ADDENDUM 01 – REQUEST FOR PROPOSAL (RFP) – REVISION 2019-10-10

THIS PROCUREMENT CONTAINS A SECURITY REQUIREMENT

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SI1 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 construction project of a new Federal building in Shawinigan as set out in this Request for Proposal (RFP).

2. This is a single phase selection process. The nature of the requirement 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.

3. 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 offered. A combination of the technical and price of services submissions will constitute the proposal.

SI2 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 (2017-08-17), General instructions (GI) – Architectural and/or Engineering services – Request for Proposal;
   Submission Requirements and Evaluation (SRE);

   Subsection 2.b. of section GI16, Submission of proposal of R1410T, incorporated by reference above, is deleted in its entirety and replaced with the following:

   b. send its proposal only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified on page 1 of the RFP;

   (b) the general terms, conditions and clauses, as amended, identified in the Agreement clause;

   (c) Project Brief / Terms of Reference;

(d) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";

(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.

SI3 QUESTIONS OR REQUEST FOR CLARIFICATION

Questions or requests for clarification during the solicitation period must be submitted in writing to the Contracting Authority named on the RFP - Page 1 at e-mail address **michele.hivon@tpsgc-pwgsc.gc.ca** or by FAX at 514-496-3822. Enquiries should be received no later than **7 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.

SI4 CANADA'S TRADE AGREEMENTS

This procurement is subject to the provisions of the North American Free Trade Agreement (NAFTA), the World Trade Organization - Agreement on Government Procurement (WTO-AGP), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

SI5 CERTIFICATIONS

1. **Integrity Provisions – Declaration of Convicted Offences**
In accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Proponent must **provide with its bid**, **as applicable**, to be given further consideration in the procurement process, the required documentation as per R1410T (2017-08-17), General instructions 1 (GI1), Integrity Provisions – Proposal, **section 3b**.

SI6 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;

   (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) PARAGRAPH DELETED

2. For additional information on security requirements, proponents should refer to the Contract Security Program of Public Works and Government Services Canada (http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) website.

SI7 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 some of those Web sites:

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

Federal Contractors Program (FCP)
https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html

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

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

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

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

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

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

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

Canadian economic sanctions
https://www.international.gc.ca/world-monde/international_relations-relations_internationales/sanctions/index.aspx?lang=eng

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

Trade Agreements
https://buyandsell.gc.ca/policy-and-guidelines/policy-and-legal-framework/trade-agreements

SI8 OPTIONAL SITE VISIT

There will be a site visit **on October 9, 2019, at 10:00**. Interested bidders are to meet at 4695 boul. Shawinigan-Sud, Shawinigan, Québec.

Safety Attire: Safety boots are required.

Bidders are requested to communicate with the Contracting Authority two (2) days before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. Each visitor must provide identification at the reception desk and sign the visitor logbook. No further appointments will be made for proponents that will not participate in the visit or send a representative. Proponents that do not participate in the visit will still be able to submit a proposal.

SI09 MODIFICATION TO CLAUSE R1410T GI10 (2011-05-16) LICENSING REQUIREMENTS

Clause R1410T GI10 (2011-05-16) Licensing requirements, integral part of General Instructions (GI) R1410T (2017-08-17), General instructions (GI) – Architectural and/or Engineering services – Request for Proposal Request for Proposal is DELETED and REPLACED BY :

1. Consultant Team members and Key Personnel shall be, or be eligible to be licensed, certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the Province or Territory in which the project is located.
2. The Proponent's internal structure and governance must comply with provincial laws and regulations, including the *Architects Act*, CQLR c A-21
3. By virtue of submission of a proposal, the Proponent certifies that the Proponent's Consultant Team and Key Personnel are in compliance with the requirements of subsection 1 above and that the Proponent's internal structure and governance meet the requirements of paragraph 2. The Proponent acknowledges that PWGSC reserves the right to verify any information in this regard and that false or erroneous certification may result in the proposal being declared non-responsive.

SI10 INELIGIBLE PARTIES

1. As a result of their involvement in the Project, the parties named below, (the "Ineligible Parties") their employees, and any of their sub-consultant, advisors, consultants or representatives engaged in respect of this Project and any person controlled by, that controls or that is under common control with the Ineligible Parties (each an Ineligible Parties's Affiliate) are subject to the provisions of Supplementary Instructions to Proponents (SI); R1410T (2017-08-17), General instructions (GI) – Architectural and/or Engineering, services – Request for

Proposal, GI25 (2012-07-16) Conflict of interest—unfair advantage, and are not eligible to participate as a Proponent or Advisor to the Proponent.

2. The following are Ineligible Parties for this Request for Proposal process :
   1. NFOE Inc.
   2. Cim conseil
   3. EXP
   4. LCO
   5. Exim
   6. Bernard et associés
   7. Counterrisk

Additional persons, firms, or organizations may be added to or deleted from the list during any stage of the Competitive Selection Process through a solicitation amendment.

Neither Canada nor any of its employees, advisors or representatives is liable to any Proponent for any claims, whether for preparation costs of its proposal, loss of anticipated profit, loss of opportunity or any other matter whatsoever, for any use or reliance on this list, or use or inclusion of Ineligible Parties in any poposal.

