that appear on the following list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.
   (a) any amendment or variation in the Agreement that is made in accordance with the terms and conditions of the Agreement;
   (b) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;

(c) this Agreement clause;
(d) Supplementary Conditions;
(e) General Terms, Conditions and Clauses;
(f) Agreement Particulars;
(g) Project Brief / Terms of Reference;
(h) the document entitled "PPP Canada Schematic Design Estimate Guide";
(i) the document entitled "**Security Requirement Check List**";
(j) the proposal.

AUTHORITIES

1. Contracting Authority

The Contracting Authority for the Agreement is:

Nabil Boujenoui (or designated representative) Supply Specialist
Public Services and Procurement Canada (formerly Public Works and Government Services Canada – PWGSC)
Place du Portage, Phase III, Gatineau, Quebec K1A 0S5
Telephone: 873-469-4905
E-mail: nabil.boujenoui@ tpsgc -pwgsc.gc.ca

The Contracting Authority is responsible for the management of the procurement and any changes to the resulting contract must be authorized in writing by the Contracting Authority. The Consultant must not perform work in excess of or outside the scope of the contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

2. Project Authority

The Project Authority for the Agreement is:

Name: *(to be completed upon Agreement award)*
Title:
Address:
Telephone :
Facsimile:
E-mail address:

The Project Authority is the representative of the department or agency for whom the services are being carried out under the Agreement and is responsible for all matters concerning the technical content of the services under the Agreement. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the Terms of Reference. Changes to the Terms of Reference can only be made through an agreement amendment issued by the Contracting Authority.

3. Consultant's Representative

Name: *(to be completed upon Agreement award)*
Title:
Organization:
Address:
Telephone:
E-mail address: I

SUPPLEMENTARY CONDITIONS (SC)

SC1 SECURITY REQUIREMENT

1) The following security requirement (SRCL and related clauses) applies and form part of the Agreement.

1. The Consultant must, at all times during the performance of the Contract, hold a **valid Designated Organization Screening (DOS) with approved Document Safeguarding at the level of PROTECTED B**, issued by the Canadian Industrial Security Directorate (CISD), Public Services and Procurement Canada (PSPC).

2. The Consultant personnel requiring access to PROTECTED information, assets or work site(s) must EACH hold a valid **RELIABILITY STATUS**, granted or approved by the CISD/PSPC.

3. The Consultant **MUST NOT** utilize its **Information Technology** systems to electronically process, produce or store **PROTECTED** information until the CISD/PSPC has issued written approval. After approval has been granted or approved, these tasks may be performed at the level of **PROTECTED B**.

4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PSPC.

5. The Consultant must comply with the provisions of the:

   (a) Security Requirements Check List and security guide (if applicable), attached at Appendix D;
   (b) Industrial Security Manual (Latest Edition)

2) Consultant's Site or Premises Requiring Safeguard Measures

The Consultant must diligently maintain up-to-date, the information related to the Consultant's site or premises, where safeguard measures are required in the performance of the Services, for the following addresses:

Address:
Street Number / Street Name, Unit / Suite / Apartment Number
City, Province, Territory
Postal Code

SC2 LANGUAGE REQUIREMENTS

1. Communication between Canada and the AA shall be in the language of choice of the AA, which

shall be deemed to be the language of the AA's proposal.

2. The AA's services during tender call for the P3 Contract (such as addenda preparation, tenderers' briefing meetings, technical answers to questions by bidders, including translation of bidder's questions) shall be provided expeditiously in both languages, as necessary.

3. The AA's services during P3 project delivery shall be provided in the language of choice of the P3 Contractor. The successful P3 Contractor will be asked to commit to one or other of Canada's official languages upon award of the Construction Contract and, thereafter construction and contract administration services will be conducted in the language chosen by the P3 Contractor.

4. Other required services in both of Canada's official languages (such as construction documentation) are described in detail in the Project Brief.

5. The Consultant Team, including the Prime Consultant, Sub-Consultants and Specialists Consultants shall ensure that the services being provided in either language shall be to a professional standard.

SC3 FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - DEFAULT BY THE CONSULTANT

The Consultant understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Consultant and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the contract. If the AIEE becomes invalid, the name of the Consultant will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Consultant in default as per the terms of the contract.

AGREEMENT PARTICULARS

The Agreement Particulars will be issued at time of award of contract and will identify the fee to be paid to the Consultant for the services determined in the Price Proposal Form.

SUBMISSION REQUIREMENTS AND EVALUATION

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An 'Overview of the selection procedure' can be found in R1410T General Instructions to Proponents (GI3).

1.2 Calculation of Total Score and Basis of Selection

For this project the Total Score will be established as follows:

Technical Rating x 90%	=	Technical Score (Points)
Price Rating x 10%	=	Price Score (Points)
Total Score	=	Max. 100 Points

SRE 2 PROPOSAL REQUIREMENTS

2.1 Requirement for Proposal Format

. The following proposal format information should be implemented when preparing the proposal.

- Submit one (1) bound original plus four (4) bound copies of the proposal plus one (1) electronic version
- Paper size should be - 216mm x 279mm (8.5" x 11")
- Minimum font size - 11 point Times or equal
- Minimum margins - 12 mm (1.2 cm) left, right, top, and bottom
- Double-sided submissions are preferred
- One (1) 'page' means one side of a 216mm x 279mm (8.5" x 11") sheet of paper
- 279mm x 432 mm (11" x 17") fold-out sheets for spreadsheets, organization charts etc. will be counted as two pages.
- The order of the proposals should follow the order established in the Request for Proposal SRE section

2.2 Specific Requirements for Proposal Format

The maximum number of pages (including text and graphics) to be submitted for the Rated Requirements under SRE 3.2 is **sixty (60)** pages.

The following are not part of the page limitation mentioned above:

- Covering letter
- Consultant Team Identification (Appendix A)
- Declaration/Certifications Form (Appendix B)
- Price Proposal Form (Appendix C)
- Integrity Provisions - Associated Information
- Front page of the RFP
- Front page of revision(s) to the RFP

Consequence of non-compliance: any pages which extend beyond the above page limitation and any other attachments will be extracted from the proposal and will not be forwarded to the Government of Canada Evaluation Board members for evaluation.

SRE 3 SUBMISSION REQUIREMENTS AND EVALUATION

3.1 MANDATORY REQUIREMENTS

FAILURE TO MEET THE MANDATORY REQUIREMENTS WILL RENDER THE PROPOSAL AS NON-RESPONSIVE AND NO FURTHER EVALUATION WILL BE CARRIED OUT.

3.1.1 Licensing, Certification or Authorization

The proponent shall be an architect(s) licensed, or eligible to be licensed, certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the Province of Quebec.

3.1.2 Consultant Team Identification

The Team must include the following:

a) Proponent (Advocate Architect)

- Architect

b) Key Sub-consultants/Specialists

- Civil Engineer
- Structural Engineer
- Mechanical Engineer
- Electrical Engineer
- IT Engineer
- Security Specialist
- Shelving Technologies Specialist
- Facility Management Specialist

If the proponent proposes to provide multidisciplinary services that might normally be provided by a sub-consultant, this should be indicated here.

- Name of firm and key personnel to be assigned to this RFP.
- For the Prime Consultant, indicate current licences and/or how the Consultant intends to meet the provincial or territorial licensing requirements.
- In the case of a Joint Venture, identify the existing or proposed legal form of the Joint Venture (refer to R1410T General Instructions to Proponents, GI 9 Limitation of Submissions).

An example of an acceptable format (typical) for submission of the team identification information is provided in Appendix A.

3.1.3 Declaration/Certifications Form

Proponents must complete, sign and submit the following:

- Appendix B, Declaration/Certifications Form.

3.1.4 Integrity Provisions – Required documentation

In accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Proponent must provide, **as applicable**, to be given further consideration in the procurement process, the required documentation as per R1410T (2016-04-04), General instructions 1 (GI1), Integrity Provisions – Proposal**, section 3a.**

3.1.5 Security Requirement

At the date of bid closing, the following conditions must be met:

The Proponent must hold a valid **Designated Organization Screening (DOS)**, issued by the Canadian Industrial Security Directorate (CISD), PSPC as indicated in Supplementary Conditions SC1.

3.2 RATED REQUIREMENTS

3.2.1 Achievements of Proponent on Relevant Projects

Describe the Proponent's accomplishments, achievements and experience as Prime Consultant (Lead Architect) on projects comparable/relevant to the requested *Project Brief* in this RFP.

The Proponent should present a **maximum** of three (3) projects undertaken within the last 10 years. Only projects where the design was completed will be considered. Only the first three (3) projects listed in sequence will receive consideration and any others will receive none as though not included. Joint venture submissions are not to exceed the maximum number of three (3) projects.

It would be preferable if the Proponent can demonstrate the following experience:

a) P3 experience
b) Functioning as an AA, Owner's Advocate, or similar title
c) External stakeholder involvement
d) Management of a multi-disciplinary project team from concept to post-occupancy stages
e) Projects with high-reliability building systems
f) Projects with Physical Security requirements
g) Projects involving multi-year contracts for Facility Management and life-cycle
h) Experience in the design and construction of facilities such as archives, libraries, museums for the long-term preservation of heritage documents and / or artefacts.

Information that should be supplied (should be no more than 2 pages per project):

1) Project title, location, building program, building scale (m^2), year started and year completed, construction value, services provided.
2) A clear indication of how the experience presented is comparable or relevant to criteria a) to h) noted above.
3) A project narrative, which should include a discussion of the approach used to meet the intent of the project, and the challenges encountered and resolutions employed. Narratives should include a discussion of how Facilities Management considerations were addressed.
4) A description of techniques employed for budget and schedule management.
5) Names of the key personnel engaged on the project and brief description of their roles and

responsibilities on project, clearly stating the services each key person provided.
6) Awards and external recognition received, if any.

The Proponent (as defined in R1410T General Instructions to Proponents, GI2 Definitions) must possess the knowledge on the above projects. Past project experience from entities other than the Proponent will not be considered in the evaluation unless these entities form part of a joint venture Proponent.

Please indicate those projects which were carried out in joint venture and the responsibilities of each of the involved entities in each project.

3.2.2 Achievements of Key Sub-Consultants and Specialists on Relevant Projects

Describe the accomplishments, achievements and experience either as Prime Consultant or in a Sub-consultant capacity on projects. If the Proponent proposes to provide multi-disciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.

Present a maximum of two (2) projects where the design was completed within the last ten (10) years for each Key Sub-Consultant or Specialist identified in section 3.1.2 b. Only the first two (2) projects listed in sequence (for each Key Sub-Consultant or Specialist) will receive consideration and any subsequent projects will not be evaluated.

It would be preferable if the Proponent can demonstrate the following experience of their Key Sub-Consultants and Specialists:

a) Functioning as a team member of an AA, Owner's Advocate, or similar title
b) External stakeholder involvement
c) Projects with high-reliability building systems
d) Projects with Physical Security requirements
e) Projects relevant to the area of specialism of the Key Sub-Consultants and Specialists
f) P3 Experience
g) Experience in the design, construction and management of facilities such as archives, libraries, museums for the long-term preservation of heritage documents and/or artefacts

a) Information that should be supplied for each project (should be no more than 2 pages per project):

1) Project title, location, building program, building scale (m^2), year started and year completed, construction value, services provided specifically by the sub-consultant or specialist.
2) A clear indication of how the experience of the sub-consultant or specialist presented is comparable or relevant to criteria a) to g) noted above.
3) A project narrative, which should include a discussion of the approach used to meet the intent of the project, and the challenges encountered and resolutions employed. Narratives should include a discussion of how operations and maintenance considerations were addressed.
4) Names of the Key Sub-Consultants and Specialists personnel engaged on the project and brief description of their roles and responsibilities on project, clearly stating the services each key person provided.
5) Awards and external recognition received, if any.

3.2.3 Achievements of Key Personnel

Describe the experience, expertise and performance of Key Personnel to be assigned to this project regardless of their past association with the current Proponent firm. Key Personnel information should be provided for a maximum of 20 team members and should include information for the individuals who will act as AA Team Lead and AA Project Manager. This is the opportunity to emphasize the strengths of the individuals on the team, to recognize their past responsibilities, commitments and achievements. Key Personnel should include the following as a minimum, if multiple functions are proposed to be performed by one Key Person, it should be identified here:

- AA Team Lead
- AA Project Manager
- Senior Architect
- Junior Architect
- Civil Engineer
- Structural Engineer
- Mechanical Engineer
- Electrical Engineer
- IT Engineer
- Shelving Technologies Specialist
- Security Specialist
- Facility Management Specialist

Information that should be supplied for each Key Person (should be no more than 2 pages per person):

1) Proposed role in the AA team
2) Resume for key person providing:
   (a) Individual's name, title and name of firm
   (b) Professional accreditation details (province, year, status, etc.) and other qualifications
   (c) A description of expertise and experience (with number of years) relevant to this project
   (d) A demonstration of services provided, roles, responsibilities, and degree of involvement of the individual on past projects that will corroborate the person's experience and expertise relevant to this RFP.
   (e) Special accomplishments / achievements / awards.

3.2.4 Understanding of Project Scope

The Proponent should demonstrate an understanding of the goals of the Project, the functional / technical requirements, the constraints and the issues that will affect the design, delivery, implementation and operation and maintenance of the facilities.

Information that should be supplied (should be no more than 4 pages):

1) An interpretation of Project Scope's functional and technical requirements including the interrelation of complementary and / or co-dependent project components.

2) A critical assessment of broader goals as they relate to sustainable development and site sensitivities.
3) Demonstrate an understanding of Project Scope's significant issues, challenges and constraints).
4) Demonstrate an understanding of how the Required Services will be implemented within the Project Scope and provide a strategy for the execution of each Phase.
5) Demonstrate an understanding of both the cost and schedule for the AA Required Services within the Project Scope schedule and cost as a whole; and provide a high-level risk management strategy for both schedule(s) and cost(s).
6) Demonstrate an understanding of the Project Scope's various participants and stakeholders.

3.2.5 Team Philosophy / Approach / Methodology

The Proponent should highlight its proposed approach and elaborate on aspects of the Required Services considered to be major challenges. This is the opportunity for the Proponent to state the overall philosophy of the team as well as the approach to delivering results and resolving issues with a particular focus on the specific aspects of the Required Services.

Information that should be supplied (should be no more than 4 pages):

1) Understanding of the roles and responsibilities of the AA in a P3 context.
2) Confirm the makeup of the full project team including the names of all consultants and personnel (prime consultant, sub-consultants and specialists) and their roles on the Required Services. In particular, provide the names and describe the roles of the AA Team Lead and the AA Project Manager that will coordinate activities and deliverables within the AA contract.
3) Organization chart for the AA team identifying names, position titles and reporting relationships. Confirm what back-up will be committed in the event of unavailability of key personnel.
4) Demonstrate how the schedule objectives outlined in section PD1.2 will be met and how response times during the Pre-Procurement and Procurement phases will be minimized;
5) Describe the major challenges that the Proponent foresees and the approach that will be applied to those particular challenges.
6) Describe how you will integrate the Facility Management requirements with the design requirements during the project work.

3.2.6 Understanding of Required Services

The Proponent should demonstrate an understanding of the full scope of Required Services (RS) for the Project. Describe the Proponent's capability to perform the Required Services and meet project challenges. Describe how the Proponent proposes to organize and manage the delivery of all Required Services and deliverables and provide a plan of action, and provide indicative levels of effort for the services in each phase.

Information that should be supplied (should be no more than 4 pages):

1) A demonstration that the Proponent understands the full scope of the Required Services and deliverables expected.
2) Schedule of the Required Services activities that demonstrates the Proponent's proposed approach to managing a major AA assignment, in particular the proposed approach to delivering the RS-1 phase in a timely manner.
3) A description of how the AA's on-site services will be completed during all four phases.
4) Level of effort breakdown for a sub-set of activities in RS-1, RS-2, RS-3 and RS-4. An example of an acceptable format for submission is provided below.

Using the table below, Proponents will be able to confirm an understanding of the Required Services by identifying which skills would be assigned to each Phase of the Project (as described in the Required Services), and to provide a rationale for the notional level of effort in hours. Responses should identify: (1) Personnel categories required for each task and (2) Associated estimated level of effort (number of hours) per Personnel category with enough specificity to allow a notional costing review to be performed.

Required Services											
Phase	**Estimated Level of Effort (hours)**										**Total Level of Effort (hours)**
Example Personnel (add as needed)	AA Team Lead	AA Project Manager	Senior Architect	Junior Architect	Structural Engineer	Shelving Technologies Specialist	Mechanical Engineer	Electrical Engineer	IT Engineer		
Phase RS-1											
Phase RS-2											
Phase RS-3											
Phase RS-4											
Total											

Note: The above table is shown as an example only. To be modified by the Proponent to include all of their project team personnel (Prime and Sub-Consultants) involved in phases RS-1, RS-2, RS-3 and RS-4. In addition, the Proponent is to create a second table to show the Level of Effort for the Optional Services described in the Required Services section of this RFP.

