



**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

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

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 LAND BORDER CROSSING PROJECT	
Solicitation No. - N° de l'invitation 47419-166834/A	Date 2016-01-12
Client Reference No. - N° de référence du client 1000326834	
GETS Reference No. - N° de référence de SEAG PW-\$\$FE-175-68804	
File No. - N° de dossier fe175.47419-166834	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-02-23	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Lohnes, Melissa	Buyer Id - Id de l'acheteur fe175
Telephone No. - N° de téléphone (819) 956-6097 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

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

CBSA
Land Border
Crossing Project

ADVOCATE ARCHITECT

REQUEST FOR PROPOSAL

This document contains a security requirement

NOTE: THIS PROCUREMENT CONTAINS A SECURITY REQUIREMENT

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SUPPLEMENTARY INSTRUCTIONS TO PROPONENTS (SI)**SI 1 INTRODUCTION**

1. 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 Land Border Crossing Project, the Canada Border Services Agency (CBSA) is preparing to replace or upgrade approximately 71 of its aging land border crossings and some associated housing components. The project plans to undertake the work through a Public-Private Partnership, or P3, model. This partnership will undertake the renewal, and upon completion of the construction, transfer the provision of services and maintenance of the facilities to the successful consortium for up to a 30 year period.
3. The services of an Advocate Architect (AA) are required to provide various architectural and engineering services in support of the P3 model for the Land Border Crossing Project. The AA will support Phase I by obtaining and compiling critical information including site data collection, developing schematic level design and costing to support the Business Case for the P3 project. Based on information received in Phase I and funding approval, should the Crown decide to proceed with the project, Phase II and III services would support pre-procurement, procurement, and construction for the P3 project. The AA contract will be for a period of approximately five (5) years, should all three (3) phases proceed. Contract award is anticipated for June 2016.
4. This is a single phase selection process. The nature of the requirement and the anticipated limited number of responses by the industry leads PWGSC 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 PWGSC.
5. 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 Consultant 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.

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 Works and Government Services Canada.

2. The following are the proposal documents:
 - (a) Supplementary Instructions to Proponents (SI);
R1410T (2015-07-03), 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 amendment 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 Authorities at peddp.perfp@tpsgc-pwgsc.gc.ca as early as possible.

Melissa Lohnes
Supply Team Leader
Telephone : 819-956-6097
Facsimile: 819-956-3160

Mike Talom
Supply Specialist
Telephone: 819-956-3796
Facsimile: 819-956-3160

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 engineering services are specifically excluded.

SI 6 CERTIFICATIONS

1. Integrity Provisions – Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences, of section G1 of the General Instructions, the Proponent must provide with its proposal, a completed Declaration Form, to be given further consideration in the procurement process.

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. **At the date of bid closing**, the following conditions must be met:
 - (a) the Proponent must hold a valid organization security clearance as indicated in Supplementary Conditions SC1;
2. **Before award of a contract**, the following conditions must be met:
 - (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.
2. 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 Hallux Consulting Inc. 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/efrms/index.cgi?app=profile&form=lab1168&dept=sc&lang=e>

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 Consultant 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 (2015-07-09), General Condition (GC) 1 - General Provisions – Architectural and/or Engineering Services
 - R1215D (2014-06-26), General Condition (GC) 2 - Administration of the Contract
 - R1220D (2015-02-25), General Condition (GC) 3 - Consultant Services
 - R1225D (2015-04-01), General Condition (GC) 4 - Intellectual Property
 - R1230D (2015-02-25), 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 (2012-07-16), 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) the Security Requirements Check List (SRCL);
 - (f) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
 - (g) the proposal, the Declaration/Certifications Form and the 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 (PWGSC). The SACC Manual is available on the PWGSC 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:

Melissa Lohnes (or designated representative)
Supply Team Leader
Public Works and Government Services Canada

Place du Portage, Phase III
Gatineau, Quebec K1A 0S5
Telephone: 819-956-6097
Facsimile: 819-956-3160
E-mail: peddp.perfp@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 Agreement Authority.

3. Consultant's Representative

Name: *(to be completed upon Agreement award)*

Title:

Organization:

Address:

Telephone:

E-mail address:

SUPPLEMENTARY CONDITIONS (SC)

SC1 SECURITY REQUIREMENT

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)**, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Consultant personnel requiring access to PROTECTED information, assets or sensitive work site(s) must EACH hold a valid **RELIABILITY STATUS**, granted or approved by CISD/PWGSC.
3. The Consultant MUST NOT remove any PROTECTED information or assets from the identified work site(s), and the Consultant must ensure that its personnel are made aware of and comply with this restriction.

4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
5. The Consultant must comply with the provisions of the:
 - a. Security Requirements Check List and security guide (if applicable), attached at Appendix E;
 - b. *Industrial Security Manual* (Latest Edition).

SC2 LANGUAGE REQUIREMENTS

1. Communication between Canada and the Consultant shall be in the language of choice of the Consultant Team, which shall be deemed to be the language of the Consultant's proposal.
2. The Consultant's services during construction tender call (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 Consultant's services during construction shall be provided in the language of choice of the Contractor. The successful 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 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.

SC4 Changes to R1230D GC 5.12 (2015-02-25) Disbursements

Delete GC 5.12 (1) and replace with the following:

1. Subject to any provisions specifically to the contrary in the Supplementary Conditions, **the following costs shall be included in the fees required to deliver the consultant services and shall not be reimbursed separately**:
 - a. reproduction and delivery costs of drawings, CADD files, specifications and other Technical Documentation specified in the Project Brief;
 - b. standard office expenses such as any photocopying, computer costs, Internet, cellular phone costs, long distance telephone and fax costs, including that between the Consultant's main office and branch offices or between the Consultant's offices and other team members offices;
 - c. courier and delivery charges for deliverables specified in the Project Brief;
 - d. plotting;
 - e. presentation material;
 - f. parking fees;
 - g. taxi charges;
 - h. travel time;
 - i. **travel expenses between the consultant's place of work and regular meeting locations in the NCR;** and
 - j. local project office.

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.

APPENDIX A - TEAM IDENTIFICATION FORMAT

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

The prime consultant and other members of the Consultant 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.

I. Prime Consultant (Proponent - Architect):

Firm or Joint Venture Name:

.....

.....

Key Individuals and provincial professional licensing status and/or professional accreditation:

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II. Key Sub Consultants / Specialists:**Heritage Architect**

Firm Name:

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Key Individuals and provincial professional licensing status and/or professional accreditation:

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Civil Engineer

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

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Civil Engineer (Transportation)

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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Security Specialist

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

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Facility Maintenance Specialist

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

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Financial Advisor

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

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title: Canada Border Services Agency Advocate Architect

Name of Proponent: _____

Street Address: _____

Mailing Address: _____

Telephone Number: _____

Fax Number: _____

E-Mail: _____

Procurement Business Number: _____

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

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.