3. Proponents are advised that the Consultant selected at the conclusion of this Request for Proposal may be precluded from participating in other new Federal building in Shawinigan project solicitation.

SI11 USE OR INCLUSION OF INELIGIBLE PARTIES

Each Proponent is responsible for ensuring that neither the Proponent nor any member of the Proponent Team or any of their respective Representatives uses, consults or seeks advice from any Ineligible Party or any employee or Representative of an Ineligible Party, or includes any Ineligible Party in the Proposal.

Canada may, at its discretion, disqualify a Proponent or impose such conditions on the Proponent’s continued participation in this Request for Proposal process as Canada may consider to be in the public interest or otherwise appropriate, if the Proponent uses or includes an Ineligible Party:

(a) to advise or otherwise assist the Proponent in connection with the Proponent's participation in this Request for Proposal process, including in connection with the Bidder's preparation of its Proposal; or

(b) as an employee, advisor or consultant to the Proponent.

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 (2018-06-21), General Condition (GC) 1 - General Provisions – Architectural and/or Engineering Services
   R1215D (2016-01-28), General Condition (GC) 2 - Administration of the Contract – Architectural and/or Engineering Services
   R1220D (2015-02-25), General Condition (GC) 3 - Consultant Services
   R1225D (2015-04-01), General Condition (GC) 4 - Intellectual Property
   R1230D (2018-06-21), General Condition (GC) 5 - Terms of Payment – Architectural and/or Engineering Services
   R1235D (2011-05-16), General Condition (GC) 6 - Changes
   R1240D (2018-06-21), General Condition (GC) 7 - Taking the Services Out of the Consultant's Hands, Suspension or Termination
   R1245D (2016-01-28), General Condition (GC) 8 - Dispute Resolution – Architectural and/or Engineering Services
   R1250D (2017-11-28), General Condition (GC) 9 - Indemnification and Insurance
   Supplementary Conditions
   Agreement Particulars
   (c) Project Brief / Terms of Reference;
   (d) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
   (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 “Doing Business with PWGSC Documentation and Deliverables Manual”;
   (i) the document entitled “Security Requirement Check List”;
   (j) the proposal.

SUPPLEMENTARY CONDITIONS (SC)

SC1 SECURITY REQUIREMENT

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

SECURITY REQUIREMENT FOR CANADIAN SUPPLIER:
PWGSC FILE No. EE474-200697

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Contract Security Program (CSP) of the Industrial Security Sector (ISS), Public Works and Government Services (PWGSC**)**.

2. The Contractor/Offeror personnel requiring access to PROTECTED information, assets or sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by the CSP/ISS/**PWGSC**. Until the security screening of the Contractor personnel required by this Contract has been completed satisfactorily by the CSP/ISS/PWGSC, the Contractor/ personnel **MAY NOT HAVE ACCESS to PROTECTED** information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

3. The Contractor/Offeror **MUST NOT remove any PROTECTED** information or assets from the identified work site(s), and the Contractor/Offeror 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 the CSP/ISS/**PWGSC**.

5. The Contractor/Offeror must comply with the provisions of the:

    a) Security Requirements Check List and security guide (if applicable), attached at Annex 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.

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. Direct communications with other stakeholders and partners should be in the official language of choice of these stakeholders. Meetings including the contractor, other stakeholders and partners will be conducted in French.

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

6. 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 PERIOD OF CONTRACT

The Consultant shall perform the complete services described in the Project Brief / Terms of reference by March 31, 2026.

SC4 HOUYRLY RATES ESCALATION BASED ON CONSUMER PRICE INDEX (CPI)

1. Starting with Contract year three (3), the firm hourly rates identified in Price Proposal Form (Appendix C) - will be adjusted annually on the start date of each new Contract year based on the annual average percentage increase (decrease) in the monthly index of the Consumer Price Index for Canada, All-Items (Not Seasonally Adjusted), published by Statistics Canada for the Province of Quebec, for the 12-month (see example below) period ending three (3) months prior to the new Contract year start date.

   For example, if the contract start date was April 10, 2017 then at the start of Contract year three (3) (i.e. April 10, 2019), the Contract year one (1) hourly rates would be increased by 1.3% based on the following assumptions:

	% Change in index of the Consumer Price Index for Canada,All-Items (Not Seasonally Adjusted), published by Statistics Canada for the Province of Quebec
February 2018	1.1%
March 2018	1.2%
April 2018	0.9%
May 2018	0.9%
June 2018	1.1%
July 2018	1.0%
August 2018	1.4%
September 2018	1.6%
October 2018	1.6%
November 2018	1.7%
December 2018	1.5%
January 2019	1.7%
Average :	15.7% / 12 (mois) = 1.3%

For clarity purposes, the adjustment of the firm hourly rates for the fourth contract year and the following contract years will be determined based on the adjusted firm hourly rates used during the previous contract year. For example, for the fifth contract year, the adjustment of the firm hourly rates will be based on the adjusted firm hourly rates used during the fourth contract year.

2. Canada will make the adjustment, in accordance with paragraph 1, effective on the anniversary date of the applicable contract, and will send a notice to the Contractor indicating the percentage adjustment of the firm daily rates prior to the Contract anniversary date.

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.