3.3 EVALUATION AND RATING

Proposals will be reviewed, evaluated and rated by a Government of Canada Evaluation Board in accordance with the following:

Criterion	Weight Factor	Rating	Weighted Rating
3.2.1 - Achievements of Proponent on Relevant Projects	1.5	0 - 10	0 - 15
3.2.2 - Achievements of Key Sub-Consultants and Specialist on Relevant Projects	1.5	0 - 10	0 - 15
3.2.3 - Achievements of Key Personnel	2.0	0 - 10	0 - 20
3.2.4 - Understanding of the Project Scope	2.0	0 - 10	0 - 20
3.2.5 - Team Philosophy / Approach / Methodology	1.5	0 - 10	0 – 15
3.2.6 – Understanding of Required Services	1.5	0 - 10	0 - 15
Technical Rating	**10.0**		**0 - 100**

Evaluation Table

The Government of Canada Evaluation Board members will evaluate the strengths and weaknesses of the Proponent's response to the evaluation criteria and will rate each criterion with even numbers (0, 2, 4, 6, 8 or 10) using the evaluation table below:

	INADEQUATE	WEAK	ADEQUATE	FULLY SATISFACTORY	STRONG
0 point	2 points	4 points	6 points.	8 points	10 points
Did not submit information which could be evaluated	Lacks complete or almost complete understanding of the requirements.	Has some understanding of the requirements but lacks adequate understanding in some areas of the requirements.	Demonstrates a good understanding of the requirements	Demonstrates a very good understanding of the requirements.	Demonstrates an excellent understanding of the requirements.
	Weaknesses cannot be corrected	Generally doubtful that weaknesses can be corrected	Weaknesses can be corrected	No significant weaknesses	No apparent weaknesses
	Proponent do not possess qualifications and experience	Proponent lacks qualifications and experience	Proponent has an acceptable level of qualifications and experience	Proponent is qualified and experienced	Proponent is highly qualified and experienced
	Team proposed is not likely able to meet requirements	Team does not cover all components or overall experience is weak	Team covers most components and will likely meet requirements	Team covers all components - some members have worked successfully together	Strong team - has worked successfully together on comparable projects
	Sample projects not related to this requirement	Sample projects generally not related to this requirement	Sample projects generally related to this requirement	Sample projects directly related to this requirement	Leads in sample projects directly related to this requirement
	Extremely poor, insufficient to meet performance requirements	Little capability to meet performance requirements	Acceptable capability, should ensure adequate results	Satisfactory capability, should ensure effective results	Superior capability, should ensure very effective results

To be considered further, Proponents **must** achieve a minimum Technical Rating of sixty (60) points out of the hundred (100) points available as specified above.

No further consideration will be given to proponents not achieving the pass mark of sixty (60) points.

SRE 4 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals which have achieved the technical pass mark of **sixty (60)** points will be opened upon completion of the technical evaluation.

Each proponent's price proposal shall be calculated as the sum of the fee totals from Tables A1, A2 and B in the proponent's Price Proposal Form.

An average price is determined by adding all of the responsive proponents' price proposals together and dividing the total by the number of price proposals being opened.

All price proposals which are greater than twenty-five percent (25%) above the average price will be set aside and receive no further consideration.

The remaining price proposals are rated as follows:

A. The lowest price proposal receives a Price Rating of 100
B. The second, third, fourth and fifth lowest prices receive Price Ratings of 80, 60, 40, and 20 respectively. All other price proposals receive a Price Rating of 0.
C. On the rare occasions where two (or more) price proposals are identical, the matching price proposals receive the same rating and the corresponding number of following ratings are skipped.

The Price Rating is multiplied by the applicable percentage to establish the Price Score.

SRE 5 TOTAL SCORE

Total Scores will be established in accordance with the following:

Rating	Possible Range	% of Total Score	Score (Points)
Technical Rating	0 - 100	90	0 - 90
Price Rating	0 - 100	10	0 - 10
Total Score		100	0 - 100

The Proponent receiving the highest Total Score is the first entity that the Evaluation Board will recommend for the provision of the required services. In the case of a tie, the proponent submitting the lower price for the services will be selected.

SRE 6 SUBMISSION REQUIREMENTS – CHECKLIST

The following list of documents and forms is provided with the intention of assisting the Proponent in ensuring a complete submission. The Proponent is responsible for meeting all submission requirements.

Please follow detailed instructions in R1410T General instructions to Proponents**,** GI16 Submission of proposal. Proponents may choose to introduce their submissions with a cover letter.

Team Identification - see typical format in Appendix A
Declaration/Certifications Form- completed and signed - form provided in Appendix B
Integrity Provisions – Required documentation – **as applicable** in accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) and as per R1410T (2016-04-04), General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3a.**
Integrity Provisions- Declaration of Convicted Offences – **with its bid, as applicable** in accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) and as per R1410T (2016-04-04), General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3b.**
Proposal - one (1) original plus four (4) copies
Front page of RFP
Front page(s) of any solicitation amendment

In a separate envelope:
Price Proposal Form - one (1) completed and submitted in a separate envelope

PROJECT BRIEF

Advocate Architect (AA) – The Consultant, as defined in R1410T (2016-04-04), General Instructions (GI) – Architectural and/or Engineering Services – Request for Proposal.

Commercial Close - the date when all of the commercial agreements required by the Owner and the Private Partner for the Supported Program of Work, including the Project Agreement, have been finalized and executed.

DBFOM (Design, Build, Finance, Operate, Maintain) - the type of P3 contract planned for the proposed Project Scope. The P3 contractor will be responsible for all five components (design, build, finance, operate and maintain) over a planned 30 year life-cycle.

Facilities Management - The overall coordinated management of all infrastructure, services, maintenance and lifecycle replacement for the building in support of the core function of the facility.

Financial Close - the date on or after Commercial Close when all of the financing agreements required for the Project Scope, including conditions precedent defined in the Project Agreement, have been finalized and executed.

PC – the existing Preservation Centre in Gatineau, Quebec

LAC – Library and Archives Canada, the Owner of the Project.

LAC Project Director – Library and Archives Canada Representative for this contract.

Optional Services – services which, at the option of LAC, may be added to the Required Services.

Project Agreement - the contract governing the P3.

Project Management Team (PMT) – LAC's Project Management Team having expertise in P3 Procurement, Design and Construction, Commissioning and Facilities Management.

P3 (Public Private Partnership) – a long-term contractual arrangement in which a private sector entity finances and delivers infrastructure and related services to government.

P3 Contractor – the entity which enters into the Project Agreement with the Owner.

P3 RFP (Request for Proposal) – a formal solicitation, requesting technical and financial information from P3 proponents shortlisted through a RFQ process, which evaluates and often selects a Contractor to enter into a Project Agreement with the Owner.

P3 RFQ (Request for Qualifications) – a process which evaluates and often selects a shortlist of P3 proponents through assessment of their capacity and capability to undertake a project.

PPP Canada – Public Private Partnerships Canada

Project – Gatineau 2, Preservation and Access Facility Project (working title: Gatineau 2 Project)

Project Scope – the Design and Construction and Facilities Management of a new Preservation and Access Facility in Gatineau, with an option to retrofit the existing adjacent Preservation Centre.

PSPC – Public Services and Procurement Canada (formerly Public Works and Government Services Canada – PWGSC)

Required Services (RS) – representing the AA's scope of services requested within this RFP.

SDEG (Schematic Design Evaluation guide) – a document prepared by PPP Canada used to support value of money calculations required for formal P3 approvals.

DESCRIPTION OF PROJECT

PD 1 PROJECT INFORMATION

1.1 Description

This Project is for a new Preservation and Access Facility Project (Gatineau 2), hereinafter referred to as the Project. The Project involves the Design/Build/Finance/Operate/Maintain (DBFOM) of a modern, purpose-built archival preservation and access facility that supports long-term preservation of existing and future analog textual record growth, and enables timely access of archival records to users.

By incorporating within the Project modern highly efficient storage and retrieval systems for analog holdings which can increase the capacity of the facility over conventional shelving systems by about a factor of four, LAC will be able to achieve a significant reduction in the number and size of buildings required for the physical storage of its collections.

The Project is to be pursued under a P3 DBFOM agreement for an estimated 30-year term with a private sector entity. This agreement will encompass recapitalization needed for the facility such that at the end of term Gatineau 2 is essentially refreshed. Annual payments will include operating and maintenance costs, labour, management fees, utilities, debt repayment and, as mentioned, recapitalization.

1.2 Schedule

Outlined below are the indicative dates of project phases along with the expected date of completion. This chart will be updated from time to time to reflect evolving Project decisions and circumstances.

Milestone	Date
Award of Advocate Architect Contract	August 2016
Phase 1 – Pre-Procurement	August 2016 – April 2017
Phase 2 – P3 Procurement	April 2017 – June 2018
Phase 3 – Design and Construction	June 2018 – June 2020
Phase 4 – Post-Construction (including optional PC Retrofit)	June 2020 – March 2021

PD 2 PROJECT BACKGROUND

The Project is being proposed by Library and Archives Canada (LAC) as a solution to its ongoing and future needs for special purpose infrastructure to provide appropriate preservation and access space for its analogue archival holdings. The Project is also a key component of LAC's plan to mitigate the risk of accepting transfer of administration from PSPC of special purpose facilities it currently occupies without

ongoing inflation protection for operating costs and payments in lieu of taxes (PILT).

The Project is the centerpiece of LAC's Long Term Real Property Plan (LTRPP) to complete the rationalization of existing special purpose assets that are not able to support its needs and that are space and cost inefficient. Its construction will enable the consolidation of LAC's archival holdings to its Gatineau campus, and provide LAC with the means to sustain its renewed real property portfolio for the foreseeable future.

To be designed to state-of-the-art standards, Gatineau 2's primary function will be to support the storage and long-term preservation of LAC's existing and future, analogue textual holdings. Other important functions of the building are to support improved access to LAC's archival holdings and to provide appropriate space for the processing of its archival holdings. Linking Gatineau 2 to LAC's existing Preservation Centre will minimize risk to holdings moving back and forth between the two buildings. It will also enable operational efficiencies and help to minimize the duplication of infrastructure support, for example conservation laboratories.

LAC's analog holdings currently extend to over 430,000 linear meters of storage space, and the amount is growing by thousands of meters annually. Future growth forecasts do recognize that analogue materials will decrease as more and more documents and publications are created in digital formats. Growth forecasts have also taken into account LAC's focused activities of only accepting government records of enduring value. Existing LAC occupied special purpose facilities that are purpose built, specifically its Preservation Centre and Collections Storage Facility in Gatineau, meet modern standards for holdings storage, but its other facilities are not capable of providing adequate preservation conditions as they were not purpose built and are aging. They are also geographically dispersed, requiring holdings to be transported between facilities, placing them at increased risk.

PD3 EXISTING DOCUMENTATION

3.1 To be made available to the Successful Proponent

1) Early Technical studies

Proponents should note that LAC is in the process of procuring the services of consulting firms to carry out two early technical studies in support of the Project. The scope of these studies are included in Appendix F. The Civil Engineering Study involves the development of site plans and preliminary civil designs (site servicing, stormwater management, etc. in support of the new Gatineau 2. The second study involves the Retrofit and Plant Redundancy Study of the existing PC facility; this study is linked to the AA's Optional Scope of Services described in the Required Services section of this RFP. Both studies are expected to be completed or partially completed by the date of award of the Advocate Architect contract. All reports and other documents from these studies that are available when the AA firm begins their mandate will be provided. If one or both studies are not yet completed prior to the AA starting its mandate, it is expected that the AA will coordinate its work with these consultants.

2) The following documents will be made available to the successful proponent, in their original

language:

Gatineau 2 Project

- Phase 1 Environmental Site Assessment (2002)
- Phase 2 Environmental Site Assessment (2004)
- Étude faunique et floristique (2009)
- Development Master Plan – Gatineau Site (2011)
- LAC Long Term Real Property Plan Study (2011)
- Design Report (2012)
- Order of Magnitude Estimate (2012)
- Business Case Report (2012)
- Geotechnical Investigation and Design Report (2014)
- Project Brief (2015)
- Detailed Functional Program (2016)
- Climate Control for Long Term Preservation of Paper in Library and Archives Canada (2016)
- Site Plan and Civil Engineering Study – Draft Report (2016)

Optional – Documents Related to the Preservation Centre (PC):

- Building Condition Report – Gatineau Preservation Centre (2016)
- Threat Risk Assessment – Gatineau Preservation Centre (2016)
- Energy Audit – Gatineau Preservation Centre (2016)
- Heat Map – Gatineau Preservation Centre (2016)
- Management Analysis Gatineau Preservation Centre Fiscal Year 2016-2017 (2016)
- Retrofit Scope and Plant Redundancy Study – Gatineau Preservation Centre (2016)
- Air and Mechanical Capacity Assessment – Gatineau Preservation Centre (2016)

PD 4 PROJECT SCOPE

The Project involves the design and construction of a modern, purpose-built facility with a gross area of approximately 9,700 m^2 on a Crown-owned site of approximately 21 hectares adjacent to the existing Preservation Centre in Gatineau, Quebec. The site is located at 625 Boulevard du Carrefour. The facility will have a storage component, which will include an automated storage and retrieval system, an access component, an archival records' processing component and back-of-house support.

In order to provide effective and efficient storage and preservation of LAC's current holdings and capacity for the forecasted growth of the collection to 2028-2029, a collection storage component capable of storing 610,000 archival boxes - or approximately 6,600 m^2 and 18.3 m high - is required.

The storage component must respect practices outlined in accepted archival standards, including appropriate temperature and humidity controls, fire detection and suppression systems, and security. It is also to include a high-density shelving and automated retrieval system to ensure space and cost efficiencies are optimized, as well as improved access to holdings.

The records consultation component must provide accessibility and flexibility as well as appropriate space to accommodate individual and group consultation of archival documents of various formats, for example, manuscripts, photographs and maps. It requires environmental and other controls for safeguarding holdings viewed in the space, as well as support areas (registration, lunch room, lockers, etc.). Similar to

the records consultation spaces, records processing requires flexible, environmentally controlled and secure spaces to work with records of different formats, for example, manuscripts, maps, photographs. The design and finish of the building must take into account function, visibility (as a national cultural institution), sustainability and cost.

The back-of-house support must provide space for staff, including offices, meeting spaces and a holdings circulation staging area. IT support for both the access space and the back-of-house is also required.

The space requirements are summarized in the following table:

Function	Required Area (gross m^2)
Archival holdings in high density storage	6,580 m^2
Consultation, processing and handling space	1,510 m^2
Building service spaces	1,610 m^2
Total space required in new facility	9,700 m^2

The scope of the Project includes a physical connection to the existing Preservation Centre to permit movement of holdings and people as needed and the ability of the Gatineau 2 facility to share the Preservation Centre's existing infrastructure such as the preservation labs.

The new facility will support the federal government's sustainable development goals by designing the building to the Leadership in Energy and Environmental Design (LEED) standard that, given the nature of the facility, best balances sustainability goals with cost. Through the employment of new building construction and systems, the Project will enable reduced energy utilization and greenhouse gas emissions. Its close proximity with most of LAC's other facilities in a campus environment will enable cost savings and lower greenhouse gas emissions as the transport of documents by truck will be reduced.

The scope of the Project includes installation of high-density shelving and an automated retrieval system capable of retrieving archival material from storage and delivering it to a handling area within a prescribed time period. It is estimated that the Project requires a shelving system capable of storing 610,000 boxes for textual archival records.

The design and construction of the facility must be durable and structurally sound to serve the federal government for many generations.

PD 5 OPTIONAL PROJECT SCOPE

LAC is currently evaluating whether a retrofit project to be undertaken in its existing Preservation Centre should be included within the P3 Project for the adjacent Gatineau 2 facility. The retrofit project includes re-fitting the shelving and storage equipment in selected vaults and providing lower temperature and relative humidity environment through amendments to their associated mechanical systems in line with

LAC's Long Term Real Property Plan for the existing Preservation Centre to become a long term preservation facility for all analogue archival records, except textual. Should the retrofit project be included with the P3 Project, it would likely include the retrofit work itself, as well as the operation and maintenance of the existing Preservation Centre building. Timing for the retrofit work would follow closely after the delivery of Gatineau 2 and would need to be performed while the Preservation Centre remains operational.

LAC is procuring a related early technical study, described in Appendix F, which may be adopted by the AA in providing the Optional Services.

PD 6 PROJECT ISSUES

6.1 Major Cost Issues

Effective cost estimating and cost control is of prime importance and shall be provided by Professional Quantity Surveyors obtained through a separate contract by LAC to work with the AA team. The cost estimates shall be produced in elemental cost analysis format. The standard of acceptance for this format is the current issue of the elemental cost analysis format issued by the Canadian Institute of Quantity Surveyors and will be of sufficient detail to allow for completion of the PPP Canada's Schematic Design Estimate Guide (SDEG).

6.2 Major Time Issues

This project is designed for completion as per the schedule shown in Section PD 1.2 above. The initial services of the AA for Phase 1: Pre-Procurement are anticipated to be completed six months after award of the AA contract. Completion of the new facility in 2020 is important as LAC expects to be at storage capacity for its archival collection by mid-2020.

PD 7 PROJECT ADMINISTRATION

The following administrative requirements apply during all contracted phases of project delivery.

7.1 LAC Project Management

The LAC Project Director is directly responsible for the *Project Scope and the AA's Required Services* and its progress. The LAC Project Director is the liaison between LAC's Project Management Team, AA, PSPC, PPP Canada and other Government departments.

7.2 Roles and Governance

Project governance arrangements will be put in place to support the P3 Procurement model. The Project Management Team includes employees from LAC and experts from PSPC and PPP Canada. The structure will be maintained to leverage expertise, knowledge and mandate of each entity to ensure success of the process, that the taxpayer gets the best value and that the overall Project and its process are attractive for the market. Justice Canada will also provide legal support. The PMT supports an ADM level Senior

Steering Committee and an Integrated Project Team at the Director level. The established governance structure ensures a clear chain of command, timely decision and efficient coordination.

7.3 Lines of Communication

The AA shall communicate with the LAC Project Director or designate. There shall be substantial direct official contact between LAC, the PMT, and the AA as LAC will remain as the technical authority.

During the P3 RFP and any follow up on procurements, PSPC will conduct all correspondence with bidders as the contract authority.

7.4 Media

The AA shall not respond to requests for project related information or questions from the media. Such inquiries are to be directed to the LAC Project Director.