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.

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, PWGSC 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.

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

Project Title: Canada Border Services Agency Advocate Architect

The following will form part of the evaluation process:

REQUIRED SERVICES

Time Based Fees (R1230D (2015-02-25), GC 5 - Terms of Payment)

HOURLY RATES – Table A

Column A Position Title	Column B All-inclusive Hourly Rate*	Column C Estimated Level of Effort for Evaluation purposes only (hours)	Column D Total (B x C)
Principal in Charge	\$	960	\$
Project Lead Architect	\$	960	\$
Lead Conservation Architect	\$	240	\$
Intermediate Architect	\$	600	\$
Junior Architect	\$	400	\$
Architect Technician	\$	500	\$
Interior Design	\$	100	\$
Structural Engineer Lead	\$	240	\$
Intermediate Structural Engineer	\$	120	\$
Mechanical Engineer Lead	\$	120	\$
Intermediate Mechanical Engineer	\$	80	\$
Electrical Engineer Lead	\$	120	\$
Lead Civil Engineer	\$	250	\$
Intermediate Civil Engineer	\$	500	\$
Civil Engineer-Transportation Specialist	\$	250	\$
Security Specialist	\$	120	\$
Facility Maintenance Specialist-Senior	\$	240	\$
Facility Maintenance Specialist-intermediate	\$	100	\$
Environmental Specialist	\$	200	\$
Financial Advisory Specialist(s)	\$	100	\$
Administrative Support	\$	350	\$
Project Manager	\$	960	\$
Project Administration (overhead)	\$	250	\$
TOTAL (applicable taxes extra):			\$

* All inclusive hourly rates are applicable to both normal working hours (as defined in R1230D (2015-02-25), GC 5.2, section c) and any other shift work exceeding 7.5 hours per day as required, seven (7) days per week.

Project-related travel outside the NCR (as defined in R1230D (2015-02-25), GC 5.12, section 2) is not included in the hourly rates and will be treated as a separate Disbursement which shall be reimbursed in accordance with the current National Joint Council Directive.

The hourly rate for any given category of personnel cannot be \$0 or nil value. **Failure to insert an hourly rate for each position listed will render your proposal non-responsive.**

IN THE CASE OF ERROR IN THE EXTENSION OF PRICES, THE UNIT PRICE WILL GOVERN.

TOTAL COST OF SERVICES FOR EVALUATION PURPOSES

Total Evaluated Fees - Table A \$_____

The following will NOT form part of the evaluation process

AGREEMENT PARTICULARS

TERMS OF PAYMENT – CALCULATION OF FEES

The Time-Based Fees (R1230D (2015-02-25), GC 5 - Terms of Payment) to be paid to the Consultant for the services shall be in accordance with the following fee arrangement:

<u>MAXIMUM TIME-BASED FEES – Table B</u>		
Required Service	Required Services	Upset Limit*
RS 1	Site Data Collection, Schematic Design and Costing	\$ 3,000,000.00
RS 2	Pre-Procurement	\$ 1,750,000.00
RS 3	Procurement	\$ 1,500,000.00
RS 4	Construction	\$ 3,000,000.00
MAXIMUM TIME-BASED FEES (applicable taxes extra):		\$ 9,250,000.00

*An estimated Upset Limit has been established by Canada. The Consultant will be paid for actual services performed using the applicable hourly rate(s) in Table A for such services. The maximum amount payable under the Agreement may not exceed the sum specified without the prior written authorization of Canada in accordance with the terms of the Agreement.

Canada may accept or reject any of the following fees, disbursements and/or hourly rates. Canada reserves the right to negotiate on these fees, disbursements and/or hourly rates.

DISBURSEMENTS

At cost without allowance for mark-up or profit, supported by invoices/receipts - see clause R1230D (2015-02-25), GC 5 - Terms of Payment, section GC5.12 Disbursements.

The following allowances (excluding applicable taxes) will be incorporated into the resulting contract.

<u>DISBURSEMENTS – Table C</u>	
Description	Allowance
Project-related travel and accommodation additional to the all-inclusive hourly rate, and other disbursements with prior approval and authorization of the CBSA Project Manager.	\$ 500,000.00
MAXIMUM AMOUNT FOR DISBURSEMENTS (applicable taxes extra):	\$ 500,000.00

END OF PRICE PROPOSAL FORM



PPP Canada

Schematic Design Estimate Guide



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 m².

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 m² 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

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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

5

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 Plan⁴.

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 used⁵:

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
	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
	C1 Mechanical	C11 Plumbing and Drainage C12 Fire Protection C13 H.V.A.C C14 Controls
	NET BUILDING COSTS (Excluding Site)	
	D1 Site Work	D11 Site Development D12 Mechanical Site Services D13 Electrical Site Services
D Site and Ancillary Work	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 overhead 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 Elements⁷

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.

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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

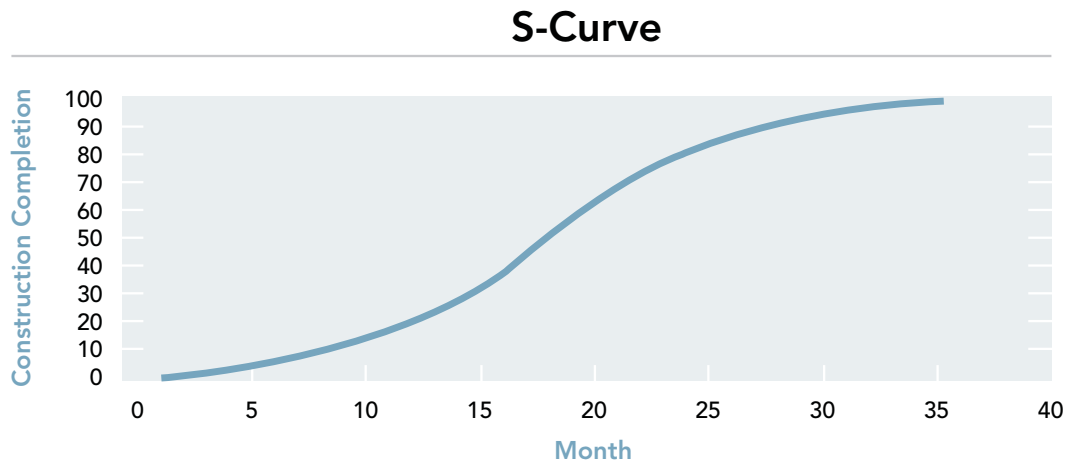
5.2 Construction S-Curve

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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

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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.