I. Prime Consultant (Architecture):

Firm or Joint Venture name: .....
.....
.....

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

.....
.....
.....
.....

II. Key Sub Consultants / Specialists:

Mechanical Engineering
Firm name: .....
.....
.....

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

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.....
.....
.....

Electrical Engineering
Firm name: .....
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.....

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

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Structural Engineering
Firm name: .....
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Key Individuals and provincial professional licensing status and/or professional accreditation:

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.....

Civil Engineering
Firm name: .....
.....
.....

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

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Interior Design
Firm name: .....
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.....

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

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.....
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.....

BIM/MDB
Firm name: .....
.....
.....

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

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LEED
Firm name: .....
.....
.....

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

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.....

APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title:

Name of Proponent:

Street Address: **Mailing Address:**

Telephone Number: ( )

Fax Number: ( )

E-Mail:

Procurement Business Number:

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

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

Federal Contractors Program for Employment Equity - Certification

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

For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC)-Labour's website.

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

Complete both A and B.

A. Check only one of the following:

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

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

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

( ) A4. The Proponent certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

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

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

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

OR

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

B. Check only one of the following:

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

OR

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

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

Former Public Servant (FPS) - Certification

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

Definitions

For the purposes of this clause,

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

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

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

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

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

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Proponent a FPS in receipt of a pension?
YES ( ) NO ( )

If so, the Proponent must provide the following information, for all FPS in receipt of a pension, as applicable:

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

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

Work Force Adjustment Directive

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

If so, the Proponent must provide the following information:

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

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

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

Name of Proponent:

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

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

During proposal evaluation period, 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.

APPENDIX C - PRICE PROPOSAL FORM

INSTRUCTIONS: Complete this Price Proposal Form and submit it 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.

PROPONENTS MUST NOT ALTER THIS FORM.

Project Title:

Name of Proponent:

The following will form part of the evaluation process:

A- REQUIRED SERVICES (RS)

Percentage fees for RS1 to RS6 (R1230D [2018-06-21], GC 5 – Terms of Payment – Architectural and/or Engineering Services)

The percentage attributed to required services (RS1 to RS6) must include travel expenses and travel time for all resources attending meetings, visits, inspections, etc., in Shawnigan and/or Quebec City. See clause R1230D GC 5.12 (Disbursements).

Firm percentage fee _____%

Indicative total cost estimate of the construction work used in the calculation of the percentage fees):

Indicative total cost estimate of the construction work (excluding applicable taxes):	$106 000 000	
Indicative estimate of the other costs stipulated in the Construction Manager's contract and applicable to the calculation of the total construction cost, namely, the Construction Manager's percent construction fee, the costs related to the Construction Manager's bonds and insurance, and the Construction Manager's permit costs (excluding applicable taxes):	+ $6 000 000	
Indicative total cost estimate of the construction work used in the calculation of the percentage fees:	= $112 000 000	**x $112 000 000**

TOTAL PERCENTAGE FEES: **$_____**

The actual percentage fee for Required Services will recognize the variability of the Construction Cost Estimate as the project develops (refer to formula specified in GC 5.2 Fee Arrangement[s] for Services). Fees will be paid in accordance with the provisions of section GC 5.4 Payments for Services.

Fixed Fee (R1230D [2018-06-21], GC 5 – Terms of Payment – Architectural and/or Engineering Services)

Fixed fees attributed to additional services RS7 to RS11must include travel expenses and travel time for all resources attending meetings, visits, inspections, etc., in Shawnigan and/or Quebec City. See clause R1230D GC 5.12 (Disbursements).

SERVICES	**FIXED FEES**
RS7 – Risk Management	$.....
RS8 – Enhanced Commissioning of the Facility	$.....
RS9 – Cost Estimating and Planning	$.....
RS10 – Schedule Planning, Sequencing and Control	$.....
RS11 – Sustainable Development	$.....
TOTAL FIXED FEES	$.....

B- ADDITIONAL SERVICES (AS)

Fixed Fee (R1230D [2018-06-21], GC 5 – Terms of Payment – Architectural and/or Engineering Services)

Fixed fees attributed to additional services AS1, AS4, AS5 and AS6 must include travel expenses and travel time for all resources attending meetings, visits, inspections, etc., in Shawnigan and/or Quebec City. See clause R1230D GC 5.12 (Disbursements).

SERVICES	**FIXED FEES**
AS1 – Bilingual construction documents	$.....
AS4 – Food services	$.....
AS5 – Building Information Modelling (BIM-MDB)	$.....
AS6 – Integrated Design Process (IDP)	$.....
TOTAL FIXED FEES	$.....

Time Based Fees (R1230D [2018-06-21], GC 5 – Terms of Payment – Architectural and/or Engineering Services) for AS2 and AS3.

For each resource identified in the table of Time Based Fees:
Note 1: Senior means at least 10 years of experience
Note 2: Intermediate means at least 5 years of experience
Note 3: Junior means at least 3 years of experience

AS2 – Enhanced site supervision services (Services whose necessity is to be determined according to the complexity of work underway)	PLANNED HOURS* Column A	HOURLY RATE** Column B	TIME BASED FEE Columns AxB
Intermediate architect note 1	650	$.....	$.....
Intermediate structural engineer note 1	1,000	$.....	$.....
Intermediate mechanical engineer note 1	900	$.....	$.....
Intermediate electrical engineer note 1	900	$.....	$.....
Intermediate civil engineer note 1	1,000	$.....	$.....
Industrial hygiene specialist note 2	450	$.....	$.....
MAXIMUM TIME BASED FEES FOR AS2			$.....