7.5 Meetings

The AA is expected to work interactively with LAC and its internal and external advisors. As such, the AA is expected to attend (and possibly lead) meetings as required to assist LAC in the planning, procurement and delivery of the Facility. Such meetings may include amongst others:

.1 Planning and design meetings;
.2 Information sessions for stakeholders;
.3 Internal and external stakeholder engagement sessions;
.4 P3 Contractor Shortlisted Proponent meetings;
.5 P3 Contractor Shortlisted Proponent design feedback meetings;
.6 Commercially confidential meetings;
.7 P3 Contractor Shortlisted Proponent evaluation meetings;
.8 Project meetings;
.9 Design compliance meetings up until the commissioning stage; and
.10 Commissioning, completion and occupancy meetings.

The AA will be expected to record and distribute within 72 hours the minutes of all design meetings. These meetings will be held within the National Capital Area.

7.6 Service Response Time

It is a requirement that the Key Personnel of the AA be personally available to attend meetings or respond to inquiries within two (2) days.

REQUIRED SERVICES

Overview

The AA Team is expected to work under accelerated timelines and as such must have sufficient resources to provide project deliverables in a timely manner. The AA Team is expected to provide support, as-required, to LAC throughout the Project. The AA Team will work interactively with LAC's internal and external consultants to facilitate the delivery of this Facility through a P3 DBFOM project delivery model.

AA Team Expected Qualifications and Experience

The AA team for this project requires experience with Public-Private Partnerships and should possess the qualifications, experience and capability to provide services in the following areas of expertise:

- Public-Private-Partnerships (P3)
- Facility Management (FM)
- Architecture
- Interior Design
- Structural / Seismic Engineering
- Mechanical Engineering
- Electrical Engineering
- Civil/Municipal/Transportation Engineering
- Sustainable Design including LEED®
- Shelving Technologies
- Urban Planning
- Crime Prevention through Environmental Design (CPTED)
- Building Envelope
- Project Planning, Monitoring and Control
- Building Information Modeling (BIM)
- Physical Security
- Security Systems
- Acoustic Design
- Lighting Design
- Landscape Architecture
- Telecommunication Systems
- Fire and Life Safety / Code Compliance
- Energy Management and Control Systems
- Commissioning
- Signage
- Hardware consulting including security hardware
- Vibration Design
- Indoor Air Quality
- Archival or related experience
- Vertical Transportation

- Structured Cabling Design
- Information Management/Information Technology (IM/IT)
- Environmental Controls for Archives
- Accessibility
- Quality Control

Gatineau 2 Project Phasing

The work is expected to be generally structured into four phases:

Phase 1 - Pre-Procurement
Phase 2 - P3 Procurement
Phase 3 - Design & Construction
Phase 4 - Post-Construction Phase

While the AA Team's Required Services and the timing of deliverables will be determined in conjunction with LAC's team throughout the timeframe, a description of the anticipated scope and deliverables for each phase follows.

RS-1 Phase 1 – Pre-Procurement

In Phase 1, the AA Team is expected to assist LAC in the initial site planning as described below, and by establishing preliminary design and facilities management performance characteristics and specifications (i.e. constraints and requirements). A functional program report has been prepared on behalf of LAC, which will be available to the AA Team.

Phase 1 deliverables are expected to consist of preliminary site drawings, stakeholder engagement program, reference concept design, output specifications and performance standards. The AA Team will be required to undertake substantial development of both the Reference Concept and the Output Specifications to the level required to support preparation of a Class C cost estimate for the Facility by a Professional Quantity Surveyor appointed by LAC.

The AA Team will allow for review and input by LAC and PMT on all draft documents at 30%, 60% and 90% milestones, and revision to satisfy those reviews at each stage.

LAC is procuring consultants to perform certain advance studies prior to the commencement of the AA Team services. These studies are listed in Appendix F.

Timelines for the provision of one or more of the deliverables identified above may necessarily extend into Phase 2.

The AA Team will support LAC and PPP Canada during the development of the Procurement Option Analysis by providing professional opinions on various risks (e.g., environmental, design development, site conditions). The AA Team will provide input to the risk matrix and actively participate in the risk workshop to be organized by PPP Canada.

The Phase 1 primary tasks are described below.

.1 **Stakeholder Engagement**

.a The AA Team's scope includes leading user groups and stakeholder consultations on behalf of LAC, to support the subsequent development of Output Specifications and the development approvals process.

.b The scope of work may include working closely with LAC and PMT to schedule, organize and conduct user group and key stakeholder sessions to ensure that requirements are addressed in the Site plan, Reference Concept, and design and facilities management performance specifications. The AA Team will be expected to incorporate and respond on the behalf of LAC to feedback generated by engagement activities.

.c Stakeholder and user groups that will need to be engaged and may include, but are not limited to: LAC subject matter experts (e.g. archives, security), PPP Canada, PSPC, Justice Canada, City of Gatineau, Hydro Quebec, Gazifère and Bell

The user group and stakeholder consultations are intended to ensure an understanding of user and stakeholder functional, operational and design requirements for the Facility.

.2 **Document Review and Data Collection**

.a The AA Team's first task in Phase 1 is to review all existing due diligence studies completed on the project (e.g. geotechnical reports, environmental reports, strategic papers, functional program, shelving analysis, early technical studies, etc.) and make recommendations if additional studies are required prior to issuance of the P3 RFQ

.b If LAC agree that additional studies are needed, the AA Team will oversee the completion of these studies to be procured by LAC

.3 **Initial Site Drawings for the Gatineau 2 Site**

.a As indicated in Section PD3, an early technical study is being carried out in 2016 to provide a preliminary site plan and site servicing plans. The scope of the study and deliverables are described in Appendix F. The AA may adopt and use the study and its deliverables in performing the Required Services.

.b Using the deliverables from the Early Civil Engineering Technical Study described above, the AA Team will provide initial site drawings for the Gatineau 2 project that is expected to include the following deliverables:

1. Up to three (3) phasing options for site servicing and surface development for all or a portion of site services for the site, including:

.i Internal roadway and parking requirements, standards and guidelines for proposed future developments, including capacity, alignments, entrances, access and standards;

.ii connections and infrastructure requirements to tie into adjacent urban bike and pedestrian pathway systems; and

.iii considerations or requirements for alternative transportation including transit, shuttle-services, automobile (including van and carpool as required) parking, alternative fuel vehicles charging stations and secure bike storage;

2. A Development Site Servicing Plan (DSSP) suitable for approval by LAC and stakeholders, to include the phased development for all or a portion of site services for the site based on the option chosen by LAC including:
   .i Deep services - sewer, storm and water systems; include internal sanitary sewer system alignments, the main sanitary sewer line, internal water distribution system alignments and the main water line connections to the existing City of Gatineau sanitary sewer and water line system; and
   .ii Shallow services - gas, telecommunications, fibre optics, electrical power and connections to the City of Gatineau's utility service grid;
3. A storm water management plan suitable for approval by the City of Gatineau and the development of a comprehensive storm water management system, based on existing storm water management plans and incorporating new designs, potentially including treatment wetlands and vegetated structures;
4. A site grading plan suitable for approval by the City of Gatineau and which supports the phased development of the overall site and including preparation of site for maintenance material storage; and
5. A preliminary LEED® certification plan and checklist related to site development.

.c The initial site plan for the Gatineau 2 project must allow for phased approaches to implementation, and should address the following development considerations:

1. Zoning: size, height, setbacks, coverage, parking, landscaping, signage;
2. Topography: contours, physical features, access, vegetation, water;
3. Climate: wind, solar orientation, temperature, humidity, precipitation;
4. Geotechnical: surface soil, subterranean soils, seismic, environmental hazards;
5. Environmental: water, fish and wildlife, reserve lands;
6. Snow drifting potential and mitigation measures;
7. Utilities: water, electricity, gas, phone and data, cable, sanitary, storm, fire protection;
8. Vicinity: area structure plan, amenities, noise, view, community goals and concerns;
9. Functional adjacencies and process flows associated with proposed future developments;
10. Community services: fire, police, emergency medical services, waste, snow removal; and
11. On-site traffic data and access points criteria: service vehicles, emergency vehicles, pathway connectivity, pedestrian access, and parking requirements for employees, visitors, and handicapped users.

.4 **Facility Reference Concept**

.a LAC has commissioned a functional program report from KWC Architects. The Functional Program Report will be made available to the AA. To the extent needed to supplement the information provided in the Functional Program Report, the AA shall initiate and lead consultation meetings with LAC's group of functional experts to ensure the AA has a full understanding of the functional requirements. The LAC Project Director shall assist in arranging such consultation meetings the AA requires.

.b The AA will prepare a Reference Concept for the Facility to test, refine and demonstrate Output Specifications. The Reference Concept is expected to consist of partial schematic documents including up to three (3) alternative layout plans incorporating scaled and colour-coded diagrams to identify and differentiate all program areas, roadways, parking, primary circulation patterns, service spaces, and entrances and exits. Plans should include a layout of each floor plate showing each discrete functional space, and building elevations to illustrate theoretical massing. Narratives should be included to explain the blocking and massing concepts and assumptions. The text and diagrams together should permit a full understanding of the schemes.

.c The Reference Concept should expand on the Functional Program Report to achieve the following:

1. Provide understanding by the user groups and LAC of the required synergies of the building and Facility program;
2. Identify operational assumptions, and planning and design principles (such as component organization, a proximity matrix, circulation systems, and security);
3. Illustrate functional and spatial relationships;
4. Enable the building and site program to be tested to ensure that the program with all its intended spatial and programming relationships can be physically achieved;
5. Provide a sufficient level of detail for exterior elevations to inform stakeholder groups concerned with the external appearance and interface impacts of the future Facility;
6. Enable the building and site program to be analyzed with respect to the requirements of all relevant building codes;
7. Demonstrate that a massing concept can function within the gross facility area allowance; and
8. Serve as the initial step towards the production of the design and facilities management performance specifications, and allow design impacts on the building and site program to be uncovered in the block diagram stage prior to City approval of the recommended program.

NOTE: The Reference Concept is intended to provide guidance for the facility designs that will be prepared by the P3 RFP proponents, without prescribing a particular design solution.

.d The layout plans should include:

1. Individual floor plans;
2. Single-line diagrams at a scale not less than 1:200;

3. Structural system details, including structural grid and column locations; and
4. Mechanical and electrical floor plans, including location and basic layout of equipment and preliminary sizing; and routing of main feeds and associated shafts and risers.

.e The Reference Concept produced by the AA Team should be developed to a 30% level of design.

.f In preparing the concepts, the AA Team is required to make assumptions, based on its professional design expertise and its knowledge of industry best practices, on the types of building systems appropriate to the Facility including the impact of architectural, structural, mechanical and electrical components on the program layout (e.g. electrical rooms, IT hub rooms, FM spaces).

.g The AA Team may be required to produce enhanced schematic drawings of certain limited building areas where specialized layout, furnishings, fixtures or equipment, adjacencies, components or finishes may be critical to LAC and need to be illustrated to the P3 Proponents.

.5 Refined Cost Estimate

.a The AA Team will be required to review the design parameters and the initial functional space program and provide design and specification information to permit the development of a refined cost estimate (including capital, operational and lifecycle components) for the Facility by a Professional Quantity Surveyor to be appointed by LAC.

.b The level of classification required for the capital cost estimate will be Class C.

.c If the estimate exceeds the LAC budget, the AA Team will be required to make adjustments to the specifications and functional space program, in consultation with LAC, to reduce the estimated cost to within LAC's budget.

.6 Output Specifications

.a The AA Team's scope includes developing and producing the Output Specifications for inclusion in the P3 Contractor RFQ, RFP and Project Agreement.

.b The technical requirements governing the design, construction and Facility Management of the Facility will be set out in the Output Specifications. Through its compliance with the Output Specifications prepared by the AA, the P3 Contractor will be able to design, construct, operate and maintain a Facility that meets LAC's needs and objectives with respect to such Facility, including the expectations for functionality, serviceability, reliability and durability established by LAC. The Output Specifications will be used as a point of reference to evaluate the designs and technical submissions submitted by the P3 Proponents, and the Output Specifications will be included in the Project Agreement.

.c The Output Specifications will allow for lifecycle cost analysis of all major building components and engineered building services. The Output Specifications will include *design performance specifications* and *facility management performance specifications*.

1. Design Performance Specifications

.i The AA Team will be required to prepare the design performance specifications portion of the Output Specifications that will form an integral part of the P3 Contract RFP document issued to the P3 Proponents.

.ii The design performance specifications should define performance levels for all building systems and components that are consistent with the final building and site program's specific requirements and support services, including but not limited to:

- Site – including roads, pathways, parking, lighting, drainage, landscaping, fencing, etc.;
- Building rooms and components including: loading dock, reception / public access area, offices, support rooms, security and information technology rooms;
- Washrooms and locker rooms, meeting rooms, lunchrooms, vaults, automated storage and retrieval system, records consultation space and records processing space;
- Physical attributes within spaces;
- All required dimensions within the planned space;
- The physical quality, functionality, capacity, material, durability, serviceability, lifespan, and sustainability requirements of the spaces and contained or contributing components;
- Landscaping, wetlands, storm water;
- Architectural walls, ceilings, floors, doors, glazing, hardware and acoustic control;
- Building envelope;
- Structural capacity and serviceability;
- Ventilation, heating, cooling, humidification, filtering, pressurization, contaminants control, plumbing, controls, including special consideration for the preservation of archival materials;
- Power distribution and quality, lighting, life safety, data, communication and security systems, controls;
- Fixed furniture, equipment, millwork and casework;
- Space templates and space data sheets;
- Sustainable Design; and
- Applicable codes, standards, and guidelines;

.iii The design performance specifications should be consistent with all applicable building codes and other standards and guidelines as determined by the City of Gatineau, including the City's Access Design Standards and Sustainable Building Policy, and the National Capital Commission's Federal Land Use standards and requirements.

.iv The AA Team will be expected to ensure that design performance specifications maintain and enhance the opportunities for flexibility and adaptability within each component, and allow for current and future best practices for service delivery.

2. Facility Management Performance Specifications

.i The AA Team will be required to develop the facility management performance specifications portion of the Output Specifications that will form an integral part of the RFP document to be provided to P3 Proponents.

.ii The AA Team will assist with the development of the key performance indicator framework that encompasses a performance incentive / penalty regime that will govern the P3 Contractor performance throughout the term of the contract. This framework will be included in the P3 Project Agreement.

.iii The scope includes working coordination with the Design Performance Specifications to optimize design and operational requirements. In addition, work with LAC and the PMT as well as working with other stakeholders and consultants to ensure integration of the Facility Management Performance Specifications with other elements of the Output Specifications and the Project Agreement.

.iv The facility management performance specifications should ensure the provision of the necessary services and service levels to LAC so it can achieve its core objectives. The specifications should also optimize the operating, maintenance and lifecycle costs of the Facility over the duration of the Project Agreement with the P3 Contractor; including but not necessarily limited to:

1. General integrated management of all Facilities services;
2. All operational and tenant related services, including cleaning, waste management and removal, grounds, pest control, parking management, ad hoc services, etc.;
3. All maintenance and repair services, including preventive, corrective, predictive services; and
4. Lifecycle replacement/refurbishment services.

.v The specifications shall include operations, maintenance, repair and lifecycle replacement/refurbishment services for the shelving technology.

.vi The facility management performance specifications should provide processes for reporting, annual review and reforecasting of facility management costs, including utilities, operating staff, and building service contracts by the P3 Contractor.

.vii Attend meetings on the Project Agreement as needed for review and discussion. Work with legal advisors to ensure consistency of terminology definition, address specific issues or suggested language changes, etc.

.viii Based on discussion and issues identification, propose language, changes, items to consider, do research when necessary and write recommendations for LAC with rationale, etc. as needed to enable decision making.

.7 **LEED Fundamental Commissioning Authority**

.a The AA Team will analyze the proposed project objectives and constraints, and make a recommendation, with detailed justification, to LAC what level of LEED certification should be pursued: Certified, Silver, or Gold

.b The AA Team's scope includes engaging and managing the LEED fundamental commissioning agent for the Project.

.c The AA Team will be required to undertake the role of LEED Fundamental Commissioning Authority.

NOTE: all LEED certification processes except for the Fundamental Commissioning Authority, including drafting and managing all submissions to the Canada Green Building Council, are the responsibility of the P3 Contractor.

.8 **Permits and Approvals**

a. The AA Team's scope includes detailing all of the steps and requirements in the RFP Performance Specifications to allow the P3 Contractor to apply for and obtain Site Plan Approval from the City of Gatineau.

b. The AA Team will review all technical reports pertaining to the Gatineau 2 Site and will obtain additional information as required to develop indicative site and building plans, as well as supporting documents that will be used to:

   i. Demonstrate adherence to all relevant provincial and federal regulations;
   ii. Obtain required federal and provincial permits and approvals;
   iii. Acquire municipal approvals, permits and licenses; and
   iv. Engage stakeholders.

c. To satisfactorily address the character and approval requirements of the site plan, the supporting documents should:

   (a) Outline the purpose and scope of the project, including justification, project alternatives and existing conditions;
   (b) Identify infrastructure and service requirements;
   (c) Identify site-specific constraints (e.g. wetlands);
   (d) Incorporate geotechnical investigation and reports, by a geotechnical engineering consulting firm to supplement, if required, the existing geotechnical information, to determine general geotechnical design parameters and facility placement on site;
   (e) Identify project activities that may impact environmentally sensitive areas;
   (f) Identify mitigation measures to be used to reduce impacts;
   (g) Determine the significance of any residual environmental effects;
   (h) Incorporate environmental investigation and reports, by an environmental consulting firm to supplement if required, the existing environmental information, to determine environmental damage mitigation or replacement in sensitive site areas; and
   (i) Develop surveillance and monitoring measures.