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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.

[illegible]

[illegible]





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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		2. Branch or Directorate / Direction générale ou Direction Comptrollership Branch
Canada Border Services Agency		
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 The work required is site surveys, geotechnical and seismic testing, environmental assessments, and indicative design for the replacement of up to 77 ports of entry across Canada. The results and the resulting costing will provide input to the business case that will be part of the Treasury Board submission to achieve project approval and authorities.		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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)		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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.		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> 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 <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
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		
PROTECTED A PROTÉGÉ A <input checked="" type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>

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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes
Non ☐ Oui

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?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? ☒ No ☐ Yes
Non ☐ Oui

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

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET - SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> 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?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? ☐ No ☒ Yes
Non ☐ Oui

If Yes, will unscreened personnel be escorted?

Dans l'affirmative, le personnel en question sera-t-il escorté? ☒ No ☐ Yes
Non ☐ Oui

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?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes
Non ☐ Oui

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

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?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? ☒ No ☐ Yes
Non ☐ Oui

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?
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? ☒ No ☐ Yes
Non ☐ Oui

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

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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 TRÈS SECRET	NATO RESTRICTED NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL CONFIDENTIEL	SECRET TRÈS SECRET
										A	B	C		
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, classifiez 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, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

SRE 1	General Information
SRE 2	Proposal Requirements
SRE 3	Submission Requirements and Evaluation
	3.1 Mandatory Requirements
	3.2 Rated Requirements
SRE 4	Price of Services
SRE 5	Total Score
SRE 6	Submission Requirements - Checklist

SRE 1 GENERAL INFORMATION**1.1 Reference to the Selection Procedure**

'Overview of the Selection Procedure' can be found in R1410T General Instructions to Proponents (GI3).

1.2 Calculation of Total Score

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 five (5) bound copies of the proposal
- Paper size should be - 216mm x 279mm (8.5" x 11")
- Minimum font size - 11 point Times or equal
- Minimum margins - 12 mm 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 **fifty (50)** 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 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 a licensed architect(s) to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the various provinces identified in the Project Brief.

3.1.2 Consultant Team Identification

The Consultant Team must include the following:

- a) Proponent (Prime Consultant)
 - Architect(s)
- b) Key Sub-consultants/Specialists
 - Heritage Architect
 - Civil Engineer
 - Civil Engineer (Transportation)
 - Structural Engineer
 - Mechanical Engineer
 - Electrical Engineer
 - Security Specialist
 - Facility Maintenance Specialist
 - Financial Advisor

Information that should be supplied:

- Name of firm and key personnel to be assigned to the *Supported Program of Work* (as defined in the Definitions section of the Project Brief).
- For the Prime Consultant indicate current licence and/or how you intend 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 – List of Names

Proponents who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Proponent. Proponents bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s). Proponents bidding as societies, firms, or partnerships do not need to provide lists of names. If the required list of names has not been received by the time the evaluation of bids is completed, Canada will inform the Proponent of a time frame within which to provide the information. Failure to provide the names within the time frame specified will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

3.1.5 Security Requirement

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

- a) The Proponent must hold a valid **Designated Organization Screening (DOS)**, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC) as indicated in Supplementary Conditions SC1.

Before award of a contract, the following conditions must be met:

- b) The Proponent's Key Personnel identified in SRE 3.1.2 must EACH hold a valid **RELIABILITY STATUS**, granted or approved by CISD/PWGSC 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, knowledge and experience as Prime Consultant on projects comparable/relevant to the requested *Supported Program of Work* in this RFP.

The Proponent should present a **maximum** of three (3) projects undertaken within the last 10 years. 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 projects.

The Proponent should clearly demonstrate experience pertinent to:

- a) P3 experience in a Federal or Provincial jurisdiction
- b) Functioning as an AA, Owner's Advocate, or similar title.
- c) Projects with Physical and Information Technology (IT) Security concerns
- d) Projects with multiple sites
- e) Upgrade of a heritage building
- f) External stakeholder involvement
- g) Replacement of base building systems with ongoing operations
- h) Implications of multi-year contracts on Facility Maintenance (FM) and life-cycle

Information that should be supplied:

- 1) A clear indication of how the experience presented is comparable or relevant to *Supported Program of Work* in this solicitation.
- 2) Project title, location(s), building program, building scale (m2), year started and year completed, budget, services included, .
- 3) Project description and intent. Narratives should include a discussion of the approach used to meet the intent of the previous work and the challenges and resolutions of the previous work. Project narratives should include a discussion of the experience gained that is relevant to the requested *Supported Program of Works* and should include the scope of the operations and maintenance considerations and any concerns.
- 4) Budget control from an AA perspective.
- 5) Project schedule control and management - i.e. initial schedule and final project schedule - explain variation and methods used to control schedule
- 6) Names of key personnel responsible for project delivery and brief description of their role and responsibility on project.
- 7) Clearly state services provided.
- 8) Client references – name, company name and phone number of client contact at working level (i.e. having a direct knowledge of project)
- 9) Awards received

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 three (3) projects where construction has reached substantial completion or been completed within the last ten (10) years per key sub consultant or specialist identified in section 3.1.2.

Only the first three (3) projects listed in sequence (per key sub consultant or specialist) will receive consideration and any others will receive none as though not included.

The Proponent should clearly demonstrate experience pertinent to:

- a) P3 experience in a Federal or Provincial jurisdiction
- b) Functioning as an AA, Owner's Advocate, or Owner's Engineer.
- c) Projects with Security (Physical and IT) concerns
- d) Projects with multiple sites
- e) Upgrade of a heritage building
- f) External stakeholder involvement
- g) Replacement of base building systems with ongoing operations

Information that should be supplied:

- 1) Project title, location, building program, building scale (m2), year started and year completed budget and heritage designation.
- 2) Project description. Project narratives should include a discussion of the experience gained that is relevant to *Supported Program of Work*.
- 3) Clearly state services provided.
- 4) Client references – name, company name and phone number of client contact at working level (i.e. having a direct knowledge of project).
- 5) Names of Key Personnel responsible for project delivery
- 6) Awards received.

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. 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 personnel, it should be identified here.

Information that should be supplied for each individual noted:

- 1) Individuals name, title and name of firm
- 2) Professional accreditation details (province, year, status, etc.)
- 3) A description of expertise and experience (with number of years) relevant to this project
- 4) A demonstration of roles, responsibilities and degree of involvement of individual on past projects that will corroborate the person's experience and expertise relevant to Supported Program of Work. Clearly state services provided.
- 5) Special accomplishments / achievements / awards

3.2.4 Understanding of the *Supported Program of Work*:

The Proponent should demonstrate understanding of the goals of the *Supported Program of Work*, the functional/technical requirements, the constraints and the issues that will affect the design, delivery and implementation.