AS3 – Interior design services (preparing furniture procurement packages, signage and relocation) **3.1) Supply arrangement (SA) furniture**	PLANNED HOURS* Column A	HOURLY RATE** Column B	TIME BASED FEE Columns AxB
Senior designer note 1	370	$.....	$.....
Intermediate designer note 2	2,400	$.....	$.....
Junior designer note 3	1,850	$.....	$.....
MAXIMUM TIME BASED FEES FOR AS3.1 (SA furniture)			$.....

AS3 – Interior design services (preparing furniture procurement packages, signage and relocation) **3.2) Non-SA furniture**	PLANNED HOURS* Column A	HOURLY RATE** Column B	TIME BASED FEE Columns AxB
Senior designer note 1	30	$.....	$.....
Intermediate designer note 2	200	$.....	$.....
Junior designer note 3	150	$.....	$.....
MAXIMUM TIME BASED FEES FOR AS3.2 (non-SA furniture)			$.....
AS3 – Interior design services (preparing furniture procurement packages, signage and relocation) **3.3) Signage**	PLANNED HOURS* Column A	HOURLY RATE** Column B	TIME BASED FEE Columns AxB
Senior designer note 1	40	$.....	$.....
Intermediate designer note 2	600	$.....	$.....
Junior designer note 3	660	$.....	$.....
MAXIMUM TIME BASED FEES FOR AS3.3 (signage)			$.....
SA3 – Interior design services (preparing furniture procurement packages, signage and relocation) **3.4) Relocation**	PLANNED HOURS* Column A	HOURLY RATE** Column B	TIME BASED FEE Columns AxB
Senior designer note 1	50	$.....	$.....
Intermediate designer note 2	300	$.....	$.....
Junior designer note 3	300	$.....	$.....
MAXIMUM TIME BASED FEES FOR AS3.4 (relocation)			$.....
MAXIMUM TIME BASED FEES FOR AS3 (TOTAL)			$.....

MAXIMUM TIME BASED FEES (AS2 + AS3) $.....

*Payment will be based on actual hours spent. Travel time and/or expenses will not be reimbursed separately (See R1230D [2018-06-21], GC 5.12 – Disbursements).

** Hourly rate is applicable to both normal working hours and any other shift work as required.

Hourly rates are revised in accordance with clause SC4 HOURLY RATES ESCALATION BASED ON CONSUMER PRICE INDEX (CPI).

C- OPTIONAL SERVICES

Fixed fees attributed to optional services AS7 and AS8 must include travel expenses and travel time for all resources attending meetings, visits, inspections, etc., in Shawnigan and/or Quebec City. See clause R1230D GC 5.12 (Disbursements).

SERVICES	**FIXED FEES**
AS7 – Wind and snow study	$.....
AS8 – Code study	$.....
TOTAL FIXED FEES (AS7 + AS8)	$.....

TOTAL COST OF SERVICES FOR PROPOSAL EVALUATION PURPOSES

A- REQUIRED SERVICES (RS):

- Percentage fees (RS1 to RS6): $_____
- Fixed fees (RS7 to RS11): $_____

B- ADDITIONAL SERVICES (AS)

- Fixed fees (AS1, AS4, AS5, AS6): $_____
- Time based fees (AS2 and AS3): $_____

C- OPTIONAL SERVICES :

- Fixed fees (AS7 and AS8): $_____

TOTAL ASSESSED FEES (FOR REQUIRED SERVICES, ADDITIONAL SERVICES AND OPTIONAL SERVICES) $_____

APPENDIX C – PRICE PROPOSAL FORM (CONT'D)

The following will NOT form part of the evaluation process

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 (2018-06-21), GC 5 – Terms of Payment – Architectural and/or Engineering Services, section GC 5.12 Disbursements:

Laboratories

• Civil laboratory	$50,000.00
• Structural laboratory	$20,000.00
• Roofing laboratory	$35,000.00
• Contaminated soil laboratory	$10,000.00
• Industrial hygiene laboratory	$30,000.00
• Other laboratories (e.g. envelope leak tests)	$80,000.00
Other Disbursements	$25,000.00
MAXIMUM AMOUNT FOR DISBURSEMENTS	**$250,000.00**

END OF PRICE PROPOSAL FORM

APPENDIX D - DOING BUSINESS WITH PWGSC DOCUMENTATION AND DELIVERABLES MANUAL

Out of pagination – The document is found in the following pages.

APPENDIX E - SECURITY REQUIREMENTS CHECK LIST

Out of pagination – The document is found in the following pages.