.9 **Document Preparation**

As part of document preparation, the duties of the AA Team shall include but not necessarily be limited to:

.a **P3 Contractor RFQ Document:** Reviewing and providing input to the P3 Contractor RFQ documents prepared by PSPC;

.b **P3 Contractor RFP Document:** Reviewing and providing input to P3 Contractor RFP documents, including preparing technical components of the Project Agreement and Schedules, assisting in the population and review of materials in the data room to support the P3 Contractor procurement process and drafting (and amending as necessary) the Output Specifications that will be included with the P3 Contractor RFP documentation and form part of the Project Agreement;

.c **Evaluation Criteria and Submission Requirements:** Development of proposal requirements, detailed evaluation criteria and evaluation methodology of the design, construction and project management sections for the evaluation, selection and negotiation stages of the P3 Contractor RFP;

.d **Project Agreement:** Generation of content for sections of the Project Agreement including, as applicable, site description; design review procedures for schematic design, design development and construction document submissions; moveable furniture, furnishings and equipment; cash allowance procedure; and requirements for commissioning, completion and occupancy processes (this advisory service will primarily involve modifications to the existing template Project Agreement); and addressing PA issues requiring input from the AA, including attending meetings and drafting text; and

.e **Cash Allowances:** Working with LAC to identify cash allowances for any Facility elements or systems, furnishings, fixtures and equipment, demolition, construction or decanting procedures or other aspects which cannot be accurately defined in the P3 Contractor RFP at the time of issuance**.**

RS-2 Phase 2 – P3 Procurement

In Phase 2, the AA Team will assist LAC throughout the P3 procurement process with advice and support related to the design, construction and FM of the Project, as requested, including:

.a Preparing responses to questions and information requests from respondents to the P3 Project RFQ and the P3 Project RFP;

.b Assisting with the development of communications;

.c Assisting with technical submission evaluations under the P3 Project RFP; and

.d Advising on the selection of excerpts from the P3 Contractor's proposal to be included in the Project Agreement.

During the period in which the P3 Project RFP is posted on Buyandsell.gc.ca and P3 Proponents are preparing their proposals, the duties of the AA Team is expected to include but may not be limited to:

.a **P3 Proponent Meetings:** Participating in P3 Proponent meetings including commercially confidential meetings to discuss project scope to assist them in interpreting and understanding the P3 Contractor RFP documents prepared by the AA;

.b **Addenda to P3 Contractor RFP Documents:** Providing consultation and advice to LAC as required regarding addenda to the P3 Contractor RFP documents resulting from the commercially confidential meetings and other communication with P3 Proponents;

.c **Design Consultations:** Assisting LAC with design consultations with the P3 Proponents and providing written documentation of the design feedback process detailing all compliance issues; and

.d **P3 Proponent Question and Answer Process:** Assisting LAC in the preparation and communication of responses to P3 Proponent questions throughout the procurement process, including drafting responses to questions relating to design, construction and

FM. Create addenda and make any required amendments to specifications based on RFI responses where changes are agreed.

Proposal Evaluation Process

The AA Team will assist PSPC and LAC's selection committee with the technical evaluation of submissions received by P3 Proponents.

As part of the evaluation process, duties of the AA Team shall include but may not be limited to:

.a **Assisting with evaluation of P3 Proponent's Submissions**: Assisting LAC with the technical evaluation of the P3 Proponent submissions including reviewing for compliance and identifying any variances to Output Specifications;

.b **Assisting with evaluation of Innovation in Proposals:** Evaluating innovations in P3 Proponent proposals and advising LAC as to the acceptability of such proposals and their potential value;

.c **Technical Analysis Report:** Preparing a detailed report of the results of the technical analysis of Proposals (with a focus on functionality) for presentation to, and review by, the selection committee including a detailed analysis as to whether the Proposal (i) does not meet, (ii) meets, or (iii) exceeds the P3 Contractor RFP's technical requirements, and supporting rationale for those conclusions; and

.d **Support Construction and FM Costs Review:** Assisting LAC with review of the P3 Proponents' construction and FM cost submissions to assess the quality and completeness of pricing.

Selection and Negotiation Stage

As part of the selection and negotiation process, the duties of the AA Team are expected to include but may not be limited to:

.a **Technical Support:** Providing technical support for contract negotiations with the P3 Preferred Proponent, through to commercial close and financial close, including attending required meetings as determined by PSPC/PPP Canada/LAC;

.b **Debriefing:** Supporting PSPC in debriefing sessions with the unsuccessful P3 Proponents and participating in lessons-learned sessions with PSPC / LAC at the conclusion of the selection process; and

.c **Final documentation**: Assisting with discussions related to design, construction and FM specifications as a result of negotiations or changes negotiated with the Preferred Proponent. Assessing and identifying impacts to specifications, making recommendations, making drafting changes to technical documentation. Attending periodic project review meetings and ad-hoc meetings as needed.

RS-3 Phase 3 – Design and Construction

Services in this phase will be conditional upon Canada's decision to award a contract to a recommended P3 Proponent.

Assuming Contract Award is completed, as part of the post-Financial Close process, the AA Team is expected to assist LAC in reviewing the P3 technical contract documents and in carrying out LAC's monitoring and oversight responsibilities during construction. The Required Services comprise the following components: design review and approval; construction oversight and monitoring, including quality management.

A. **Design Review and Approval**

The AA Team is expected to review the P3 Contractor's submissions at the following stages: (a) schematic design, (b) design development, (c) construction documents, and (d) commissioning, completion and occupancy stages. Reviews will be interactive with the P3 Contractor and will need to adhere to fast turnarounds for reviews to ensure the construction schedule is not delayed.

In undertaking these reviews, the AA Team will be required to identify areas of technical non-compliance with the Output Specifications and Project Agreement including but not limited to the following items; drawings, specifications, functional requirements, room finish schedules, commissioning program, completion plan, occupancy plan, proposed project schedule, LEED strategy; and strategy for sequential building permit approvals.

The Required Services that the AA Team is expected to undertake as part of this phase is detailed as follows:

1. Schematic Design

The AA Team is expected to lead certain aspects of the review of the P3 Contractor's schematic design submissions, including but not necessarily limited to the following items:

1. Reviewing P3 Contractor document submissions for consistency with the design and technical requirements;
2. Conducting day-to-day submission reviews and feedback on behalf of LAC to ensure compliance with the design requirements;
3. Undertaking LEED fundamental commissioning authority review;
4. Reviewing technical non-compliance lists as required for this stage; and
5. Reporting to LAC detailing the schematic design process and acknowledging schematic design acceptance.

2. Design Development

1. Work to be undertaken by the AA Team is expected to include leading all aspects of the review of the P3 Contractor's design development submissions, including the following items:
    a. Conducting day-to-day submission reviews and feedback on behalf of LAC to ensure compliance with the design requirements;
    b. Undertaking LEED-commissioning plan development and implementation through the LEED fundamental commissioning authority;
    c. Developing technical non-compliance lists as required during this stage;

d. Reporting to LAC detailing the design development process that includes a detailed opinion as to whether the design development is in compliance with the detailed Output Specifications and is acceptable.

3. Construction Documents

The Required Services are expected to include leading all aspects of the review of the P3 Contractor's construction document submissions, including the following items:

1. Reviewing P3 Contractor construction document submissions with the design requirements, including review of selected shop drawings for consistency;
2. Incorporating LEED-commissioning requirements into the construction documents through the LEED fundamental commissioning authority;
3. Developing technical non-compliance lists as required during this stage;
4. Developing preliminary LEED design submission by the P3 Contractor to the Canada Green Building Council, and participating in the P3 Contractor's preliminary LEED design review process with the Canada Green Building Council; and
5. Reporting to LAC in detail regarding the construction documents process, including the provision of a detailed opinion as to whether or not the construction documents submitted by the P3 Contractor are in compliance with the detailed Output Specifications and are acceptable.

B. Construction Oversight and Monitoring

During the construction stage, the AA Team will be required to monitor the progress of the Project, including the provision of following services:

1. Providing periodic on-site review visits during construction to review conformance with the contract documents for construction and progress of the project works, and submitting periodic reports;
2. Providing reviews of any periodic submittals provided by the P3 Contractor necessary to assess the progress of the project works, as required and as determined by LAC throughout the assignment, and report results of such reviews to LAC;
3. Reviewing shop drawings, construction quality reports, deficiency reports, and proposed substitutions and other value engineering proposals from the P3 Contractor;
4. Reviewing any variation, change, addition, deletion, substitution, or omission to the project works, which will increase or decrease costs of completing the project works or will cause material delay in completing the project works or affect conformance with the Output Specifications, and provide recommendations to LAC;
5. Providing technical content for all notices of change;
6. Responding to requests for information from the P3 Contractor;
7. Reviewing the P3 Contractor's quality management system to confirm that requirements on quality control and quality assurance for all engineering, architectural and construction components are satisfactory;
8. Making recommendations for non-destructive, destructive or invasive testing of construction work as required;
9. Reviewing construction mock-ups and adjustments;
10. Ensuring the consistency of the preliminary P3 Contractor commissioning plan, completion plan and occupancy plan with the Project Agreement, including the design requirements;
11. Review the final P3 Contractor commissioning program;

12. Verify installation and performance of LEED-commissioned systems through the LEED fundamental commissioning authority;
13. Produce a summary LEED-commissioning report through the LEED fundamental commissioning authority;
14. Provide oversight of commissioning services to test, verify and prove that system performance and operations comply with the Output Specifications;
15. Receive status reports on commissioning activities and identify any issues of non-compliance;
16. Review P3 Contractor completion documentation and represent LAC during the completion certification process.

RS-4 Phase 4 - Post-Construction Phase

During the Post-Construction Phase, the AA Team is expected to provide the following services:

1. Preparing and updating technical non-compliance lists as required during this stage;
2. Receive status reports on deficiencies and minor matters and identify any issues of non-compliance;
3. Assist with handover of infrastructure to LAC by attending inspections, documenting and pursuing rectification of deficiencies;
4. Provide technical advice relating to FM performance specifications.

Optional Services

Overview

LAC may exercise the option to include a retrofit of the existing Preservation Centre (PC) as well as the Facility Management Services for PC within the Project Scope.

If this option is chosen, the Optional Services work activity will be included in the AA's Required Services and be integrated into the work activity described in the four phases of the AA Services and therefore included as part of each phase of the AA Services.

Design Scope

1. Retrofit vaults in PC with new shelving and storage systems;
2. Upgrade/adapt existing building services systems to provide new environmental conditions (temperature and relative humidity) to certain vaults as required to accommodate changes in vault use and to meet updated archive standards.
3. An early technical study, described in Appendix F, has been procured by LAC in relation to the building services. This study may be adopted and used by the AA in performing the Required Services.

Facility Management Scope

1. Include the Facility Management responsibilities for PC in the performance specifications under the P3 contractual and operational requirements.

2. Identify and specify any Facility Management services, specifications, performance standards and KPIs for PC which differ from those for the new Gatineau 2 facility.
3. While the existing PC and new Gatineau 2 facility may require some differences in specifications, standards and approaches, LAC expects the provision of services to be coordinated and seamless.

APPENDIX A – TEAM IDENTIFICATION FORMAT

For details on this format, please see SRE in the Request for Proposal.

The Advocate Architect and other members of the AA Team shall be, or eligible to be, licensed, certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law. In addition to the professionals/specialists identified below, the Advocate Architect (AA) is expected to provide all expertise listed in the description of Required Services

I. Prime Consultant (Proponent - Architect):

Firm or Joint Venture Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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II. Key Sub Consultants / Specialist Firms:

Civil Engineer
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Structural Engineer
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Mechanical Engineer
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Electrical Engineer
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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IT Engineer
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Security Specialist
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Shelving Technologies Specialist
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Facility Management Specialist
Firm Name: ……
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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APPENDIX B – DECLARATION/CERTIFICATION FORM

Project Title: **Library and Archives Canada Advocate Architect**

Name of Proponent: _____

Street Address: _____ **Mailing Address:** _____

_____ _____

_____ _____

Proponent's Proposed Site or premises Requiring Safeguard Measures (refer to SI1 Security Requirement):

Address:

_____
Street Number / Street Name, Unit / Suite / Apartment Number

_____
City, Province, Territory

_____
Postal Code

Telephone Number: _____

Fax Number: _____

E-Mail: _____

Procurement Business Number: _____

Type of Organization:	**Size of Organization:**
_____ Sole Proprietorship	Number of Employees _____
_____ Partnership	Graduate Architects / Professional Engineers
_____ Corporation	_____
_____ Joint Venture	Other Professionals _____
	Technical Support _____
	Other _____

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Federal Contractors Program for Employment Equity - Certification

I, the Proponent, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a proposal non-responsive, or will declare a consultant in default, if a certification is found to be untrue, whether during the proposal evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Proponent's certifications. Failure to comply with any request or requirement imposed by Canada may render the proposal non-responsive or constitute a default under the contract.
For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC)-Labour's website.

Date: ……(YY/MM/DD) …(If left blank, the date will be deemed to be the bid closing date.)

Complete both A and B.

A. Check only one of the following:

( ) A1. The Proponent certifies having no work force in Canada.

( ) A2. The Proponent certifies being a public sector employer.

( ) A3. The Proponent certifies being a federally regulated employer being subject to the *Employment Equity Act*.

( ) A4. The Proponent certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5. The Proponent has a combined work force in Canada of 100 or more employees; and

( ) A5.1. The Proponent certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR

( ) A5.2. The Proponent certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

( ) B1. The Proponent is not a Joint Venture.

OR

( ) B2. The Proponent is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the General Instructions)

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Former Public Servant (FPS) – Certification

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, proponents must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of proposals is completed, Canada will inform the Proponent of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the proposal non-responsive.

Definitions
For the purposes of this clause,

"former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

(a) an individual;
(b) an individual who has incorporated;
(c) a partnership made of former public servants; or
(d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament Retiring Allowances Act*, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Former Public Servant in Receipt of a Pension
As per the above definitions, is the Proponent a FPS in receipt of a pension? YES ( ) NO ( )
If so, the Proponent must provide the following information, for all FPS in receipt of a pension, as applicable:

(a) name of former public servant;
(b) date of termination of employment or retirement from the Public Service.

By providing this information, proponents agree that the successful Proponent's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Proponent a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? YES ( ) NO ( )

If so, the Proponent must provide the following information:

(a) name of former public servant;
(b) conditions of the lump sum payment incentive;
(c) date of termination of employment;
(d) amount of lump sum payment;
(e) rate of pay on which lump sum payment is based;
(f) period of lump sum payment including start date, end date and number of weeks;
(g) number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is $5,000, including Applicable Taxes.

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Name of Proponent: …….

DECLARATION:
I, the undersigned, being a principal of the proponent, hereby certify that the information given on this form and in the attached proposal is accurate to the best of my knowledge. If any proposal is submitted by a partnership or joint venture, then the following is required from each component entity.

……..	……..
name	signature
title ……..	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	
……..	……..
name	signature
title ……..	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	
……..	……..
name	signature
title ……..	
I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture	

During proposal evaluation period, PSPC contact will be with the following person: ……..

Telephone Number: ( ) …….. Fax Number: ( ) ……..

E-mail: ……..

This Appendix "B" should be completed and submitted with the proposal, but may be submitted afterwards as follows: if Appendix "B" is not completed and submitted with the proposal, the Contracting Authority will inform the Proponent of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the proposal non-responsive.

APPENDIX C – PRICE PROPOSAL FORM

INSTRUCTIONS: Complete this Price Proposal Form and submit in a **separate sealed envelope** with the Name of Proponent, Name of Project, PSPC Solicitation Number, and the words "PRICE PROPOSAL FORM" typed on the outside of the envelope. Price Proposals are not to include Applicable Taxes.

PROPONENTS SHALL NOT ALTER THIS FORM.

Project Title: **Library and Archives Canada Advocate Architect**

Name of Proponent: _____

_____

_____

The following will form part of the evaluation process:

1. REQUIRED SERVICES – FIXED FEE
(R1230D (2016-01-28), GC 5 – Terms of Payment – Architectural and/or Engineering Services)

Including all related costs, services and deliverables to complete the services as specified in the Project Brief and in the RFP documents.

REQUIRED SERVICES		
	Required Services	**Fixed Fee**
RS-1	**Pre-Procurement Phase**	**$**
RS-2	**Procurement Phase**	**$**
RS-3	**Design & Construction Phase**	**$**
RS-4	**Post-Construction Phase**	**$**
	(1) TOTAL FIXED FEE	**$**

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

2. OPTIONAL SERVICES – FIXED FEE
(R1230D (2016-01-28), GC 5 – Terms of Payment – Architectural and/or Engineering Services)

OPTIONAL SERVICES		
	Optional Services	**Fixed Fee**
	Pre-Procurement Phase	**$**
	Procurement Phase	**$**
	Design & Construction Phase	**$**
	Post-Construction Phase	**$**
	(2) TOTAL FIXED FEE	**$**

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

TOTAL COST OF SERVICES FOR PROPOSAL EVALUATION PURPOSES

Total Required Services – Fixed Fee (1)	$.....
	+
Optional Services – Fixed Fee (2)	$.....
	=
Total fee to be used for evaluation purposes	**$.....**

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

THE FOLLOWING HOURLY RATES MAY BE USED FOR FUTURE CONTRACT AMENDMENTS

Name	Position Title	Hourly Rate
	Principal in Charge	$
	Project Lead Architect	$
	AA Project Manager	$
	Intermediate Architect	$
	Junior Architect	$
	Architect Technician	$
	Interior Design	$
	Structural Engineer Lead	$
	Intermediate Structural Engineer	$
	Mechanical Engineer Lead	$
	Intermediate Mechanical Engineer	$
	Electrical Engineer Lead	$
	Intermediate Electrical Engineer	$
	IT Engineer Lead	$
	Intermediate IT Engineer	$
	Lead Civil Engineer	$
	Intermediate Civil Engineer	$
	Security Specialist	$
	Facility Management Specialist-Senior	$
	Facility Management Specialist-intermediate	$
	Costing Specialist	$
	Landscape Architect	$
	Elevator Consultant	$
	Hardware Consultant	$
	Code Consultant	$
	LEED Specialist	$
	Commissioning Consultant	$
	Construction Project Manager	$
	Shelving Technologies Specialist	$
	- add position titles as required -	

END OF PRICE PROPOSAL FORM

APPENDIX D SECURITY REQUIREMENTS CHECK LIST (SRCL)

APPENDIX E - PPP CANADA SCHEMATIC DESIGN ESTIMATE GUIDE

APPENDIX F – EARLY TECHNICAL STUDIES

LAC is procuring early technical studies which the AA Team may adopt and use in the Required Services.