Information that should be supplied:

- 1) An interpretation of *Supported Program of Work'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 heritage conservation, sustainable development and site sensitivities.
- 3) Demonstrate an understanding of *Supported Program of Work's* significant issues, challenges and constraints including those arising from the additional services (AS).
- 4) Demonstrate an understanding of how the *Supported Program of Work* will be implemented and provide a strategy for the execution of the entire RS 1 Schematic Design update.
- 5) Demonstrate an understanding of both the cost and schedule for the AA deliverables and the *Supported Program of Work* 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 *Supported Program of Work's* various stakeholders.

3.2.5 Team Philosophy / Approach / Methodology

The Proponent should highlight the proposed team and elaborate on aspects of the *Supported Program of Work* 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 unique aspects of the *Supported Program of Work*.

Information that should be supplied:

- 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, sub-consultants and specialist personnel and their role on the *Supported Program of Work*. In particular, the name and experience of the Project Manager that will work to coordinate all the deliverables within this contract.
- 3) Organization chart with position titles and names (Consultant team), what back-up will be committed and reporting relationships; including a Joint Venture business plan, team structure and responsibilities, if applicable.
- 4) Demonstrate how the response times outlined in PA 1.5, 1.6 and 1.7 will be met; how the limits of a multi-province, multi-site project will be overcome.
- 5) Describe the major challenges and approach that will be applied to those particular challenges including but not limited to the number of sites and variety of designs.

3.2.6 Scope of Services

The Proponent should demonstrate an understanding of the full scope of services for the *Supported Program of Work*. Describe the Proponent's capability to perform the services and meet project challenges. Describe how the Proponent proposes to organize and manage the delivery of all project services and deliverables and provide a plan of action, and a notional level of effort for the services described below.

Information that should be supplied:

- 1) A demonstration that the Proponent understands the full scope of services and deliverables required for the *Supported Program of Work*.
- 2) Project schedule - proposed approach to managing a major milestone schedule including procurement and construction but in particular the anticipated approach to delivering RS1 in a timely manner.
- 3) A Facility Management approach that demonstrates an understanding of the requirements and the constraints that the number, variety and locations of the sites place on the *Supported Program of Work*.
- 4) A description of how the AA on site services will be completed given multiple sites at similar times.
- 5) **Level of Effort breakdown for a sub-set of activities in RS1 and RS2.** An example of an acceptable format for submission is provided below.

The following charts include sub-sets of RS1 and RS2 from Supported Program of Work Brief. Using the table below, Proponents will be able to confirm an understanding of Supported Program of Work by

identifying which skills would be assigned to specific tasks, and to provide a rationale for the notional level of effort in hours. Responses should identify: **(1) Personnel required (by name) for each task and (2) Associated estimated level of effort (number of hours) per Personnel** with enough specificity to allow for a notional costing exercise to be performed (if desired).

3.2.6 (5) a - RS1 Site Data Collection and Schematic Level Design & Costing

The purpose of Phase I (of the *Supported Program of Work*) is to obtain all critical information surrounding each POE site, with the intent of completing schematic design and costing in accordance PPP Canada's Schematic Design Estimate Guide (SDEG), as referenced in Appendix D, in order to inform the development of PPP Canada's Business Case for the *Supported Program of Work*.

Deliverable	Proposed Personnel (add lines as needed)	Proposed Notional Level of Effort (hours)
Advance Port of Entry reference designs to support a Class "C" cost estimate in accordance with PPP Canada's SDEG.		
Produce indicative site plans to support a Class "C" cost estimate in accordance with PPP Canada's SDEG, including road realignments, utilities, and all other features of the site, for each site.		
Develop an indicative schematic design for dormitory living units to support a Class "C" cost estimate in accordance with PPP Canada's SDEG.		
Estimate demolition costs to the including recycling.		
Review the sites which are subject to formal heritage distinction and develop appropriate management plans.		
Develop a construction program and schedule to inform the financial modelling of the Supported Program of Work.		
Cost each site individually and prepare a cost estimate for the totality.		
Total estimated Level of Effort (hours):		

3.2.6 (5) b - RS 2 Pre-Procurement

Services during Phase II would focus on readying the *Supported Program of Work* for procurement by advising on the technical aspects of the procurement documents, including the RFQ, the RFP, and Supported Program of Work Agreement.

Project Specific Output Specification (PSOS) - "Develop clear, measurable, and market-acceptable standards, specifications, and requirements that are ready for incorporation into the *Supported Program of Work* Agreement, covering the following":

Deliverable	Proposed Personnel (add lines as needed)	Proposed Notional Level of Effort (hours)
Performance specs/output requirements (operating – security, lighting, building longevity, information technology, etc.).		
Facility Maintenance (FM) schedule – efficiency requirements, key performance indicators including rudimentary energy models.		
Total estimated Level of Effort (hours):		

3.3 EVALUATION AND RATING

Proposals will be reviewed, evaluated and rated by a PWGSC 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 / Specialists on Relevant Projects	3.0	0 - 10	0 - 30
3.2.3 - Achievements of Key Personnel	0.5	0 - 10	0 - 5
3.2.4 - Understanding of Supported Program of Work	2.0	0 - 10	0 - 20
3.2.5 - Team Approach / Philosophy Methodology	1.0	0 - 10	0 - 10
3.2.6 - 1), 2), 3), 4) - Scope of Services	1.5	0 - 10	0 - 15
3.2.6 - 5) a, b - Scope of Services (Level of Effort breakdown)	0.5	0 - 10	0 - 5
Technical Rating	10.0		0 - 100

Generic Evaluation Table

PWGSC 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 generic 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-five (65) 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-five (65) points.

SRE 4 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals which have achieved the pass mark of **sixty-five (65)** points will be opened upon completion of the technical evaluation. An average price is determined by adding all the 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 - list of directors / owners
- ✓ Integrity Provisions - declaration form (as applicable, pursuant to subsection Declaration of Convicted Offences, of section 01 of the General Instructions)
- ✓ Proposal - one (1) original plus five (5) 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

Description of Program

- PD 1 Program Information
- PD 2 Program Identification
- PD 3 Program Background
- PD 4 Existing Documentation
- PD 5 Supported Program of Works
- PD 6 Program Objectives
- PD 7 Issues
- PD8 Advocate Architect Services

Description of Services

- PA 1 Program Administration

Required Services

- RS 1 Site Data Collection/Schematic Design/Costing
- RS 2 Pre-Procurement
- RS 3 Procurement
- RS 4 Construction

Additional Services

- AS 1 Operational Phase Support
- AS 2 Functional Program Review
- AS 3 Design Guidelines
- AS 4 Building Commissioning

Introduction

This Project Brief is divided into two sections:

1. Description of the *Supported Program of Work*
2. Description of the Services including Program Administration Services, Required Services, and Additional Services

DEFINITIONS:

AA (Advocate Architect) - a team of professionals providing services to support the proposed Program of Work.