SUBMISSION REQUIREMENTS AND EVALUATION

SRE 1 General Information
SRE 2 Proposal Requirements
SRE 3 Submission Requirements and Evaluation
SRE 4 Price of Services
SRE 5 Total Score
SRE 6 Submission Requirements – Checklist

SUBMISSION REQUIREMENTS AND EVALUATION

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An Overview of the Selection Procedure can be found in R1410T GI3 (2015-03-25) Overview of selection procedure (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 by the proponent when preparing the proposal:

- Submit one (1) bound original plus five (5) bound copies of the proposal
- Page size should be 216 mm x 279 mm (8.5" x 11")
- Font size: 11 point Times New Roman or equal
- Margins: 12 mm left, right, top, and bottom
- Double-sided submissions are preferred.
- A “page” means one side of a sheet of paper 216mm x 279mm (8.5" x 11").
- 279 mm x 432 mm (11" x 17") fold-out sheets (single sided) 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 answers to the Rated Requirements under SRE 3.2 is thirty (30) pages. With respect to SRE 3.2.3, submit a maximum one (1) page per résumé, for a total of nineteen (19) pages.

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

- Covering letter
- Consultant Team Identification (Appendix A)
- Declaration/Certifications Form (Appendix B)
- Integrity Provisions – Required Documentation
- Front page of the RFP

- Front page of revision(s) to the RFP
- Price Proposal Form (Appendix C)

Consequence of non-compliance: Any pages that extend beyond the above page limitation and any other attachments will be removed from the proposal and will not be forwarded to the PWGSC Evaluation Board members for evaluation.

SRE 3 SUBMISSION REQUIREMENTS AND EVALUATION

3.1 MANDATORY REQUIREMENTS

To be considered responsive, a proposal must meet all of the mandatory requirements set out in the RFP. No further consideration in the selection procedure will be given to a Proponent submitting a non-responsive proposal.

3.1.1 Price Proposal Form (Appendix C)

Proponsants must complete ans submit Appendix C – Price Proposal Form.

3.1.2 Consultant Team identification

Proponents must complete and submit Appendix A. The Appendix A form could be amended as required, as long as the members of the consultant's team are identified

The consultant team members to be identified at Appendix A are the following:

Proponent (prime consultant)
Architecture

Key sub-consultants / specialists
Mechanical engineering
Electrical engineering
Structural engineering
Civil engineering
Interior design
BIM
LEED

If the proponent intends to provide multidisciplinary services that might normally be provided by a sub-consultant, he must indicate it here.

Information required: name of the firm and Key Personnel to be assigned to the project realization. In regards to the prime consultant, indicate current licences, certifications or authorizations and/or how his/she intends to meet the provincial or territorial licensing requirements. In the case of a joint venture, identify the existing or proposed legal form

of the joint venture (refer to R1410T General Instructions to Proponents**,** GI9 Limitation of Submissions).

3.1.3 Declaration/Certifications form

Proponents must complete, sign and submit the following:
Appendix B, Declaration/Certifications Form as required.

3.1.4 Integrity provisions – Required documentation

In accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Proponent must provide, **if necessary**, in order that his submission is not rejected from the procurement process, the required documentation as per R1410T (2017-08-17), General Instructions 1 (GI1), Integrity Provisions – Proposal**, section 3a**.

3.2 RATING REQUIREMENTS

3.2.1 Proponent's achievements in projects

Describe the Proponent's achievements and experience as prime consultant on projects.

The Proponent must submit two complex construction projects for a new institutional or private building and have completed at least 75% of the total value of the construction cost. An unsubmitted project or a project that does not meet the statement of the previous phrase will receive a score of 0 (zero).

For each project:
The total value of the construction cost should be at least $50M (taxes excluded).
The projects must have been initiated (design phase) in the last 10 years.

Proposals submitted by a joint venture must not exceed the maximum number of projects. If the number of projects submitted in the proposal in response to this criterion exceeds the limit of two projects, projects will be evaluated in the order in which they are submitted, and projects submitted beyond the first two will not be considered, as if they had not been submitted.

The Proponent should demonstrate its experience and achievements in complex projects by providing information with respect to each of the criteria below:

- Includes primary and majority responsibility for the implementation of a project delivery model based on a construction management method or integrated design process (IDP) where clients, the client, the Consultant and the Contractor work together on the project in several phases.
- Sustainable building design with environmental certification (e.g. LEED, WELL, Zero Carbon).
- Management and control of budget and project schedule, including the methods used and actions taken to comply with the overall budget and project schedule

across different work packages established using the construction management method.
- Work that includes business information modelling (BIM).
- Delivery in a government or public context (e.g. numerous approval bodies, ministerial or equivalent approval).
- Awards of excellence and industry/peer recognition, including industry or professional publications, and awards for innovation, design quality or energy efficiency.

Information that should be provided for each submitted project:
- Title and location of project.
- Total construction cost (excluding taxes).
- The execution period, which specifies that the design phase was initiated within the last 10 years and that the construction phase has been completed or at least 75% of the total value of the contruction cost has been completed.
- Names of key personnel responsible for project delivery.
- For projects completed under a joint venture, indicate the level of responsibility (as a percentage) of each component entity of the joint venture in each project.
- Client references - name, address and phone numbers of clients whose names are provided as references in respect of work performance – references may be checked.
- The narrative demonstration of experience and achievements related to the project and complexity, including a discussion of the Proponent's approach and methodology to achieve and uphold the expected outcomes:
    - Construction management method or Integrated Design Process (IDP).
    - The initial construction estimate and the final construction cost, with a detailed explanation of any variances, if applicable, including the methods used and actions taken to comply with the overall budget across different work packages established using the construction management method.
    - The original project schedule and the date of completion, and the actual completion date, with a detailed explanation of any variances, including the methods used and actions taken to comply with the project schedule across different work packages established using the construction management method.
    - Design of a sustainable building with environmental certification.
    - Building Information Modeling (BIM).
    - Achievement in a governmental or public context.
    - Awards of excellence and industry/peer recognition.