PRESERVATION CENTRE – RETROFIT AND PLANT REDUNDANCY STUDY

In order to plan the Optional Services, LAC is procuring the services of a consulting engineer to undertake the following services:

As part of the project, LAC is considering undertaking a retrofit to upgrade to certain long-term storage vaults within the existing Preservation Center (PC) to accommodate different types of holdings. The retrofit will comprise new shelving and storage systems to 20 of its 48 vaults, of which nine vaults will also require a revised storage environment at lower temperature and relative humidity.

LAC is seeking a suitably qualified consultant to perform a PC Retrofit Scope and Plant Redundancy Study (the Study) that will be used as the basis of design development by the Advocate Architect team and the P3 Contractor:

- Review design drawings and visit site to assess capacity of existing HVAC and electrical systems at PC;
- Assess the degree of redundancy of existing HVAC and electrical systems at PC in the current state;
- Evaluate the level of redundancy of HVAC and electrical systems for the existing PC facility that would limit LAC's level of reliability risk;
- Assess any changes to HVAC and electrical systems necessary to provide the required revised environmental conditions in the specified vaults and maintain existing conditions elsewhere;
- Define the preferred scope of retrofit work for the PC relating to HVAC and electrical systems to achieve the revised environmental conditions in the vaults;
- Verify the structural capacity of the amended vaults to accommodate the proposed loadings;
- Provide information to and consult with the Cost Consultant appointed by LAC.

The deliverables from the Study will include:

- Systems redundancy definition report for the PC;
- Scope of system upgrade work to meet recommended redundancy and provide revised environmental conditions to the retrofitted GPC vaults;
- Indicative drawings and specifications for the PC system upgrades in sufficient detail to allow for a Class C cost estimate by LAC's cost consultant.

GATINEAU 2 PRESERVATION AND ACCESS FACILITY – CIVIL ENGINEERING STUDY

LAC is procuring the services of a consulting engineer to undertake the following services:

Perform a Civil Engineering Study of the site that will be used as the basis of design development by the Advocate Architect team and the P3 Project Company. The Civil Engineer shall evaluate the site characteristics and constraints, complete the required studies, and prepare preliminary drawings in coordination with the City of Gatineau and Utility Providers. After the Advocate Architect Team is hired, the Civil Engineer shall coordinate with them to provide information needed for the Advocate Architect Team to

complete the indicative design and performance specifications related to site servicing which will be included in the P3 Contractor RFP.

The objectives of this Statement of Work are as follows:

A) Review existing documentation relating to the site including development master plan (2011), geotechnical studies (2014), environmental site assessments (2002, 2004) and design information pertaining to construction of the PC (1996).

B) Perform a site feasibility study to identify constraints and considerations for the location of the new Gatineau 2 facility, including access roads, parking, sidewalks, storm water ponds, landscape areas, services, utilities, etc. The Civil Engineer shall present indicative Site Plans to LAC with detailed comparative analysis of options.

C) Carry out a civil engineering study to determine the existence, location and capacities of municipal services (watermain, storm, sanitary) and public utilities (hydro, gas, telecommunications) and identify any requirements for the relocation of utilities and increases in capacity of services and utilities.

D) Prepare siteworks indicative design and performance specifications which will be adopted by the Advocate Architect and will become a component of the Advocate Architect's technical documentation, to be used in the P3 Contractor RFP.

Site Feasibility Study

The site feasibility study involves:

1a) Review of Existing Information:
Review of pertinent documentation related to the property. The documentation will include, but will not be limited to the following: documents related to the existing Preservation Centre; site environmental condition; information on underground infrastructure (sanitary, storm sewer, electrical, gas, fiber optic, etc.); information on geotechnical, civil, mechanical and electrical engineering; municipal regulatory provisions (zoning, local plan (urban plan); architectural implementation and integration plan (AIIP), development potential; traffic, access and circulation information; and cost estimate, etc.

1b) Establishment of Development Guidelines
Establish a series of guidelines to determine the most appropriate location and the factors influencing selection of above or underground structures. Guidelines will include but will not be limited to the following elements: urban planning; integration within the neighborhood; architectural form; landscape architecture; geotechnical, civil, structural, mechanical and electrical engineering elements; vehicular and pedestrian access; and sustainable development principles including LEED criteria. It will also ensure a sustainable financial value for the owner.
Deliverables:
- Summary report describing the guidelines.
- Meeting with LAC.
- Writing meeting minutes.

1c) Development of Three Distinct Schematic Options
These options must incorporate the principles of the development guidelines mentioned above and will identify the advantages and disadvantages of each.

- Each option will require a demonstration plan showing the proposed building, including a volumetric representation (one above and one below ground), showing vehicular access for parking and deliveries, pedestrian access, integration within the surrounding neighborhood and within the existing landscaped area, basic architectural form, etc.
- The Consultant will be required to organize and manage a meeting with LAC to further refine what is required for each schematic option.
- The Consultant will be responsible to provide and rationalize and a comparison of the three options including the approximate development and construction costs of each option.

Deliverables:

- Meeting with LAC at the end of step 1c) to present and discuss the three schematic options. Writing meeting minutes.
- A written report will be completed taking into account LAC's feedback.

Civil Engineering Study

The primary objective of the civil engineering study is to ensure adequate capacities for municipal infrastructure including water mains, sanitary and storms systems, in consultation with the City of Gatineau. In addition, the consultant should provide input on different scenarios of obtaining redundant water feeds to the site. Being adjacent to two major intersections and in the higher pressure plateau of the City, the options of where to make the connections are important, i.e. the option of connecting the municipal services to the existing systems on the Crown's property versus new connections within the City's Right Of Way. Given the LEED requirement, a storm water management study should be completed as this may have a significant cost impact. It is understood that the City of Gatineau limits the runoff from the site to 1:5 years pre-development (to be confirmed with the City).

The scope includes the completion of a topographic survey of the proposed site. Although the site seems relatively flat, the grading aspect should be assessed for each schematic option.

The consultant shall analyse availability of utilities including hydro, natural gas, communications (fibre optic) and any other required services.

With regards to power and the presence of the existing hydro power lines on the site, the consultant shall contact Hydro Quebec to determine its requirements for construction of buildings in the vicinity of power transmission lines. The Consultant will be required to coordinate with Hydro Quebec to prepare a site plan that adheres to its requirements. In addition, the consultant must estimate the required load calculations for the new building. There are two 2000 kVA transformers (rated at 25 kV-600V/347V, 3 phase, 4 wire) situated outside of the existing building (625 Boul. du Carrefour). The consultant will be required to coordinate with Hydro Quebec to verify if there is sufficient load capacity in the transformers to accommodate the additional load from the new building. They will have to outline options for connectivity from the new building via ducts to Hydro Quebec's exterior vault. If there is insufficient capacity in the existing primary transformers, then the Consultant will have to seek Hydro Quebec's approval to integrate new high voltage concept designs in their recommended options.

With regards to site access, the consultant shall carry out a Traffic Impact Study, and coordinate with the

City of Gatineau to determine the most appropriate location for ingress-egress to and from the site. In addition, the consultant shall evaluate the circulation on the site for all vehicles, including delivery trucks and emergency vehicles, parking, public transit stops, pedestrian access, etc.

Indicative Design and Performance Specifications

The Consultant will be required to produce an indicative design which will include preliminary plans such as site plan, grading plan, site servicing plan, utilities plan and storm water management plan. The consultant will also produce performance specifications to accompany the indicative design. Both the indicative design and performance specifications shall be adopted by the Advocate Architect Team for inclusion in the technical section of the RFP for the P3 Contractor.

In addition, the Consultant will prepare a Site Development Guidance Document for the use of the Advocate Architect Team and the P3 Proponents that outlines the existing zoning, existing site data and completed studies, as well as the City of Gatineau's procedure and timelines to apply and obtain a Development Permit, including approximate costs. The Guidance Document shall also provide an outline of each Public Utility provider's contacts, procedures, and timelines for requesting utility service to the site and utility relocation requests, including approximate costs.

Government of Canada / Gouvernement du Canada

RECEIVED
MAY 24 2016

Contract Number / Numéro du contrat
5Z011-17-0038 / 4454
Security Classification / Classification de sécurité UNCLASSIFIED

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine: Library and Archives Canada	2. Branch or Directorate / Direction générale ou Direction: Corporate Services Branch
3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant

4. Brief Description of Work / Brève description du travail
Advocate Architect Team for Gatineau 2

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	✓ No / Non	☐ Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	✓ No / Non	☐ Yes / Oui

6. Indicate the type of access required / Indiquer le type d'accès requis

6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	☐ No / Non	✓ Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	✓ No / Non	☐ Yes / Oui
6. c) Is this a commercial courier or delivery requirement with **no** overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale **sans** entreposage de nuit?	✓ No / Non	☐ Yes / Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada ✓	NATO / OTAN ☐	Foreign / Étranger ☐

7. b) Release restrictions / Restrictions relatives à la diffusion

Canada	NATO / OTAN	Foreign / Étranger
No release restrictions / Aucune restriction relative à la diffusion ✓	All NATO countries / Tous les pays de l'OTAN ☐	No release restrictions / Aucune restriction relative à la diffusion ☐
Not releasable / À ne pas diffuser ☐		
Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐
Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :

7. c) Level of information / Niveau d'information

Canada	NATO	Foreign / Étranger
PROTECTED A / PROTÉGÉ A ✓	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ ☐	PROTECTED A / PROTÉGÉ A ☐
PROTECTED B / PROTÉGÉ B ✓	NATO RESTRICTED / NATO DIFFUSION RESTREINTE ☐	PROTECTED B / PROTÉGÉ B ☐
PROTECTED C / PROTÉGÉ C ☐	NATO CONFIDENTIAL / NATO CONFIDENTIEL ☐	PROTECTED C / PROTÉGÉ C ☐
CONFIDENTIAL / CONFIDENTIEL ☐	NATO SECRET / NATO SECRET ☐	CONFIDENTIAL / CONFIDENTIEL ☐
SECRET / SECRET ☐	COSMIC TOP SECRET / COSMIC TRÈS SECRET ☐	SECRET / SECRET ☐
TOP SECRET / TRÈS SECRET ☐		TOP SECRET / TRÈS SECRET ☐
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
5Z011-17-0038 / 4454
Security Classification / Classification de sécurité UNCLASSIFIED

PART A *(continued)* / PARTIE A *(suite)*

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets? — [✓] No / Non [ ] Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets? — [✓] No / Non [ ] Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

[✓] RELIABILITY STATUS COTE DE FIABILITÉ	[ ] CONFIDENTIAL CONFIDENTIEL	[ ] SECRET SECRET	[ ] TOP SECRET TRÈS SECRET
[ ] TOP SECRET– SIGINT TRÈS SECRET – SIGINT	[ ] NATO CONFIDENTIAL NATO CONFIDENTIEL	[ ] NATO SECRET NATO SECRET	[ ] COSMIC TOP SECRET COSMIC TRÈS SECRET
[ ] SITE ACCESS ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : _____

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work? — [✓] No / Non [ ] Yes / Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? — [✓] No / Non [ ] Yes / Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises? — [ ] No / Non [✓] Yes / Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

11. b) Will the supplier be required to safeguard COMSEC information or assets? — [✓] No / Non [ ] Yes / Oui
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises? — [✓] No / Non [ ] Yes / Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data? — [ ] No / Non [✓] Yes / Oui
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency? — [✓] No / Non [ ] Yes / Oui
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

PART C - *(continued)* / PARTIE C - *(suite)*

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category Catégorie	PROTECTED PROTÉGÉ			CLASSIFIED CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET	NATO RESTRICTED NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ A	 B	 C	CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET
Information / Assets Renseignements / Biens		✓														
Production																
IT Media / Support TI		✓														
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

PPP Canada

PPP Canada

Schematic Design Estimate Guide

p3canada.ca

Canada

ABOUT PPP CANADA

PPP Canada is the government of Canada's centre of expertise on P3s. A federal Crown corporation, it is mandated to improve the delivery of public infrastructure by achieving better value, timeliness and accountability to taxpayers, through P3s. The Corporation was created to deliver more P3s by leveraging incentives, demonstrating success, providing expertise; and promoting best practices and capacity-building.

Increasing the visibility of PPP Canada, through the Corporation's work as a procurement solution for governments is one of the major accomplishments of PPP Canada. The Corporation's work and the strategies it employs on its three (3) business lines:

P3 Knowledge Development and Sharing: to serve as a source of expertise and advice on public-private partnership matters;

Advancing Federal P3s: as the lead on federal P3 matters with a mandate to assess federal P3 opportunities; and to advise on the execution of federal P3 projects; and

Advancing Provincial, Territorial, Municipal and First Nations P3s: to assess the suitability of P3 projects from provincial, territorial, municipal, and First Nations governments seeking funding from federal infrastructure programs, in particular the P3 Canada Fund.

p3canada.ca

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1 INTRODUCTION

1.1 Overview

The purpose of this Guide is to provide Project Sponsors with the minimum requirements for preparing cost estimates suitable for quantitative analysis when considering a Public-Private Partnership (P3). As key inputs to the financial models, cost estimates form the basis of the selection of the preferred delivery option.

Accuracy in cost estimates is essential for P3 projects. Research shows that gaps between estimated and actual project costs have been significant. For example, a recent report from the Joint Federal Government/Industry Cost Predictability Taskforce examining traditional procured projects found that "40% of tenders had low bids that varied, either up or down, by more than 30% from the pre-tender estimate and fewer than 20% of tenders had bids within 10% of the estimate."[1] Variations were determined to be independent of market bidding behavior and were primarily influenced by the techniques used to forecast project costs.

Many of the projects included in the Taskforce's Guide worked with complete or nearly complete designs when preparing cost estimates. However, in a P3 project the Project Sponsor undertakes minimal design work in order to encourage design innovation and integration. Cost estimates based on partial designs are required to carry sufficient contingencies in order to address the level of inaccuracy inherent to partial designs. By including contingencies, Project Sponsors will be able to identify and assess the likely high-end of estimated cost ranges to secure a sufficient budget to pursue the projects. Estimates that are inaccurate or that lack contingencies will be rejected by participating firms when Project Sponsors publish affordability limits. This may lead to a failed procurement process.

This Guide highlights industry best practices that are based on the approaches, requirements and outputs at the Schematic Design Stage. Greater consistency in presentation of cost estimates will allow for easy verification, make it possible to benchmark costs against publicly verifiable construction cost databases, and allow for the comparison of results across projects over time.

In addition, this Guide outlines an approach to presenting results in a Cost Report along with an Elemental Cost Analysis.

[1] Joint Federal Government / Industry Cost Predictability Taskforce (2012) "Guide to Cost Predictability in Construction: An Analysis of Issues Affecting the Accuracy of Construction Cost Estimates".

1.2 Understanding Cost Estimates

The quality and accuracy of estimates depends on the level of advancement of the design for the project (refer to **Table 1**). For this reason, different sets of cost estimates will be prepared at different stages of design development. At an early stage, estimates will be at a high level. As the design becomes more specific with needs and requirements identified, more detailed cost estimates directly linked to the design specifications will be prepared. As the project definition and design evolve, cost estimates become more accurate. This Guide recommends that P3 cost estimates provide a level of cost accuracy of +/-15%, which typically requires that they be prepared on the basis of a Schematic Design. A Schematic Design encompasses plans, elevations, sections, and palettes of materials that generally represents 30% design completion. These inputs are used by Cost Consultants to prepare a Schematic Design Estimate, which is at a Class C level. This approach allows for the development of robust project cost estimates for decision-making, while minimizing any potential to impede innovation and duplicate the efforts undertaken by the Project Sponsor.

Traditionally, cost estimates in Canada have been classified into one of four categories, using Classes A, B, C and D.

Class A estimates are pre-tender estimates, based on completed construction drawings and detailed specifications contained in tender documents. They are expected to be quite accurate, within 5-10% of the actual contract price.

Class B estimates are design estimates based on an advanced project design. They are based on design drawings, project specifications and include detail on the design of electrical, mechanical and IT systems, as well as site requirements.

Class C is a planning level estimate usually based on a Schematic Design and presented in Elemental Format (a budget setting format/technique which considers the major elements of a project and provides an order of cost estimate based on an Elemental Cost Analysis of a building project). Typically, Class C estimates are required by the Project Sponsor to obtain preliminary approvals necessary to undertake design and project development. These estimates establish a preliminary budget estimate and a baseline against which project costs will be assessed at future project development milestones.

Class D estimates are conceptual estimates based on the project scope (the work that needs to be accomplished to deliver the project) and functional requirements (the output specifications/ deliverables of a project), and are usually presented in unit cost analysis format (applying a monetary rate to an element, sub-element or component per unit of measurement), such as cost per m^2.