CBSA Project Manager – the Departmental Representative (R1210D, GC1 – Definitions) for this contract.

Commercial close - the date when all of the commercial details for the Program of Work have been agreed.

DBFM (Design, Build, Finance, Maintain) - the type of contract planned for the proposed Supported Program of Work. The contractor will be responsible for all four components (design, build, finance, and maintain) over a planned 30 year life-cycle.

Financial close - a date when the financial details for the Supported Program of Work are confirmed, leading to P3 contract signing.

Independent Engineer- a contracted person or firm providing unbiased advice to both the Crown and ProjectCo through scheduled reports or meetings.

POE (Ports of Entry) – locations across the country where Border Services are provided.

Project Agreement - the resultant contract for the Supported Program of Work.

ProjectCo - the title given to the consortium providing the P3 DBFM services described in the Supported Program of Work.

P3 (Public Private Partnerships) – a combination of public and private financing to deliver infrastructure to government partners.

RFP (Request for Proposal) – a formal solicitation requesting technical and financial information.

RFQ (Request for Qualifications) – a process which evaluates and often selects the DBFM proponent capacity and capability to complete a certain task or project.

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

Supported Program of Work – the replacement / upgrade of an estimated 71 CBSA sites across Canada including the ongoing maintenance and life-cycle.

DESCRIPTION OF PROGRAM

PD 1 PROGRAM INFORMATION

As identified through announcements by the Prime Minister in November 2014 and in the 2015 budget, an investment of \$440 million for border infrastructure across Canada is planned. CBSA is preparing to replace an estimated 71 of its aging Custodial Ports of Entry (POE's) and some associated housing components utilizing these funds.

The *Supported Program of Work* objectives are two-fold: through a Public-Private Partnership (P3) model, (1) the renewal of up to 71 POE's and 11 housing units with most of the work completed by 2020, and (2) upon completion of the construction, transfer the provision of services and maintenance of the facilities to the successful consortium for a 30 year period. Currently, the *Supported Program of Work* comprises the replacement of POEs at specific locations detailed in PD1.2.

Public Works and Government Services Canada (PWGSC) intends to retain an Advocate Architect (AA) team experienced with P3's consisting of architects, mechanical engineers, electrical engineers, civil engineers, financial advisors, facility maintenance and operations advisors, and others for the provision of the services required for this *Supported Program of Work*.

1.1 Project Title: Canada Border Services Agency's Land Border Crossing Project referred to within this document as the *Supported Program of Work*.

1.2 Location: The *Supported program of Work* spans all regions of Canada and includes an estimated 71 specific POE's. The CBSA Project Management Office will be based in Ottawa and all project meetings will occur within the National Capital Region. The POE's under review include:

Table 1.2 – Anticipated POE's by region:

ATLANTIC	QUÉBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	PACIFIC
Bloomfield	Abercorn	Pelee Island	Boissevain	Carievale	Aden	Beaver Creek (Yukon)
Campobello	Chartierville	Pigeon River	Cartwright	Estevan Highway	Carway	Bedwell Harbour
Centreville	Covey Hill	Rainy River	Crystal Bay	Northgate	Chief Mountain	Boudary Bay
Clair	Dundee	Sand Point Lake	Gretna	Oungre	Del Bonita	Chopaka
Fosterville	East Hereford	Walpole	Lena	Regway	Wild Horse	Midway
Four Falls	East Pinnacle		Piney	Torquay		Paterson
Gillespie	Frelisghsburg		Snowflake			Roosville
Grand Falls	Glen Sutton		South Junction			Rykerts
Milltown	Himmingford		Sprague			Waneta
River de Chute	Herdman		Tolstoi			
St. Croix	Hereford Road		Windygates			
Woodstock Road	Highwater		Winkler			
St. Stephen	Lacolle Route 221					
Ferry Point Bridge	Lacolle Route 223					
	Ponénégamook					
	St-Armand de Phillipsburg					
	St-Pamphile					
	Stanhope					
	Stanstead 143					
	Trout River					
	Woburn					
14	21	5	12	6	5	9

1.3 **Client / User:** Canada Border Services Agency

1.4 **CBSA Project Manager:** *To be provided upon contract award.*

PD 2 PROGRAM IDENTIFICATION

2.1 Description

The *Supported Program of Work* includes: the gathering of information on targeted POE's, scheduling the work on sites prior to building, set up temporary work stations, facilitate access control to traffic, demolition of existing installations in compliance with CBSA waste diversion targets, and the construction of the new facilities.

The sizing of the facility at each location has been targeted using a scalable template for design options, the criteria for determining the size being: the number of border service officers per shift, the hours of operation, traffic volumes and the type of travelers. The preliminary costing for each template is based on recent construction experience with facilities of similar size to include the new operational requirements and technology enhancements.

The *Supported Program of Work* includes consultation with Aboriginal stakeholders and Parks Canada as appropriate, demolition of the existing POEs, construction of the new POE's including the Primary Inspection Lanes (PILs) and Canopies, improvement of the road configuration and traffic routing as required, etc. During construction, temporary facilities must be put in place to maintain operational capacity.

Specifically excluded from the scope of the *Supported Program of Work* are the following:

- Duty Free Shops
- Section 6 facilities - facilities tied to a revenue generating operation (airport/ferry/ toll bridge)
- New POE's (built or renewed after 2000 or in very good condition)

All services will need to be undertaken while border services continue. At no time will services be disrupted. Not all sites are open 24/7. Depending on a specific site, work may occur outside of normal opening hours.

2.2 Cost

Budgetary numbers to support border infrastructure have been made available through various announcements including the 2015 Federal Budget suggesting a Capital investment of \$440 excluding HST is projected.

2.3 Schedule

Table 2.3 – Anticipated Program Schedule

	MLESTONE	TARGET DATE
Advocate Architect (AA) Contract:		
1	AA Contract Award	June 2016
2	Treasury Board Project Approval for P3	May 2017
Public-Private-Partnership (P3) Contract:		
3	DBFM RFQ Release	June 2017
4	DBFM RFQ Closes	Sept 2017
5	DBFM Short List Announced	Oct 2017
6	DBFM RFP Release	Nov 2017
7	DBFM RFP Closes	May 2018
8	Preferred Proponent Announced	Aug 2018
9	Treasury Board Approval for P3 contract	Oct 2018
10	DBFM contract Commercial Close	Nov 2018
11	DBFM contract Financial Close	March 2019
12	Substantial Completion	Dec 2020

The intent is to start site replacement immediately after Financial Close with substantial completion occurring in 2020.