3.2.2 Achievements of key sub-consultants and specialists in projects

Describe the achievements and experience of key sub-consultants and specialists as prime consultant or sub-consultant on projects.
The Proponent must submit two complex construction projects for a new institutional or private building for each of the following key sub-consultants / specialists:

- Mechanical engineering
- Electrical engineering
- Structural engineering
- Civil engineering

A project that is not submitted will receive a score of 0 (zero).

For each project:
The total cost of the construction work is expected to be at least $50M (excluding taxes). Projects should have been initiated (design phase) within the last 10 years and should be completed (interim certificate of completion) or at least 75% of the total value of the construction cost must have been completed by the date of submission of the Proponent's proposal.

The Proponent must submit two complex construction projects for a new institutional or private building for each of the following key sub-consultants / specialists:
- Mechanical engineering
- Electrical engineering
- Structural engineering
- Civil engineering

A project that is not submitted will receive a score of 0 (zero).

For each project:
The total cost of the construction work is expected to be at least $50 million (excluding taxes).
Projects should have been initiated (design phase) within the last 10 years and should be completed (interim certificate of completion) or at least 50% of the total value of the construction cost must have been completed by the date of submission of the Proponent's proposal.

The proposals submitted for each sub-consultant/specialist must not exceed the maximum number of projects. If the number of projects submitted in the proposal in response to this criterion exceeds the limit of two projects, projects will be evaluated in the order in which they are submitted, and projects submitted beyond the first two will not be considered, as if they had not been submitted. If the same sub-consultant covers more than one specialization, they must present two projects per specialty.

The Proponent shall demonstrate the experience and achievements of the sub-consultants and specialists in relation to complex projects by providing information on each criteria listed below:

- Includes responsibility for a construction management or Integrated Design Process (IDP) project delivery model where the clients, client, consultant and contractor work together to complete the project in several phases.

- Sustainable building design with environmental certification (e.g. LEED, WELL, Zero Carbon).
- Management and control of budget and project schedule, including the methods used and actions taken to comply with the overall budget and project schedule across different work packages established using the construction management method.
- Work that includes Business Information Modelling (BIM);
- Completion in a government or public context (e.g. numerous approval bodies, ministerial or equivalent approval).
- Awards of excellence and industry/peer recognition, including industry or professional publications, and awards for innovation, design quality or energy efficiency.

Information to be supplied for each project submitted

- Project title and location.
- Total construction cost (excluding taxes).
- The execution period, which specifies that the design phase was initiated within the last 10 years and that the construction phase has been completed (interim certificate of completion) or at least 75% of the total value of the contruction cost has been completed.
- Names of Key Personnel responsible for project delivery.
- For projects completed under a joint venture, indicate the level of responsibility (as a percentage) of each component entity of the joint venture in each project.
- Client references – names, addresses and telephone numbers of client contacts at working level (references may be checked).
- Demonstration in narrative form of experience and achievements in the specialty submitted in relation to the project and its complexity, including a discussion on the Proponent's approach and methodology in achieving and meeting the intended outcome.
    - Construction management method or Integrated Design Process (IDP).
    - The initial construction estimate and the final construction cost, with a detailed explanation of any variances, if applicable, including the methods used and actions taken to comply with the overall budget across different work packages established using the construction management method.
    - The original project schedule and the date of completion, and the actual completion date, with a detailed explanation of any variances, including the methods used and actions taken to comply with the project schedule across different work packages established using the construction management method.
    - Sustainable building design with environmental certification.
    - Business Information Modeling (BIM).
    - Completion in a government or public context.
    - Award of excellence and industry/peer recognition

3.2.3 Achievements of Key Personnel in previous projects

Describe the experience, expertise and performance of key personnel proposed to provide the services described in the Project Brief (Project Administration (PA), Project Description (PD), Description of Services – Required Services (RS) and Description of Services – Additional Services (AS)).This is the opportunity to emphasize the strengths of the individuals on the team and to recognize their past responsibilities, commitments and achievements, regardless of their past association with the Proponent firm.