Table 1: Generic Design and Cost Estimate

	PRIMARY CHARACTERISTICS	SECONDARY CHARACTERISTICS			
Estimate Classification	**Project Definition**	**Intended Purpose**	**Methodology**	**Level of Precision**	**Preparation Effort** % of project costs[2]
Class A	Design Documents (100% Design)	Compliance with effective project approval (budget)	Measured, priced, full detail quantities	-5% to +10%	5% to 50%
Class B	Design Development (66% Design)	Seeking effective project approval	Mainly measured, priced, detail quantities	-10% to +15%	2.5% to 10%
Class C	Schematic Design (33% Design)	Seeking preliminary project approval	Measured, priced, parameter quantities, where possible	-15% to +20%	1.5% to 5%
Class D	Design	Screening of various alternative solutions	Various	-20% to + 30%	0.5%

Within a class of estimates, the amount of underlying design and technical work can vary significantly from one asset class to another, giving rise to a misperception of the level of accuracy. For example, a Class D estimates could range from the use of very rough estimates of floor space requirements priced at average real estate pricing using general market indices to quite well specified space estimates with room requirements using m^2 pricing from similar projects.

1.3 Design under Public Private Partnerships

In a Public-Private Partnership (P3), the design function is integrated with construction, operations and maintenance phases under the responsibility of the private partner. In order to assess the timing, costs and risks involved in a project, the Sponsor must clearly define its project objectives and scope. As part of the competitive procurement process, Proponents are given the performance requirements and asked to propose designs that meet the Sponsor's needs. Proponents will develop their own designs, typically to between 30% and 50% design completion and submit them for evaluation as part of the technical submissions in the Request for Proposals (RFP) stage of procurement.

[2] The Association for the Advancement of Cost Engineering (2011) "Recommended Practice No. 17R-97 – Cost Estimate Classification System

The selected Proponent transfers the costs incurred for design to the Project Sponsor through the bid price. For this reason, Sponsors prefer to minimize the level of design completed prior to procurement in order to avoid incurring costs twice.

Generally, Sponsors strive to achieve the project design to +/- 15% to 20% level of cost accuracy at 20% to 30% of design completion, which is equivalent to Class C estimate in **Table 1**. This is consistent with best practices outlined by the Association for the Advancement of Cost Engineering (AACE) International's Recommended Practice No. 18R-97II, which states that a 10% design provides an average accuracy of -20% to +30 % and a 40% design provides an average accuracy of -10% to +10%[3]. Based on these ranges, it is reasonable to assume that design work would need to approach the high end of current P3 practices (i.e. 30% design), in order to achieve a level of cost analysis with an accuracy of +/- 15%. This level of accuracy balances a desire for greater accuracy with an appreciation of the added costs of further design development.

Apart from being duplicative of the efforts of the Proponents, design development could open the Sponsor to the risk of overly prescribing the project. In order to create incentives for innovation and obtain the best solutions possible, the Project Sponsor should define the needs and outputs that it requires. Moving into design development would mean that the needs and outputs could become tied to the specific design approach, as opposed to the true needs of the Sponsor. Therefore, it is recommended that P3 cost estimates are prepared to provide a Cost Analysis with an accuracy of +/- 15% which is generally supported by a Schematic Design at a 30% level.

1.4 Using the Guide

The Guide is presented as follows:

- Typical design information required for a Schematic Design Estimate
- Acceptable formats for a Schematic Design preparation
- Development of a Schematic Design Estimate
- Sector-Specific Considerations
- Outputs and Deliverables

The cost estimating methods, outputs and documentation are based on an accommodation facility. For other types of infrastructure, the required background information, elemental categories and outputs will vary, as discussed in the Outputs and Deliverables section. It is recommended that Sponsors seek advice from Technical Advisors and Cost Consultants regarding the appropriate approach to cost estimate accuracy for a particular sector.

[3] Association for the Advancement of Cost Engineering (2011) - AACE International Recommended Practice No. 18R-97: Cost Estimate Classification System – As Applied In Engineering, Procurement, And Construction For The Process Industries.

2 TYPICAL DESIGN INFORMATION REQUIRED FOR A SCHEMATIC DESIGN ESTIMATE

2.1 Minimum Requirements

The cost estimation process typically follows the main stages of design. The design process can be broken down into five stages:

1) Project Initiation
2) Conceptual Design
3) Schematic Design
4) Design Development
5) Design Document

In a traditional procurement process, the Project Sponsor is responsible for each of the five stages prior to tender. In P3 procurement, the Sponsor is responsible for the first three stages and the private partner is responsible for the design development and the preparation of final design and technical documents.

2.2 Project Initiation Stage

At the Project Initiation stage, the Sponsor identifies the need for the asset and defines the initial scope of the project. At this point, the focus will generally be on defining the issue, problem or opportunity to be addressed by new infrastructure in order to start shaping the project needs and requirements. The Project Sponsor will look at past experience within and outside the organization to address challenges and identify potential solutions. Typically, historical data on similar projects is gathered to better identify the scope of the project. For example, if the Sponsor has identified that there is a need for a new school, it will look at recently constructed schools in the vicinity and use the costs of those projects as a benchmark.

2.3 Conceptual Design Stage

At the Conceptual Design Stage, the Project Sponsor refines requirements for the infrastructure and begins to develop options to meet its needs. During this stage, the authority will develop a Functional Plan and specify its technical requirements. It will undertake pre-feasibility studies to identify technical options, define key project elements, gross floor areas or project characteristics (e.g. km of highway) and identify major equipment and component systems. At this stage, the Project Sponsor will typically begin to perform examinations of the proposed site to identify potential constraints.

The output of the Conceptual Design Stage is a report that illustrates the design concepts for the project. The report includes a discussion of the design objectives and how the design concepts address these objectives. The report includes drawings depicting the site layouts, floor plans and elevations.

It also outlines project constraints, high-level specifications and will define assumptions with respect to materials, major equipment and sub-systems. Finally, the report covers the proposed procurement approach, construction program and project timeline, along with a cost estimate and risk assessment.

2.4 Schematic Design Stage

The objective of the Schematic Design Stage is to test, resolve and amend the initial concept design and alternatives to produce a clearly defined design based on the Sponsor's requirements. During this stage, the project team designer will prepare plans, drawings and elevations to refine the Conceptual Design. The designs will be used to refine cost estimates, to further clarify the project scope and revise project timelines. A more detailed discussion on the Schematic Design Stage will be provided in section 3 of this Guide.

2.5 Design Development Stage

Industry best practices recommend that cost estimates are within +/- 15% degree of accuracy. This degree of accuracy is used to seek budget authority in preparation of Value-for-Money (VfM) analysis. Design and technical work need to be advanced to at least 30% completion in order to achieve this level of accuracy.

2.6 Design Document Stage

The generally acceptable levels of documentation that the Cost Consultant requires in order to produce a cost estimate within +/- 15% accuracy are produced by a consultant specializing in compliance or design. In the absence of the compliance documentation, which is illustrated in **Table 2**, the Cost Consultant must make reasonable assumptions and/or increase the level of estimating contingency (i.e. provide a lower level of accuracy).

Table 2 outlines the minimum requirements including the sources and documentation that are recommended for a Schematic Design Estimate:

Table 2: Minimum Design Work

ITEM	SOURCE	DOCUMENT
Schematic floor plans (30% completion) including basic statistics i.e. gross floor area, number of floors, number of parking spaces, etc.	Architect	Drawing/Outline Brief
As-built drawings for existing building (if applicable)	Project Sponsor	Drawing
Demolition drawings (if renovation), including clear indication of existing materials to remain	Architect	Drawing
Structural foundation system and typical framing plan; load requirements; and, specific foundation requirements to address geotechnical issues	Structural Engineer	Drawing
Building elevations and sections; perspectives and/or models; horizontal and vertical space relationships	Architect	Drawing
Roof system selections	Architect	
Guidelines for interior floor, wall and ceiling finishes	Architect	Drawing/Outline Brief
Schedule of mechanical requirements, including: volume and delivery rate of outdoor air to be supplied per person; plumbing system requirements; and, the area and location of mechanical spaces in the building	Mechanical Engineer	Drawing/Outline Brief
Outline specification (10% or higher), with selected equipment, sizing and performance requirements	All Consultants	Report
Paving and parking requirements	Traffic/Civil Consultant	Drawing/Report
Existing and proposed building grades	Civil Consultant	Drawing
General site plan layout	Civil/Landscaping Consultant	Drawing
Equipment inclusions and exclusions	Project Sponsor	Contribution Matrix
Original site drawings and investigations (if applicable)	Project Sponsor	Report
Storm drainage solution	Civil Consultant	Outline Brief
Existing utility location	Civil Consultant	Drawing
Site lighting requirements	Electrical Engineer	Outline Brief
Geotechnical Report	Geotechnical Consultant	Report
Environmental Report	Environmental Consultant	Report
Heritage Report, if applicable	Heritage Consultant	Report
Details if any restraints to project i.e. site access, working hours, labour etc.	Architect	Outline Brief
'Soft' cost inclusions and exclusions	Project Sponsor	Contribution Matrix
Functional Program	Planning Consultant	Report
Blocking/Stacking Diagrams	Architect	Drawing
Initial views on construction procurement options and contract strategies	Project Sponsor	Report

ITEM	SOURCE	DOCUMENT
Details of any enabling work, decanting and other specific requirements	Architect	Drawing
LEED or sustainable design requirements	Sustainable Design	Report
Comparable facilities, if any	Project Sponsor	Report
Phasing requirements, if any	Architect	Drawing
Project preliminary schedule	Schedule Consultant	MS Project or Similar
Occupancy requirements i.e. the facility operational during construction	Project Sponsor	Report
Proposed basic electrical, telecommunications and IT systems	Electrical Engineer	Drawing/Outline Brief

2.7 Typical General Work Plan

The typical general work plan consists of the following steps:

1. The Cost Consultant meets with the Project Sponsor and reviews the extent of all aspects of project costs that need to be incorporated in the cost estimate, in particular Furniture, Fittings and Equipment (FFE) requirements, Planning, Design, Compliance (PDC) fees, etc.
2. Based on the Project Sponsor's approved Schematic Design documents, the Cost Consultant meets with the design team and reviews the nature and scope of the entire project.
3. The Cost Consultant then prepares a budget cost estimate(s) and Elemental Cost Plan ("Cost Plan" - the critical breakdown of the cost limit for the building(s) into Cost Targets for each element of the building) for the Project Sponsor's review, that reflects the size and character of the entire project including the architectural, structural, mechanical and electrical systems, site and civil and such other Elements as may be appropriate. The cost estimate(s) and Cost Plan shall include backup sheets with quantities, unit rates and amounts for composite or individual items of work, as well as an Elemental Cost Summary. The estimate should also provide appropriate risk recommendations for estimating/design development, inflation, schedule, market conditions, site conditions and post-contract (change orders).
4. Ideally, the Cost Consultant should be involved as early as possible in the project and should take part in the initial project team meetings and the risk workshop(s) for the project. At the risk workshop, the Cost Consultant should be mandated to provide his/her professional opinion with regard to risks associated with:
   a. **Design development/estimating:**
      Risk that the Sponsor attempts to revise or impact the design of the project causing delays in the project.
   b. **Change order by Sponsor during construction:**
      Risk that the scope of work is changed by the Sponsor during the construction period.
   c. **Acute market conditions / construction price escalation:**
      Risk associated with construction costs being higher than estimated by the construction contractor. This results in higher costs and a reduced profit margin for the contractor.

d. **Procurement:**
   Risk that the procurement tender documentation is not complete. This will result in increased addenda and could give a sense of uncertainty to Proponents, resulting in reduced tolerance to risk and higher bids.

e. **Site access:**
   Risk of temporary closure of the site and delay in contract completion

f. **Site conditions/soil conditions/environmental risks:**
   Risks that environmental reports (i.e. geotechnical, archaeological) provided to Proponents contain errors. This could result in the contractor having a claim for additional time and costs. The magnitude of this risk will vary depending on particular site conditions. Proponents will insist that they can rely upon the environmental reports provided in the tender documentation.

5. The Cost Consultant then reviews draft estimates with the Sponsor and design team, and prepares any subsequent revisions. At the Schematic Design Stage, the Project Sponsor may request more than one Schematic Design resulting in more than one estimate to assist in the decision to move forward with one design option.
6. The agreed-upon budget cost estimate shall become the Cost Plan, and form the basis for cost control for the Project Sponsor moving forward.
7. The Cost Consultant finalizes the cost estimate and prepares an overall Cost Report.

3 ACCEPTABLE FORMATS FOR A SCHEMATIC DESIGN PREPARATION AND DEVELOPMENT OF A SCHEMATIC DESIGN ESTIMATE

3.1 Introduction

Meaningful cost comparisons and analyses of cost estimates will only be possible if cost data are based on a uniform standard analysis. The following section provides an overview of acceptable formats for a Schematic Design preparation by:

- Defining the Elemental Format
- Defining Selection of Elements
- Preparing Elemental Cost Analysis for an accommodation project
- Discussing design, estimation, escalation and construction allowances

The Cost Consultant should use the proposed, industry accepted, formats to ease analysis of results and to facilitate comparative elemental estimating.

3.2 Elemental Format

Elemental Cost Analysis "Cost Analysis" is a system of cost planning and control intended to monitor and control project costs during the design development of buildings and other structures. Cost control is achieved by preparing a Cost Plan based on the information contained in the analysis in the very early stages of a project when little is known about the materials or methods that will be used.

An Elemental Cost Analysis examines the known costs of a building at the end of the design process into an Elemental Format and divides the cost by a quantity to give a unit rate. A Cost Plan is used at the beginning of the design process and determines the required reserve. It multiplies a quantity by a unit rate obtained from one or more cost analyses to give a cost. To be useful, the breakdown and method of analyzing the costs in the Cost Analysis must therefore be identical to that used in the Cost Plan[4].

It is generally an accepted industry standard that a Schematic Design Estimate is prepared in Elemental Format which is approved by the Canadian Institute of Quantity Surveyor, (CIQS) or an equivalent format. Using industry standards makes the output understandable to a wide audience and allows for comparisons between projects.

[4] Canadian Institute of Quantity Surveyors (2006) "Elemental Cost Analysis: Format - Method Of Measurement - Pricing - Measurement of Buildings by Area & Volume, Canadian Institute of Quantity Surveyors.

3.3 Selection of Elements

An Element is defined as a major component common to most buildings, fulfilling the same function irrespective of its design, specification or construction. In selecting and defining the Elements the following CIQS principles are used[5]:

1. Each Element should have a significant influence on the cost of a structure and a high frequency of occurrence.
2. There should be consistency and simplicity in the definitions of Elements. One of the primary purposes of a standard list of Elements is to enable cost analyses of completed projects and to help control costs of future projects.
3. Each Element is intended to represent a component of the building which always performs the same function regardless of its composition. Any attempt to try to identify materials in a Cost Analysis defeats the purposes of a Cost Plan which is prepared when few, if any, materials have been selected.
4. Wherever possible an Element should be measurable.
5. The Elements are ordered hierarchically into four levels to allow for different levels of aggregation and summarization as follows:

a.	Level 1	Major Group Elements	- denoted by a single character code
b.	Level 2	Group Elements	- denoted by a two character code
c.	Level 3	Elements	- denoted by a three character code
d.	Level 4	Sub-Elements	- denoted by a four character code

For example:	A	SHELL	Level 1
	A1	Substructure	Level 2
	A11	Foundations	Level 3
	A111	Standard Foundations	Level 4

A more detailed sample of an Elemental Format for an accommodation project, which is consistent with the CIQS standard, is provided in the sub-section below. Potential adaptations for other asset classes will be discussed in the next section (e.g., UNIFORMAT II).

[5] Association for the Advancement of Cost Engineering (2011) - AACE International Recommended Practice No. 18R-97: Cost Estimate Classification System – As Applied In Engineering, Procurement, And Construction For The Process Industries.

3.4 Preparing an Elemental Cost Analysis

All Elements of an Elemental Cost Analysis should be shown in the same sequence for easy reference. CIQS and UNIFORMAT use numbering systems that lay out Elemental Estimates in a standard order, generally corresponding to the order of construction. If no cost is attributable to an Element, a zero or dash should be entered in the cost column. For analysis purposes the cost of each Element is expressed in a separate column as a price per square metre of the gross floor area.

Where appropriate, each Element should also be expressed with an elemental quantity, a ratio and an elemental unit price. Furthermore, an itemized Elemental Cost Summary should accompany the Elemental Cost Analysis, together with copies of plans and elevations. When there is more than one building on a single site, separate element costs analyses should be prepared for each building and for the site work (e.g., landscaping, entrance roads) with general requirements and fees (e.g., supervision and labour expenses, permits, insurance and bonds) and allowances (e.g., design, escalation and construction) proportioned between them.[6]

Table 3 illustrates an Elemental Cost Analysis for an accommodation project (e.g., Public Administration Buildings). Starting from Level 1, the largest Element grouping, Major Group Elements such as the shell, interiors, and services are identified. Level 2 subdivides Level 1 Elements into Group Elements. The shell, for example, includes the superstructure, structure, and exterior closure. Level 3 breaks the Group Elements further into Individual Elements. Exterior closure, for example, includes walls below grade, walls above grade, windows and entrances, roof covering, and projections. For illustrative purposes, a cost breakdown column was not included.

[6] Association for the Advancement of Cost Engineering (2011) - AACE International Recommended Practice No. 18R-97: Cost Estimate Classification System – As Applied In Engineering, Procurement, And Construction For The Process Industries.