PD 3 PROGRAM BACKGROUND

When the CBSA was created in 2003, it inherited a portfolio of operational and other administrative buildings (e.g., housing) that had not been updated/maintained on a systematic basis. Maintaining adequate fixed infrastructure has been a pervasive issue predating CBSA's creation and continues to be a major impediment to fulfilling the Crown's economic and security priorities and for the agency to respond to changes in its operation environment.

While progress has been made over the last decade to update the major POEs, the custodial infrastructure at micro, small and medium sized facilities has continued to decay. Given the annual capital budget, to renovate these facilities, which in many cases are approaching a mid-life renewal stage and require additional capital investment to modify or add new functional areas and to replace mechanical or structural components, would take between 16 to 20 years. Moreover, 11 housing components have been identified with critical health and safety issues and must be replaced immediately.

In 2014, an initial P3 screening assessment was conducted and confirmed that a Public Private Partnership is a viable solution for this project. A Memorandum of Understanding (MOU) was signed between CBSA and PPP Canada in October 2014 to initiate the *Supported Program of Work*.

3.1 Research

To date, CBSA has identified the gaps on each of the proposed sites through existing data. While the Regions have been consulted to verify the information, to obtain and forward all available site plans and valid Titles, gaps still remain. Contact has been made with Parks Canada and 13 sites have been submitted for Heritage assessment. There are currently 3 ports, namely Standhope, Stanstead Beebe and Trout River in Quebec that are currently designated as Heritage buildings. Following the result of the assessments, CBSA will endeavor to provide Parks Canada with a strategy to address the designated buildings. That strategy will be included in the DBFM project Request for Proposals.

3.2 Constraints / challenges

- The need to continue operations may impact schedule as coordination will be required to ensure back-up sites are not inadvertently impacted by their own construction.
- CBSA may need to acquire additional land at some sites.
- CBSA doesn't have clear land title at the Rossville Port of Entry. This will require legal input regarding the ownership and potential Aboriginal group land claim. This may result in this site being removed or delayed.

PD4 EXISTING DOCUMENTATION

4.1 Access to documentation for Proponents

All information for this solicitation or for the *Supported Program of Works* will be available in electronic format for all proponents. Information Packages have been developed for all sites and have indicative modular designs for comparative purposes.

Information Packages are available on CD, upon request, by contacting the Contracting Authorities identified in SI3 at peddp.perfp@tpsgc-pwgsc.gc.ca. All existing documentation will be provided in the language in which it was created.

PD 5 SUPPORTED PROGRAM OF WORKS

The plan is to replace, in their entirety, all identified POE's with new structures, new access points, new circulation routes, etc. to facilitate the duties of the officers. "Renovations" will be considered for those sites designated Heritage and/or for which renovations are the only viable options or for which cost savings are significant.

PD 6 PROGRAM OBJECTIVES

The *Supported Program of Works* actual design and construction will be completed as a component of a 30 year Design, Build, Finance and Manage (DBFM) contract. The intent is to have a single entity, ProjectCo, create a suitable design for each site, to handle all construction aspects including environmental for each site, to maintain all infrastructure related items at each site, to provide facility maintenance at each site and to provide housekeeping as specified. The *Supported Program of Work* will include provisions for all life-cycle requirements and hand-back provisions to ensure all POE's are in excellent shape at the end of the DBFM contract.

6.1 Design Principles – General

CBSA has developed a standard approach to POE replacement. The model floor plans contain all the necessary information to allow for an informed analysis of the situation at each site. Each site is unique and site layout and design will need to be adapted to particular site specific conditions. On some sites, these standard solutions would be a challenge due to geographic or other constraints. While the DBFM proponents will need to ascertain the most effective way to provide the facility and services required at each site, an initial assessment will be required by the AA to establish a site-specific cost and a total project cost. This cost will be used in the business case calculations to support increased project funding from Treasury Board.

6.1.1 Design Principles - Specific

These sites will all contain CBSA specific, unique design requirements such as:

- General administration
- Secure interview rooms
- Primary inspection areas
- Secondary inspection areas
- Storage for seized goods
- Traffic control
- Arms storage
- Specific security controls.
- Detention areas.
- Others

6.2 Sustainable Development

The Federal Government has begun a series of initiatives to ensure that sustainable development principles are built into the policy of all federal organizations. CBSA, like all federal departments, has a Sustainable Development Strategy (SDS) that sets out principles, goals and actions for integrating sustainable development into its policies and operations.

6.3 Waste Management

The Construction, Renovation, and Demolition (CRD) Non-hazardous Solid Waste Management Protocol provides direction on the undertaking of non-hazardous solid waste management actions. The protocol is designed to meet the requirements of federal and provincial policies and must meet the objectives of the CBSA SDS.

6.4 Code Compliance

Codes, regulations, by laws and decisions of the “authorities having jurisdiction” will be observed. In cases of overlap, the most stringent will apply.

6.5 Risk Management

A risk management strategy is crucial for successful Project Management and integrates project planning into procurement planning. A comprehensive risk analysis will be completed by PPP Canada in conjunction with a risk workshop to understand the factors which may impact implementation and to provide input into the value for money calculations.

6.6 Health and Safety

CBSA and Public Works and Government Services Canada (PWGSC) recognize the responsibility to ensure the health and safety of all persons on Crown construction projects and the entitlement of both federal employees and private sector workers to the full protection afforded them by occupational health and safety regulations.

PD 7 ISSUES

The number of sites will expose a multitude of differing issues. From a project perspective, the key will be to develop an implementation strategy that satisfies a pan-Canadian solution, addresses the remoteness of the sites, while at the same time see work developing across the sites in a representative fashion. All regions will need to see success at the same time to some degree. In addition, this solution must not drive the cost factors up unnecessarily.

7.1 Major Cost Issues

Effective cost estimating and cost control is of prime importance and shall be provided by Professional Quantity Surveyors from within the AA team. The cost estimates shall be submitted 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).

7.2 Major Time Issues

This project is designed for completion in concert with the Federal Government's implementation of Blueprint 2020, and as such, substantial completion needs to be within this window. **The initial services of the AA for (Phase I) Site Data Collection and Concept Design & Costing are anticipated to be completed six (6) months (or within a mutually agreed upon time period) after contract award.**

The strategy to control time during the *Supported Program of Work* is to allow for multiple sites to be under improvement at the same time taking into account that many sites have back-up sites which may need to stay operational. A solution that proposes completing a particular region prior to commencing other regions will not be accepted unless the total construction time is significantly reduced.