Experience has shown that for the purposes of developing a major project, proponents will designate one project leader for the planning/design phases and one for the completion/implementation (or construction) phase. This is especially relevant for a project using a construction management method, in which the project is completed in several work packages and involves overlap in the planning/design and completion/implementation phase times, across the different packages.
The Proponent must therefore submit one project leader for the planning/design phase and a different project leader for the completion/implementation phase for the Key Personnel in the following disciplines:

- Architecture
- Mechanical engineering
- Electrical engineering
- Structural engineering
- Civil engineering

The Key Personnel is:

Discipline:	Key individuals:
Proponent:	Principle in charge / Project Manager
Architecture:	Lead Architect
	Architect, Project Leader, Planning/Design Phase
	Architect, Project Leader, Completion/Implementation Phase
Mechanical engineering:	Lead Mechanical Engineer
	Engineer , Project Leader, Planning/Design Phase
	Engineer , Project Leader, Completion/Implementation Phase
Electrical engineering:	Lead Electrical Engineer
	Engineer, Project Leader, Planning/Design Phase
	Engineer, Project Leader, Completion/Implementation Phase
Structural engineering:	Lead Structural Engineer
	Engineer, Project Leader, Planning/Design Phase
	Engineer, Project Leader, Completion/Implementation Phase
Civil engineering:	Lead Civil Engineer
	Engineer, Project Leader, Planning/Design Phase
	Engineer, Project Leader, Completion/Implementation Phase
Interior Design:	Lead Designer
BIM:	Lead BIM Manager (Additional Services AS5)
LEED / sustainable development:	LEED / Sustainable Development Specialist

This criterion assesses the professional accreditation, knowledge, past experience, expertise and completeness of skill sets of the Key Discipline Individuals working together to carry out the services referenced in the Project Brief.

For each Key Discipline Individual (19 in total), information must be presented in the form of a tailored résumé that clearly demonstrates the expertise of that individual. There must be no overlap or duplication of Key Discipline Individual function. Submit a maximum of two (2) pages per résumé for a total of thirty-eight (38) pages.

Résumés should demonstrate that the Proponent's proposed Key Individuals have the capability, expertise and relevant past experience to provide the required services and deliverables based on their proposed roles.

A maximum of 19 pages is acceptable for the 19 résumés (one page per résumé).

Information that should be submitted for each key person:

a) Name of resource, proposed role within the Proponent's team (in the list of key people).
b) Degree of participation for the proposed role.
c) Professional qualification(s) and/or professional association/order, including the year registered.
d) Diploma(s) and field(s) of specialization.
e) Number of certified LEED projects completed.
f) Number of BIM/MDB projects completed.
g) Accomplishments/achievements/awards in the discipline.
h) Demonstration of experience in a relevant discipline or specialty, including total number of years of experience, total number of years in the role for which the Proponent is proposing the key person, and number of years of experience in the company. In addition :
    a. Lead person/project manager: This key person will act as the Proponent's representative. The lead person/project manager must demonstrate that he or she has relevant and recent experience (within the last 10 years) as a lead person/project manager for all phases of complex projects with a construction value of at least $50M. This person must demonstrate that he or she has the knowledge and skills to be able to develop, approve and coordinate work plans to reach objectives in terms of cost, quality and the project schedule.
    b. Senior architect, senior discipline engineers and architecture and engineering project managers: These people must demonstrate that they have relevant and recent experience (within the last 10 years) in their field and in the proposed role for institutional or private building construction projects that include a sustainable development component and whose construction value was no less than $50M.The Proponent should show that these key people have the ability to work in an integrated design process and multidisciplinary project team, which requires increased coordination over the course of the project. The

Proponent should also show that the senior architects and senior discipline engineers have the ability to manage and coordinate a discipline team and to allocate, over the course of the project, the necessary resources to achieve the project's objectives and provide the services required.

c. Lead designer: The lead designer must demonstrate that he or she has relevant and recent experience (within the last 15 years) in the creation or re-fit of office space in institutional or private building construction projects of a minimum size of 20,000 m^2 that include a sustainable development component.

d. Lead BIM/MBD manager (in reference to Additional Service AS5): The Lead BIM manager must demonstrate that he or she has at least 10 years of recent experience in the field of consulting in the construction industry, including experience over the past five years as BIM manager for institutional building construction projects.

e. LEED/sustainable development specialist: This key person must demonstrate that he or she has relevant and recent experience (within the last 10 years) in coordinating and monitoring LEED activities leading to accreditation for major projects. The LEED specialist must have LEED AP NC accreditation.

i) A substantiation of experience in a similar role by referencing at least two (2) reference projects undertaken in the last fifteen (15) years, including general project description, specific responsibility and degree of involvement of the individual in the reference project submitted by the Proponent, and similarities with the present project in terms of:

- implementation based on the construction management method or integrated design process (IDP) where clients, employer, consultants and contractor work together to carry out the project in multiple phases;
- major sustainable development component;
- integration of Building Information Modeling (BIM);
- government or public context (e.g. numerous approval bodies, ministerial or equivalent approval);
- management and control of budget and project schedule, including the methods used and actions taken to comply with the overall budget and project schedule across different work packages established using a construction management method.

In addition,

a. The projects presented for the lead person / project manager, for the senior architect and senior discipline engineers, and for the architecture and engineering project managers should have a value of at least $50 million.

b. The projects presented for the lead designer should be projects that involved designing an office building with a gross area of at least 20,000 m2, with services that include design and supervision of the

design team, and the selection of furniture and the supervision of its installation.

c. The projects carried out by the LEED specialist must have LEED NC Silver certification at a minimum.

j) For each project given as a reference, the description should be sufficiently detailed and specific to show the relevance and to establish direct links with the services indicated in the project brief.