Table 3: Elemental Cost Analysis - Accommodation Project

LEVEL 1 Major Group Elements	LEVEL 2 Group Elements	LEVEL 3 Individual Elements
A Shell	A1 Substructure	A11 Foundation A12 Basement Excavation
	A2 Structure	A21 Lowest Floor Construction A22 Upper Floor Construction A23 Roof Construction
	A3 Exterior Enclosure	A31 Walls Below Grade A32 Walls Above Grade A33 Windows and Entrances A34 Roof Covering A35 Projections
B Interiors	B1 Partitions and Doors	B11 Partitions B12 Doors
	B2 Finishes	B21 Floor Finishes B22 Ceiling Finishes B23 Wall Finishes
	B3 Fittings and Equipment	B31 Fittings and Fixtures B32 Equipment B33 Conveying Systems
C Services	C1 Mechanical	C11 Plumbing and Drainage C12 Fire Protection C13 H.V.A.C C14 Controls
NET BUILDING COSTS (Excluding Site)		
D Site and Ancillary Work	D1 Site Work	D11 Site Development D12 Mechanical Site Services D13 Electrical Site Services
	D2 Ancillary Work	D21 Demolition D22 Alterations
NET BUILDING COSTS (Including Site)		
Z General Requirements and Allowances	Z1 General Requirement and Fee	Z11 General Requirements Z12 Fee
TOTAL CONSTRUCTION ESTIMATE (Excluding Allowances)		
	Z2 Allowances	Z21 Design Allowance Z22 Escalation Allowance Z23 Construction Allowance
TOTAL CONSTRUCTION ESTIMATE (Including Allowance)		

The following is an expanded list of items that are generally found in each Element. These items should be measured under the same Element to ensure consistency from one Cost Plan to the other.

A) Shell:

1. Substructure – includes foundation systems, basement excavation, shoring system, dewatering.
2. Structure – includes slab on grade, granular sub-base, upper floor framing, roof framing.
3. Exterior – includes the building envelope such as curtain wall, solid wall system and assembly (brick, metal, etc.), windows, roof membrane, canopy, parapets.

B) Interiors:

1. Partitions and doors – includes elevator and stair core walls, block wall, drywall partition, hollow metal doors, solid core doors, door frames and hardware.
2. Finishes – includes floor, wall and ceiling finishes.
3. Fittings and equipment – includes fixed millwork, washroom accessories, handrails, guardrails, equipment (approved and agreed with Project Sponsor outside of the FFE list).

C) Services:

1. Mechanical – includes plumbing, fire protection and sprinkler, HVAC, building controls.
2. Electrical – includes Service Distribution, Lighting, Power Systems and Ancillaries, Fire Alarm, Security and IT systems.

D) Site and Ancillary Work:

1. Site work – includes soft and hard landscaping, exterior lighting, incoming hydro service, storm service, sewer service, natural gas service.
2. Ancillary work – includes demolition, renovation works.

E) General Requirements:

General conditions and fees – includes General Contractor's overheard and profit, site supervision cost, temporary service, hoarding, temporary accommodation/office.

3.5 Allowances

In **Table 3**, the example of an Elemental Cost Analysis, the total construction estimate excluding allowances, represents the base estimate. It is common practice to add allowances, otherwise known as contingencies, to the base estimate. A contingency can be defined as a financial provision to absorb the impacts of cost escalating events that are likely to occur, but for which costs cannot be estimated with a high degree of certainty at the time of the capital investment budget establishment. Contingencies are typically related to imprecision in quantities, depending on the level of advancement of the detailed design, and the variation of unitary prices due to events that may be difficult to quantify with a high degree of certainty (e.g., volume of soil to be decontaminated).

Within the Elemental Cost Analysis, the Cost Consultant should determine the appropriate contingencies for different elements. The different elemental contingencies will reflect the different levels of uncertainty associated with the respective elements. The contingencies are included in the primary budget. Schematic estimates typically contain contingencies or allowances to deal with uncertainty in three different project areas:

1. Design and Estimating Allowances are added to reflect the early state of the project design. The contingencies are to cover omissions and unknown project elements resulting that can be expected to be discovered over the design process.
2. Escalation Allowances are added to allow for unexpected changes in sub-contractor and input prices between the time of the initial estimate and when the work is ultimately performed. In capital projects, local market conditions can often give rise to short-term labour, material and equipment shortages resulting in spikes in construction prices.
3. Construction Allowances are added to address potential cost increases that can occur during the construction stage. These allowances are built in to absorb cost overruns and project delays. They will also cover unexpected damage to the project, site or adjacent areas.

When developing the cost estimates for the asset, the Cost Consultant separately identifies the contingencies from base costs, in parallel with risk quantification to help ensure there is no double counting between cost contingencies and risk quantification. It is recommended that the scope of the Cost Consultant's engagement include participation in the risk workshop(s). Contingencies should be built into the Project Sponsor's primary budget with the expectation to be fully spent during the capital investment.

When Proponents prepare bid prices, they will typically include a risk provision (also sometimes called owner's reserve), which will vary depending on the delivery method and risk allocation approach. The risk provision is typically left outside of the primary budget.

4 SECTOR-SPECIFIC CONSIDERATIONS

In Sections 2 and 3 of this Guide, the general requirements applicable to an accommodation project were provided. Though different classes of infrastructure will have many features in common, there are notable differences in the types of background information, design representations, reports and technical reports across sectors. The breakdown of assets into Elements will vary depending on the class of infrastructure which will impact the output of the Cost Estimate. The following section will examine sector-specific considerations; it is recommended that Project Sponsors seek advice from Technical Advisors and Cost Consultants for the appropriate inputs for cost estimates and Cost Report formatting.

Table 4 summarizes the general differences in available information for projects in different infrastructure classes that serve as the basis for the cost estimate.

Table 4: Available Information in Different Infrastructure Assets

Item	Source	Document	ASSET CLASS					
			Light/ Heavy Rail	Bridges/ Highways	Water Treatment Facilities	Wastewater Treatment Facilities	Maintenance Facilities – Trains	District Energy
Schematic floors plans including basic statistics (i.e., gross floor area, number of floors, number of parking spaces, etc.)	Architect	Drawing/ Outline Brief	X		X	X	X	
As-built drawings for existing building (if applicable)	Project Sponsor	Drawing		X	X	X		
Demolition drawings (if renovation), including clear indication of existing materials to remain	Architect	Drawing	X	X	X	X	X	X
Preliminary Structural foundation system and typical framing plan	Structural Engineer	Drawing		X	X	X	X	X
Preliminary Exterior wall elevations	Architect	Drawing		X	X	X	X	X

Different infrastructure classes will have specific information requirements. A Cost Consultant is required to have this information at the time of Schematic Design Estimate preparation. These items could have significant cost impact and are considered cost drivers for the project. The following list summarizes suggested requirements for various infrastructure classes:

1. **Light Rail/Heavy Rail**
   - System requirements
   - Vehicle specifications
   - Signalization requirements
   - Station design information (i.e. plan layout, structural, mechanical and electrical brief)
   - Guideway information (i.e. structure, etc.)
   - Electrical systems information: overhead contact systems; supply; and, substations and distribution
   - Fare equipment requirements
   - Vertical movement requirements/accessibility
   - Signage and way finding requirements
   - Special structures (i.e. bridges, viaducts, etc.)
   - Grading requirements
   - Track layout and assembly
   - Services/ utilities brief and utilities diversion (if required)

2. **District Energy (Steam Generating Facility, etc.)**
   - Boiler and steam generator sizes and product specification.
   - Schematic diagrams
   - Design brief
   - Floor plan including equipment layout

3. **Maintenance Facilities – Train**
   - Preliminary layout plan
   - Block and stacking diagram
   - Facility capacity
   - Lift equipment requirements (i.e. cranes, etc.)
   - Maintenance requirements
   - Drive through bus washing system requirements
   - Body work and paint booths
   - Waste disposal requirements
   - Storage/shelving requirements
   - Fuel equipment requirement

- Track lay-out and assembly
- Special trackwork
- Special structures (i.e. pits, etc.)

4. Maintenance Facilities - Bus

- Preliminary layout plan
- Block and stacking diagram
- Facility capacity (number of buses)
- Lift equipment requirements (i.e. cranes, etc.)
- Maintenance equipment requirements
- Body work and paint booths
- Bus washing system requirements
- Waste disposal requirements
- Storage/shelving requirements
- Fuel equipment requirement
- Special structures (i.e. pits, etc.)

5. Water Treatment Facilities

- System description report
- Process, instrumentation and wiring program
- Floor plans including equipment layout
- Process equipment sizes
- Design brief

6. Wastewater Treatment Facilities

- Water testing structure capacity
- Leachate tank and storage tank size and capacity
- Aeration channel size/dimension
- Filter building plan/dimension
- UV disinfection requirements
- Travelling bridge filter requirements
- Instrumentation requirements (i.e. programming)
- Electrical requirements (i.e. service and distribution, emergency power, etc.)

7. Bridges/Highways

- Traffic information and forecasts
- Bridge load and substructure requirements
- Drainage

- Bridge Span
- Bridge – Dual or single structure
- Earthworks/cut & fill/grading plan
- Retaining wall layout
- Ramp requirements
- Sub-base requirement
- Asphalt/paving specification
- Preliminary road and bridge layout

8. Accommodations

(a) Detention Centres

- Number of cells
- Security requirements – Interior and exterior
- Block stacking diagram
- Preliminary layout plan
- Communication/IT requirements

(b) Offices

- Number of parking space – Above and/or below grade
- Block stacking diagram
- Preliminary layout plan
- Floor to floor heights
- Preliminary elevation drawings
- Security and communication/IT requirements

Even with this additional information, it may not always be possible to achieve a desired level of accuracy (+/- 15%), typically reached with a 30% design. For example, in water and wastewater treatment plants, the design may have to be further advanced for some components in order to have a clearer understanding of the special process and functional inter-relationships. As well, certain elements, such as major equipment requirements, may need to be well-specified in order to obtain accurate pricing on the plant. To incorporate the unique features of different classes of infrastructure, it will also be necessary to adapt the elemental model to provide categories that are meaningful to the project. In the following UNIFORMAT II bridge classification table, the Elemental Cost Analysis has been revised to reflect the differences between an accommodation facility and a bridge.

Table 5 divides the classification of bridge elements into three hierarchical levels: Level 1, Major Group Elements; Level 2, Group Elements; and Level 3, Individual Elements. The major groups are listed in normal chronological order of construction.

Table 5: Proposed UNIFORMAT II Classification of Bridge Elements[7]

LEVEL 1 Major Group Elements	LEVEL 2 Group Elements	LEVEL 3 Individual Elements
A Substructure	A10 Piers	A1010 Foundations A1020 Walls A1030 Columns A1040 Cap Beams
	A20 Towers	A2010 Foundations A2020 Walls A2030 Columns A2040 Cap Beams
	A30 Abutments	A3010 Foundations A3020 Stems A3030 Wing Walls
	A40 Other Supports	A4010 Thrust Blocks A4020 Anchorages
B Superstructure	B10 Short Span Assemblies	B1010 Flexural Members B1020 Diaphragms B1030 Bracings B1040 Bearings
	B20 Long Span Assemblies	B2010 Ribs B2020 Cables B2030 Hangers B2040 Spandrels B2050 Ties B2060 Truss Members B2070 Segmental Box Girders
	B30 Deck	B3010 Structural Surface B3020 Wearing Surface
C Protection	C10 Structure Protection	C1010 Slope Walls C1020 Expansion Joints C1030 Protective Coats C1040 Sacrificial Beams C1050 Drainage Systems C1060 Inspection and Maintenance Systems
	C20 Traffic Protection	C2010 Barriers C2020 Protective Shields C2030 Traffic Controls
	C30 Other Protection	C3010 Lighting C3020 Signage C3030 Sound Barrier Walls C3040 Air Pressure Barriers C3050 Enclosure

[7] Kasi, Muthiah and Robert E. Chapman (2011), "Proposed UNIFORMAT II Classification of Bridge Elements", U. S. Department of Commerce National Institute of Standards and Technology.

LEVEL 1 Major Group Elements	LEVEL 2 Group Elements	LEVEL 3 Individual Elements
D Site Work	D10 Site Preparation	D1010 Clearing and Grubbing D1020 Demolition and Relocation D1030 Earthwork D1040 Hazardous Material Handling D1050 Environmental Restoration /Replacement
	D20 Approach Construction	D2010 Approach Slabs D2020 Sleeper Slabs D2030 Earth Retention Systems

The Canadian Institute of Quantity Surveyors (CIQS) standard is well suited to Canadian accommodations projects and may be less suited to some infrastructure classes. In these cases, Cost Consultants may wish to use an alternate format for the cost estimate, such as Master Format or UNIFORMAT II. Though different in form, alternative formats should allow for the same level and detail of analysis.

5 OUTPUT / DELIVERABLES

5.1 Overall Project Budget

The Schematic Design Cost Estimate approach results in the preparation of a construction cost estimate in the Elemental Format. Traditionally, construction costs are the most significant cost factor of a project. In P3s, the Project Sponsor is concerned with both the capital (construction) costs as well as the total costs over the asset's lifecycle. When several design approaches are being considered, the Cost Consultant will typically assess the operations and maintenance requirements of the asset, as well as major maintenance activities over the lifecycle in order to prepare whole-of-life project costs.

The operation and maintenance costs may be estimated in conjunction with the Project Sponsor. Often, the Sponsor will provide operational cost data drawn from current facilities. In more complex projects, or in cases where there is no available data on similar facilities, the Project Sponsor may obtain the services of a Facilities Management Advisor to provide more detailed information on operations and maintenance costs.

In some cases, projects may have unique inputs that will have a significant impact on operational costs. For example, a district energy system will be energy intensive. In these cases, it may be worthwhile to undertake specialized investigations to better understand requirements over the life of the project. This will allow for a better forecast of project operational costs.

Similarly, the Cost Consultant will typically work with the designer and technical staff to understand the lifespan of the infrastructure and the maintenance requirements. The maintenance cycles and activities will be used to develop an estimated program for major maintenance.

As well, the Cost Consultant will work with the Project Sponsor and the Technical and Financial Advisors to develop estimates for other relevant project costs.

Table 6 provides a list of inputs which are also useful or required to prepare the overall project budget:

Table 6: Inputs

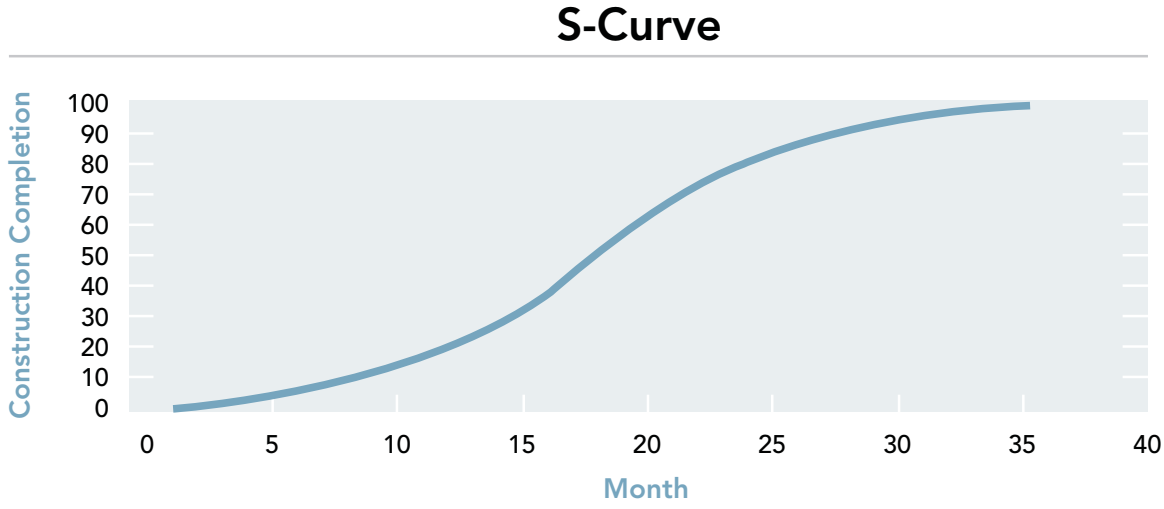
ITEM	SOURCE
Risk recommendations (Design, inflation, market conditions, etc.)	Cost Consultant
Furniture, finishings and equipment	Cost Consultant/Consultant
Ancillary costs (Planning, design compliance (PDC)) Fees, permits, development changes, insurances, etc.	Cost Consultant Project Sponsor
Land cost	Project Sponsor
HST/GST	Cost Consultant
Moving/relocation cost	Moving Consultant
Financing cost	Financial Advisor
Testing and inspection	Architect
ITEM	**SOURCE**
Transaction advisor cost	Financial Advisor
Design bid fees	Project Sponsor
Facilities operational cost	Facility Management Advisor
Maintenance and lifecycle cost	Technical Advisor

5.2 Construction S-Curve

To assist the Project Sponsor, the Cost Consultant will provide an expected construction cash flow in the form of an S-Curve. The S-Curve indicates estimated cumulative construction expenditures as a percentage of total construction costs over the construction schedule. This S-Curve is used to distribute construction costs in real terms across the construction period.

The shape of the curve is the result of costs being incurred at a lower rate for equipment mobilization and site preparation then ramping up for the major works and tapering off again as testing and commissioning takes place. A robust and substantiated S-Curve from a Cost Consultant demonstrates that thought has been given to the construction program. The real-valued S-Curve will allow for costs to be cost estimates escalated to the projected construction start date. **Figure 1** illustrates a typical expenditure curve for a construction project.

Figure 1: Construction S-Curve



5.3 Cost Report

Once the cost estimate has been completed and the Cost Consultant has worked with the Project Sponsor to identify and estimate other costs contributing to the total project budget, the Cost Consultant should prepare a Cost Report. This document provides a summary of the following: the methodology for the estimate; construction phasing; the cost considerations (basis for escalation, inflation, market volatility and contingency calculations); a description of all supporting documents referred to; and, a listing of all cost components bearing significant risk. The Cost Report includes the Elemental Cost Analysis, the total cost of each cost component and the cost per square metre of building gross floor areas (as defined for the specific building types).