PD 8 AA SERVICES

8.1 Experience of AA

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-Partnership (P3)
- Facility Management (FM)
- Architecture including Heritage
- Interior Design
- Structural / Seismic Engineering
- Mechanical Engineering
- Electrical Engineering
- Civil/Municipal/Transportation Engineering
- Sustainable Design including LEED® to Gold Rating/ and or Greenglobe or equivalent
- Urban Planning
- Crime Prevention through Environmental Design (CPTED)
- Building Envelope
- Project Planning, Monitoring and Control (including costing)
- Costing Analysis (Quantity Surveyors)
- Building Information Modeling
- Physical Security
- Security Systems
- Electronic security Engineering
- Acoustic Design
- Lighting Design
- Landscape Architecture
- Communication Systems
- Fire and Life Safety / Code Compliance
- Energy Management and Control Systems
- Structured Cabling Design
- Commissioning Fittings and Equipment
- Signage
- Hardware consulting including security hardware
- Vibration Design
- Indoor Air Quality
- Vertical Transportation
- Telecommunications
- Information Management/Information Technology (IM/IT)
- Quality Control

8.2 Core Team

As a minimum, the core team of the AA for all of the work described in this request shall have the technical expertise, experience and qualifications in the following areas of expertise:

- Public-Private-Partnership (P3)
- Costing and pricing
- Facility Management (FM)
- Architecture
- Mechanical
- Electrical
- Structural
- Civil
- Commissioning Agent
- Urban Planning
- Physical Security
- Financial Services
- Costing Analysis (Quantity Surveyors)
- Financial Services including business case and value for money support
- Project Management for this advocate contract

DESCRIPTION OF SERVICES

PA 1 PROGRAM ADMINISTRATION

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

1.1 CBSA Project Management

The CBSA Senior Project Manager is directly responsible for the *Supported Program of Work* and its progress. The CBSA Senior Project Manager (SPM) is the liaison between the AA, PWGSC, PPP Canada and other Government departments.

1.2 General Project Deliverables

Where deliverables and submissions include summaries, reports, drawings, specifications, plans or schedules, six (6) hard copies shall be provided plus one (1) copy shall be provided in electronic format unless otherwise specified. Unless otherwise specified, the AA will work with standard formats such as MS Word, Excel, PDF, Autocad, and MS Project.

1.3 Lines of Communication

The AA shall communicate with the CBSA Senior Project Manager. There shall be substantial direct official contact between CBSA and the AA as CBSA will remain as the technical authority.

During the P3 RFP and any follow on procurements, PWGSC conducts all correspondence with bidders as contract authority.

1.4 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 CBSA Senior Project Manager.

1.5 Meetings

The CBSA SPM shall arrange meetings bi-weekly throughout the entire project development period, for all members of project team, including but not limited to representatives from:

- Government Department(s)
- Public Works and Government Services Canada
- PPP Canada
- CBSA User community
- Others

The AA shall attend the meetings, record the issues and decisions and prepare and distribute minutes within 72 hours of the meeting. These meetings will be held within the National Capital Region (NCR) and the AA will not be additionally reimbursed for attending should the AA be based outside the NCR. Should the CBSA SPM require that meetings be held outside the NCR Treasury Board approved rates (in accordance with GC 5.12 (2) Disbursements) will apply using the NCR as the departure point.

1.6 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.

1.7 Submissions and Reviews

Phase I: Site Data Collection and Concept Design & Costing (RS1)

The deliverables in RS1 are to be provided to CBSA within approximately six (6) months (or a mutually agreed upon time period) of contract award in an agreed to format,. These deliverables will contain all the information required for RS1 and will be presented in a single, coherent document.

Phase II: Pre-Procurement / Planning (RS2)

The deliverables in RS2 include a Functional Program and a complete set of performance specifications suitable for bidder's to understand the requirements. This is to be provided to CBSA in sufficient time to allow for RFP release, but in no case less than thirty (30) days prior to the anticipated RFP release date.

Phase III: Procurement and Construction Period (RS3, RS4)

The DBFM bidders may propose very different solutions to the DBFM RFQ / RFP. These differences may generate differing demands depending on the proposals. The AA should be able to react to any proposed solutions and provide advice to the Crown which is generally captured below.

The deliverables in RS3 will focus on providing advice to the Crown or supplying information which will be provided to the proponents. All proponent questions or advice required to provide responses will be delivered within 72 hours of receipt by the AA. Complete design reviews of all prospective options will be completed within forty (40) days of receipt with written reports provided in both hard and electronic formats. Delivery times for comments during the evaluation phase will be at the discretion of the PM, and will be based on the size and complexity of the submissions received.

The deliverables in RS4 will be provided to the CBSA SPM on an agreed to schedule following determination of preferred proponent.

1.8 Official Languages

This project requires services in both official languages. Refer to sections PA 1.5, 1.6 and RS3 - Procurement of this Request for Proposal for areas of potential language support.

REQUIRED SERVICES (RS)

PHASE I: SITE DATA COLLECTION AND SCHEMATIC DESIGN & COSTING

The purpose of Phase I is to obtain all critical information surrounding each POE site, with the intent of completing design and costing in accordance PPP Canada's Schematic Design Estimate Guide (SDEG) in order to inform the development of PPP Canada's Business Case for the *Supported Program of Work*.

RS 1 Site Data Collection and Schematic Level Design & Costing

Anticipated completion of RS1 is within six (6) months following contract award, unless mutually agreed upon otherwise. The AA will be responsible for determining the validity of or the necessity for data pertaining to or allowing for:

- Environmental assessments and remediation options if required;
- Geotechnical investigations and remediation options if required;
- Hydrology and drainage studies;
- Site condition assessments including surveys of existing underground infrastructure and design options;
- Land and topographic surveys; including identification of required permanent and temporary properties;
- Review the sites which are subject to formal heritage distinction and develop appropriate management plans;
- Confirm land title status;
- Complete survey and site plan showing all existing utilities, tanks, roads, and surface features;
- Produce indicative site plans that can support cost estimates with accuracy of $\pm 15\%$, in accordance with PPP Canada's SDEG, including road realignments, utilities, and all other features of the site, for each site;
- Develop a Functional Program
- Estimate demolition costs to the $\pm 15\%$ including recycling
- Advance POE reference designs to a level that can support cost estimates with accuracy of $\pm 15\%$, in accordance with PPP Canada's SDEG;
- Develop an indicative/concept design for medium POE to a level that can support cost estimates with accuracy of $\pm 15\%$, in accordance with PPP Canada's SDEG;
- Develop an indicative design for dormitory living units to a level that can support cost estimates with accuracy of $\pm 15\%$, in accordance with PPP Canada's SDEG;
- Develop a design report which explains design assumptions if any changes are made to conceptual design;
- Identify in square meters the area to be provided to maintenance personnel.
- Establish rudimentary benchmarks for FM services over the life of the contract.
- Establish a rudimentary energy budget for each of the buildings

- Undertake all required work to inform the preferred proponent of the detailed work required to satisfy the Canadian Environment Assessment Act. Provincial Environmental Impact Assessment processes are to be addressed, where required;
- Develop a construction program and schedule to inform the financial modelling of *Supported Program of Work*;
- Participate in risk workshops, market soundings and other project-related discussions
- Cost each site individually and prepare a cost estimate for the totality.
- Site plan showing location of service entrances.