A typical Cost Report includes the following:

- **Executive Summary**
- **Background**
  - Project background
  - Project objectives
  - Project scope
- **Design Considerations**
  - Site context
  - Program spaces
  - Functional, construction and operational requirements
  - Structural, mechanical, electrical and landscape requirements
  - Architectural styles

- Type of construction, materials and finishes
- Building code review
- Sustainability

- **Methodology**
  - Basis of estimate
  - Method of preparation
  - Major quantities or length
  - Major assumptions
  - Cost basis
  - Inclusion/exclusions
- **Cost Summary**
  - Summary project budget
  - Elemental Cost Estimate
  - Operations & Maintenance estimates
  - Planning and implementation costs
  - Summary of areas
  - Building statistics
  - Project/construction schedule
  - S-Curve
  - Unit costs and cost base
  - Commentary on economic and market forces
- **List of Documents**
  - Functional plans
  - Scoping documents
  - Feasibility studies
  - Planning/technical documents
  - Previous cost estimates
- **Figures and Drawings**
  - Site plan
  - Floor plan
  - Elevations
  - Perspectives

As the project is developed, the Project Sponsor will prepare and update the project budget. By the time the Schematic Design Cost Estimate is prepared, the Project Sponsor has prepared a rough order-of-magnitude estimate as well as an estimate for the Conceptual Design. In these cases, the Cost Consultant should include a section on budget variances in the Cost Report. The Cost Consultant should also reconcile differences between current estimates and previous budget estimates. Specifically, the budget variance report should distinguish between changes that are due to changing quantities (i.e. building floor areas), to price changes or to changing project requirements/specifications.

6 CONCLUSION

One of the most significant challenges for a Project Sponsor is to successfully deliver on all aspects of an infrastructure project relative to output specifications and budget constraints. The ability to control whole-of-life costs requires the development of detailed cost estimates. Following established guidelines, learning from precedent projects and reacting effectively to changes in project needs is essential to delivering the project on-time and on-budget.

The accuracy of cost estimates is clearly a critical factor in P3 projects, where little design work is undertaken in order to encourage design innovation and avoid replicating work effort with Proponents. Accordingly, the need for accurate cost estimates is arguably greater in P3s than in traditional design-bid-build models.

For P3 projects, this Guide recommends a Cost Analysis with an accuracy of +/- 15% which is generally supported by a Schematic Design at a 30% level. The Schematic Design Estimate focuses the capital costs of the project during the construction phase. This approach allows for the development of robust cost estimates for decision-making, while minimizing any potential to impede private sector innovation and duplicate efforts in a P3. It is generally an accepted industry standard that a Schematic Design Estimate is prepared in Elemental Format, which is approved by the Canadian Institute of Quantity Surveyor. However, developing a Schematic Design Estimate varies based on the type of infrastructure being constructed. Although different classes of infrastructure will have many common features there will be departure points, therefore, the required background information, elemental categories, and final outputs will be different among infrastructure classes.

To incorporate the unique features of different classes of infrastructure, the Project Sponsor can adapt an alternate format for the cost estimate such as Master Format or UNIFORMAT II. Though different in form, alternative formats allow of the same level and detail of analysis.

The cost of preparing a Schematic Design Estimate can range from 1.5% to 5% of the overall project costs. However, the greater reliability attained in the preparation of a Schematic Design Estimate benefit the Sponsor. Securing a sufficient project budget and having the ability to benchmark costs against publicly verifiable construction databases for comparisons of results across projects over time are significant advantages related to the design estimate approach.

Utilizing the industry best practices recommended in this Guide in conjunction with the support of Cost Consultants and Technical Advisors, Project Sponsors have the ability to successfully deliver on all aspects of an infrastructure.

ANNEX A: GLOSSARY

Association for the Advancement of Cost Engineering (AACE)	AACE International is a non-profit professional association. AACE International serves total cost management professionals in disciplines such as: cost engineering, cost estimating, planning and scheduling, decision and risk management, project management, project control, cost/schedule control, earned value management, claims, and more. AACE International has members in 87 countries and cover 80 local sections.
Base Cost Estimate	An evolving estimate of known factors without any allowances for risk and uncertainty, or Element of Inflation. The Base Cost Estimate is the sum of the Works Cost Estimate, the project/Design Team fees estimate and the Other Development/ Project Costs estimate.
Building Work (or Building Works)	All components measured and incorporated in Group Elements (i.e. substructure; superstructure; Internal finishes; fittings, furnishings and equipment; services; complete buildings and building units; work to existing buildings; external works).
Building Works Estimate	The sum of the Cost Targets for Group Elements 1 to 9 (i.e. substructure; superstructure; internal finishes; fittings, furnishings and equipment; services; complete buildings and building units; work to existing buildings; external works; and facilitating works). It eludes main contractor's preliminaries and main contractor's overheads and profit.
Canadian Institute of Quantity Surveyors (CIQS)	The Canadian Institute of Quantity Surveyors (CIQS) is a self-regulatory, professional body that sets the highest standard for construction economics in Canada.
Capital Variance Report	Is a report reconciling the current estimate versus Project Sponsor's budget which identifies variations in capital costs, resulting from changes in the input factors (e.g., building).
Client	The person or organization who engages the professional advice or services of another.
Component	A measured item which forms part of an Element or Sub-element. The quantity of one or more items will be measured and the cost estimated to ascertain the Cost Target for an Element or a Sub-element.
Conceptual Design	Following the Project Initiation, the Sponsor refines requirements for the asset and begins to consider options for the development of the project.
Construction Inflation	An allowance included in the order of cost estimate (OCE) or elemental plan for fluctuations in the basic prices of labour, plant and equipment, and materials during the period from the date of tender return to the mid-point of the construction period. See also the definition for Tender Inflation.
Cost Checks (Cost Check or Cost Checking)	Take place during all design stages and are concerned with comparing current estimated costs against Cost Targets previously set for Elements or Sub-elements of the building. This entails an ongoing advisory role during each design stage.
Cost Consultant	A professional who, by training and experience, provides expert advice on construction costs as well as operations and maintenance.

Cost Control	The process of planning and controlling the costs of building(s). Takes place throughout complete duration of the construction project.
Cost Limit (or Authorized budget or Approved Estimate)	The maximum expenditure that the Project Sponsor is prepared to make in relation to the completed building.
Cost per Functional Unit (or Functional Unit Cost)	The Unit Rate which, when multiplied by the number of functional units, gives the total Building Works Estimate (i.e. Works Cost Estimate less Main Contractor's preliminaries and Main Contractor's overheads and profit). The total recommended Cost Limit (i.e. Cost Limit, including Inflation) can also be expressed as a Cost per Functional Unit when reporting costs.
Cost Report	This document provides a summary of the following: the methodology for the estimate; construction phasing; cost considerations (basis for escalation, Inflation, market volatility and contingency calculations); a description of all supporting documents referred to; and a listing of all cost Components bearing significant risk. The Cost Report includes the Elemental Cost Analysis, the total cost of each cost component and the cost per square meter of building gross floor areas (as defined for the specific building types).
Cost Target	The recommended total expenditure for an Element. The Cost Target for each Element is likely to be derived from a number of Sub-elements and Components.
Design Team	Architects, engineers and technology specialist responsible for the Conceptual Design aspects and the development into drawings, specifications and instructions required for construction of the building or facility and associated processes. The design team is a part of the project team.
Element	Elements are major components common to most buildings. Elements usually perform a given function, regardless of the design specification, construction method, or materials used. A separate cost target can be established for each Element.
Element Unit Quantity	A unit of measurement which relates solely to the quantity of the Element or sub-element itself (e.g. the area of the external walls, the area of windows and external doors and the number of internal doors).
Element Unit Rate (EUR)	The total cost of an Element divided by the Element Unit Quantity (EUQ), equates to a "composite Unit Rate". For example, the Element Unit Rate for external walls is the total cost of the external walls divided by EUQ for external walls. It includes all the cost of all materials, labour; plant, Subcontractor's preliminaries, Subcontractor's design fees and Subcontractor's overheads and profit/margins. EURs exclude Main Contractor's preliminaries, Main Contractor's overheads and profit and other allowances, such as project/Design Team fees, Other Development/Project Costs, Risk Allowances and Inflation. These items are to be assessed separately.
Elemental Cost Analysis/ Cost Analysis	Elemental Cost Analysis is a system of Cost Planning and control for buildings and structures which helps monitor and control project costs during design development. This analysis computes the total cost of each cost component and the cost per square metre of building gross floor areas (as defined for the specific building types).

Elemental Cost Plan (or Cost Plan)	The critical breakdown of the Cost Limit for the building(s) into Cost Targets for each Element of the building(s). It provides a statement of how the Design Team proposes to distribute the available budget among the Elements of the building, and a frame of reference from which to develop the design and maintain Cost Control. It also provides both a work breakdown structure (WBS) and a cost breakdown structure (CBS) which, by codifying, can be used to redistribute work in Elements to construction works packages for the purpose of procurement.
Elemental Cost Summary	Provides for a common point of agreement on costs for all project stakeholders in a way that is concise, consistent, easily understood, and adapted to elemental cost analysis.
Elemental Format	A comprehensive method of cost analysis for use in cost planning and budget control.
Elemental Method	A budget setting technique which considers the major Elements of a building and provides an order of cost estimate based on an Elemental Cost Analysis of a building project. The Elemental Method can also be used to develop an initial cost model as a prerequisite to developing an Elemental Cost Plan.
Estimate Base Date	The date on which the Cost Limit (excluding inflation – i.e. the sum of the Works Cost Estimate, project/Design Team fees estimate, Other Development/ Project Costs estimate and Risk Allowance estimate) is established as a basis for calculating inflation, changes or other related variances.
Facility Management Advisor	Provides facility management advice for a transaction.
Financial Advisor	Provides financial advice for a transaction.
Functional Areas Estimate Summary	A report summarizing capital costs based on departmental gross floor areas.
Functional Plan	Developed at the Conceptual Design Stage, the Functional Plan specifies the technical requirements of the Project Sponsor. Such technical requirements may include specifying the floor layout, the type of equipment, and technology that will be used in the asset.
Group Elements	A main heading used to describe the facets of an Elemental Cost Analysis. Group Elements are a subset of Major Group Elements. The Shell, for example, includes the superstructure, exterior closure, and roofing.
Individual Elements	A main heading used to describe the facets of an Elemental Cost Analysis. Individual Elements breakdown Group Elements further; exterior closure, for example, includes exterior walls, exterior windows, and exterior doors.
Industry Professionals	Individuals or a group of Individual Professionals who are engaged in a certain activity and have expertise and specialized knowledge in field which one is practicing professionally
Inflation	An allowance included in the order of cost estimate or Cost Plan for fluctuations in the basic prices of labour, plant and equipment and materials. Refer to definitions for Tender Inflation and Construction Inflation.

Key Indicators Report	A report outlining key statistics on the project such as gross floor area, overall Site Area, total length of rail/track etc.
Main Contractor (or Prime Contractor)	The contractor responsible for the total construction and completion process of the building project. The term prime contractor is often used to mean Main Contractor in central civil government and the defense sector.
Main Contractor's Overheads and Profit	The Main Contractor's costs associated with head office administration proportioned to each building contract plus the Main Contractor's return on capital investment. Main Contractor's preliminaries exclude costs associated with Subcontractors overheads and profit, which are to be included in the Unit Rates applied to building works.
Main Contractor's General Conditions	Items which cannot be allocated to a specific Element, Sub-element or Component. Main Contractor's preliminaries include the Main Contractor's costs associated with management and staff, site establishment, temporary services, security, safety and environmental protection, control and protection, common user mechanical plant, common user temporary works, the maintenance of site records, completion and post-completion requirements, cleaning, fees and charges, sites services and insurances, bonds, guarantees and warranties. Main Contractor's preliminaries exclude costs associated with Subcontractor's Preliminaries, which are to be included in the Unit Rates applied to building works.
Major Group Elements	A main heading used to describe the facets of an Elemental Cost Analysis. Major Group Elements include: Shell, Interiors, Services, Site & Ancillary Work, and General Requirements and Allowances.
Master Format	Master Format is a standard for organizing specifications and other written information for commercial and institutional building projects in the U.S. and Canada. Master Format is a product of the Construction Specifications Institute (CSI) and Construction Specifications Canada. It provides a master list of divisions, and section numbers and titles within each division, to follow in organizing information about a facility's construction requirements and associated activities
Moving Consultant	Provides advice and/or assistance with moves.
Other Development Project Costs	Costs that are not necessarily directly associated with the cost of constructing the building, but form part of the total cost of the building project to the employer (e.g. land acquisition costs, marketing costs, etc.
Professional Association	A professional association is an organization seeking to further a particular profession, the interests of individuals engaged in that profession, and the public interest.
Project Cost Plan	Addresses the cost of the resources needed to complete the project.
Project Initiation	The point at which the Project Sponsor identifies the need for the asset and outlines the initial scope of the project.
Project Sponsor / Sponsor	One who has the legal right or title to a project or asset.
Proponent	A bidder in a procurement process.

Public-Private Partnership (P3)	A long-term contractual relationship between a Project Sponsor and the private sector that involves: the provision of capital assets and associated services to meet a defined output specification (i.e., define what is required rather than how it is to be done); the integration of multiple project phases (e.g., design, build, finance, operate and maintain); the transfer of risk to the private sector anchored with private sector capital at risk; and the performance-based payment mechanism.
Risk Allowance	The amount added to the Base Cost Estimate for items that cannot be precisely predicted to arrive at the Cost Limit.
Risk Transfer	Risk exists in all projects, irrespective of the procurement approach. In a P3, risks are transferred to the party that can best manage them, thereby reducing financial uncertainty for public sector.
Risk Workshop	An event in which the project team and relevant specialists are asked to identify, quantify (impact and probability) and allocate risks that could affect the various stages of a project (planning, construction, operations, lifecycle).
S-Curve	The S-curve shows graphically the cumulative progress of a construction project over the project duration
Schematic Design	The Schematic Design, prepared by architects and engineers, considers the overall design of the build with production of preliminary sketch drawings and an outline specification.
Schematic Design Estimate	An estimate between the what is referred to as a Class D and Class C estimate which is at the higher end of the range and provides a more specific, more accurate cost figure while focusing on the use of the output requirement of +/- 15% level of accuracy. The purpose this estimate level is to provide a more comprehensive cost estimate and will be typically based on a better definition of the scope of work. An estimate at this level may be used to price various design schemes in order to see which scheme best fits the budget, or it may be used to price various design alternatives, or construction materials and methods for comparison.
Site Area	The total area of the site within the site title boundaries (or the total area within the site title boundaries defined by the employer as the site for the building), measured on a horizontal plane, excluding the area of the building footprint. Excludes any areas used temporarily for the building works that do not form part of the delivered building project.
Subcontractor	A contractor who undertakes specific work within the building project; known as specialist, works, trade, work package, and labour only Subcontractors.
Subcontractor's Preliminaries	Preliminaries that relate specifically to Building Work which is to be carried out by a Subcontractor. Costs associated with Subcontractor's preliminaries are to be included in the Unit Rates applied to Sub-elements and individual components.
Sub-element	A part of an Element. Similar to Elements, a separate Cost Target can be established for each Sub-element.
Technical Advisor	Provides advice on such items including: design and construction, performance specifications, and asset hand-back requirements.

Tender Inflation	An allowance included in the order of cost estimate or Cost Plan for fluctuations in the basic prices of labour, plant and equipment and materials during the period from the Estimate Base Date to the date of tender return. See also the definition for construction Inflation.
Total Development Cost	The Cost Limit (including Inflation – i.e. the total of the Works Cost Estimate, the project/Design Team fees estimate, Other Development/Project Costs estimates, Tender Inflation and construction Inflation) for the building project.
The Total Project Costs Report	A report that includes the total cost of each cost Component and the cost per square foot of building gross floor area (as defined for the specific building type).
Transaction Advisor	Provides advice on a transaction.
UNIFORMAT II / UniFormat	UniFormat is a standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada. The elements are major components common to most buildings. The system can be used to provide consistency in the economic evaluation of building projects. It was developed through an industry and government consensus and has been widely accepted as an American Society for Testing and Materials (ASTM) standard. In 1989, ASTM International began developing a standard for classifying building elements, based on the UNIFORMAT. It was renamed to UNIFORMAT II.
Unit Rate(s)	The monetary rate applied to an Element, Sub-element or component per unit of measurement (e.g. cost per m, cost per m^2 and cost per m^3).The term also includes costs/m^2 of GFA and Cost per Functional Unit (or Functional Unit Cost).
Value for Money (VfM)	Value for Money (VfM) is the comparison between the total project costs (capital base costs, financing costs, retained risks and ancillary costs), at the same point in time, for a traditionally procured project (known as the public sector comparator or PSC) and delivery of the same project using the P3 model (known as the shadow bid). The incremental difference between the public sector comparator and the shadow bid is referred to as the VfM. There is said to be a positive VfM for procuring a project using a P3 approach when the Shadow Bid is less than the public sector comparator.
Works Cost Estimate	The combined total estimated cost of the building works estimate, the Main Contractor's preliminaries and the Main Contractor's overheads and profit prepared using prices current at the time the estimate is prepared (or updated). The Works Cost Estimate contains no allowance for project/Design Team fees, Other Development/Project Costs, Risk Allowances, Tender Inflation and construction Inflation.

NOTES


MPROVING THE DELIV
NFRASTRUCTURE TH
UBLIC-PRIVATE PAR
UTILISER LES PARTEN
PUBLIC-PRIVÉ AFIN D'AM
MISE EN PLACE D'INFRAS
PUBLIQUE