The initial deliverable will be an agreed to schedule with a comprehensive work breakdown structure which would allow for the completion of all site studies to a level identified in PPP Canada's SDEG (see Appendix E). Such investigations include, but are not limited to those noted above, and may or may not include any work required resulting from these investigations. The intent is to obtain sufficient information to allow for robust business case development and to inform potential bidders of the status of each site, not to remediate sites prior to the *Supported Program of Work*.

PHASE II: PRE-PROCUREMENT / PLANNING

Services in Phase II will be conditional upon Canada's decision to advance the Supported Program of Work. Should there be a decision to proceed beyond Phase I, services during Phase II would focus on readying the *Supported Program of Work* for procurement by advising on the technical aspects of the procurement documents, including the RFQ, the RFP, and the Project Agreement.

RS 2 Pre-Procurement

Services in this phase include refining the functional program, developing the *Supported Program of Work* Specific Operational Specifications, and translating the indicative designs into specifications for bidding. Additionally, to explore design options, analyze them against priorities and program objectives previously identified; potentially carry out services identified in Phase I.

RS 2.1 Project Specific Output Specification (PSOS)

Develop clear, measurable, and market-acceptable standards, specifications, and requirements that are ready for incorporation into the Project Agreement covering the following:

- Performance specs/output requirements (operating – security, lighting, building longevity, information technology, etc.).
- Hand back/lifecycle requirements;
- Standard specifications for applicable items;
- Maintenance schedule – efficiency requirements – key performance indicators including rudimentary energy models;
- Availability payments
- Financial modelling
- Value for Money calculations
- Risk and rate of return calculations

PHASE III: PROCUREMENT AND CONSTRUCTION PERIOD

As in Phase II, advancement to Phase III is conditional on a decision to proceed with the *Supported Program of Work*. The AA shall assume and perform the duties and responsibilities of construction contract administration and may act as the technical authority's sole technical representative.

RS 3 Procurement

Services in this phase will concentrate on arriving at a successful Preferred Proponent for the DBFM contract, obtaining the requisite Treasury Board approvals and reaching Commercial and Financial Close.

Tasks during procurement include:

- Develop responses to any design related questions during the procurement phase of this project in a timely manner.
- Provide technical advice in respect of proponent questions, including at Commercially Confidential Meetings;
- Provide technical advice in the context of discussions with private, municipal, provincial, and federal organizations;
- Provide other technical advice and assistance when needed;
- Review, discuss, and comment on designs submitted by proponents during the procurement phase; and
- Act as advisor for CBSA on matters related to the design portion of the design-build work.
- Act as advisor for CBSA on matters related to the facility maintenance portion of the design-build work.
- Act as advisor to CBSA on matters related to the financial portion of the P3 submission.

RS 4 Construction

Services in this phase will include reviewing the progress of the site specific drawings from Schematic Design through to Working Drawings, making comments and observations as to the consistency between the CBSA needs and ProjectCo bid documents.

Tasks during the Construction period include:

- Review and comment on all submissions, including architectural, mechanical, and facility maintenance for content to confirm all operational needs will be met and that all submission promises are being kept.
- Attend all user Group meetings as directed by the PM.
- Review and comment on all reports;
- Review and recommend for approval invoices of Independent Engineer;

- Assist CBSA with oversight and follow-up on the Independent Engineer contract, reports, certification and fees;
- Assist in the evaluation and integration of change requests from other stakeholders;
- Assist CBSA, and participate, when needed, in dispute resolution sessions involving the contracting authority, ProjectCo, and the Independent Engineer;
- Perform occasional spot checks audits on site, the frequency and extent of the audits to be adjusted as a function of observations and the noted deficiencies;
- Assist CBSA in the application of the payment deduction mechanism as applicable; and
- Provide technical assessment relating to the suitability of the reports, in consideration of the comments, observations, and recommendations stemming from the Independent Engineer review;
- In conjunction with the Independent Engineer; review documents relating to quality assurance and quality control processes to determine whether the proposed system of quality assurance and quality control and its application by ProjectCo, complies with the requirements of the contract and the needs of *Supported Program of Work*;
- At the request of CBSA, participate in on-site meetings, design-construction management or special technical meetings, or pre-established audit schedules, always however in keeping with the specific roles and responsibilities of the respective parties;
- Visit the work sites to verify that *Supported Program of Work* design developed or being developed is compatible with the site conditions; and
- Provide related technical advice where applicable.

ADDITIONAL SERVICES (AS)

Additional Services may be required in any order at any time by way of a formal contract amendment.

AS 1 Operational Phase Support

During the initial operational phase of the contract (years 1-5), the AA may be required to review proposals and changes pertaining to the remediated sites. These changes could be due to changes in operational imperatives or simply to confirm that the services outlined in the *Supported Program of Work* agreement are being done to a satisfactory level.

The AA team may be asked to participate in establishing reporting norms and/or participating in any benchmarking activities.

AS 2 Functional Program Review

The AA may be required to analyze, comment and report on all of the DBFM's Phase II deliverables that will be specified in the DB portion of the DBFM Performance Documents, and subsequent addendums and amendments. The AA will express a professional opinion as to whether the recommended option meets the specified functional requirements, is complete and provides the best value. In addition, the AA may be asked to update the Functional Program to include the projected end-state and the anticipated life cycle plan.

AS 3 Design Guidelines

The AA may be required to coordinate or produce a complete set of Design Guidelines for the organization incorporating *Supported Program of Work* resultant designs with those sites not included in the *Supported Program of Work* (which would include air, marine and rail design considerations).

AS 4 Building Commissioning Services

The AA may be called upon to perform Commissioning Agent activities. The Building Commissioning Services are required for all buildings and their infrastructure, but may or may not include Owner or CBSA installed equipment.