The description must include an overview of the design philosophy and design objective, sustainability considerations, and specific challenges and solutions to overcome them.

k) Moreover, for each project given as a reference, the following should be indicated:

a. The project's title and address
b. The client's contact information (name, contact person, telephone number and email address)
c. The project's start and end dates and the project's completion date

3.2.4 Understanding of the Project

The proponent should demonstrate his/her understanding of the project goals, functional and technical requirements, and constraints and issues that will shape the end product.

Information that should be provided:

- Interpretation of the functional and technical requirements, including the interrelationship between various project components;
- Broader goals (federal image, sustainable development, sensitivities);
- Significant issues, risks, challenges and constraints;
- Project schedule and cost. Review schedule and cost information and assess risk management elements that may affect the project;
- Client user's philosophies and values;
- Demonstration an understanding of project implementation strategy;
- Demonstration an understanding of project stakeholders (description of duties and responsibilities, and organization chart).

3.2.5 Scope of services

The proponent should demonstrate his/her ability to provide the services, tackle project challenges and provide a plan of action.

Information that should be provided:

- Scope of Services: a detailed list of services that the proponent must deliver;
- Work Plan: a detailed breakdown of tasks and deliverables for each discipline/ Key Personnel;
- Quality control and assurance;
- Project schedule: calendrier proposé d'exécution des principaux services depuis l'octroi du contrat du proposant jusqu'à la fin du projet, à des étapes déterminées, y compris le calendrier de préparation des plans et devis, including the tender and construction schedule reflecting the construction management approach;

- Project cost-management strategy reflecting the construction management approach and methodology proposed in order to comply with the overall construction budget;
- Risk management strategy associated with the services to be provided, including available resources, compliance with schedules, compliance with the budget, service continuity, and fulfilment of duties and responsibilities.

3.2.6 Management of services

The Proponent should describe:

- how he /she proposes to perform the services and deal with constraints;
- how he/she intends to ensure compliance with the project schedule and budget;
- how the services will be managed to ensure continuing and consistent control as well as production and communication efficiency;
- how the team will be organized and how it will fit in the existing structure of the firms;
- how the team will be managed.

The proponent must also identify sub-consultants and all specialists required to complete the Prime consultant team.

Information that should be supplied:

- Confirm the makeup of the full project team, including the names of the consultant, sub-consultants and specialists and their role in the project;
- Organization chart with position incumbents' titles and names (Prime consultant team), and joint venture business plan, team members and responsibilities, if applicable;
- Planned backup to be provided;
- Profiles of the key positions (specific assignments and responsibilities);
- Outline of an action plan for the services, along with implementation strategies and sequence of main activities;
- Communication strategies - lines of communication and reporting structure within the Proponent's team and with PSPC and the Construction Manager;
- Response time: Demonstrate how the response time requirements will be met.

3.2.7 Design philosophy, approach and methodology

The proponent should elaborate on aspects of the project considered to be a major challenge which will illustrate the Proponent's design philosophy, approach and methodology. This is an opportunity for the Proponent to state the team's overall design philosophy and its approach to resolving design issues and, in particular, to provide detailed explanations of unique aspects of the current project.

Information that should be provided:

- Design philosophy, approach and methodology;
- Describe the major challenges and how your team approach will be applied to those particular challenges;

- Describe the team’s vision in terms of program response and promotion of sustainable development (LEED approach, WELL, Zero Carbon, etc.).

3.3 EVALUATION AND RATING

First, the price envelopes will remain sealed and only the technical components of the proposals that are responsive will be reviewed, evaluated and rated by a PWGSC Evaluation Board in accordance with the following to establish the technical ratings:

Criteria	Weight factor	Weight factor	Weighted rating
3.2.1 Proponent's achievements (TOTAL 0-10)			
- Project 1	0,5	0 – 10	0 – 5
- Project 2	0,5	0 – 10	0 – 5
3.2.2 Achievements of key sub-consultants and specialists			
- Mechanical engineering project 1	0,25	0 – 10	0 – 2.5
- Mechanical engineering project 2	0,25	0 – 10	0 – 2.5
- Electrical engineering project 1	0,25	0 – 10	0 – 2.5
- Electrical engineering project 2	0,25	0 – 10	0 – 2.5
- Structural engineering project 1	0,25	0 – 10	0 – 2.5
- Structural engineering project 2	0,25	0 – 10	0 – 2.5
- Civil engineering project 1	0,25	0 – 10	0 – 2.5
- Civil engineering project 2	0,25	0 – 10	0 – 2.5

3.2.3 Achievements of key personnel (TOTAL 0 – 25)			
- Proponent:			
Lead person / project manager	0, 10	0 – 10	0 – 1.0
- Architecture:			
Senior architect	0,20	0 – 10	0 – 2.0
Architect, project leader, planning phase	0,20	0 – 10	0 – 2.0
Architect, project leader, implementation phase	0,20	0 – 10	0 – 2.0
- Mechanical engineering:			
Senior engineer	0,15	0 – 10	0 – 1.5
Engineer, project leader, planning phase	0,15	0 – 10	0 – 1.5
Engineer, project leader, implementation phase	0,15	0 – 10	0 – 1.5
- Electrical engineering:			
Senior engineer	0,10	0 – 10	0 – 1.0
Engineer, project leader, planning phase	0,10	0 – 10	0 – 1.0
Engineer, project leader, implementation phase	0,10	0 – 10	0 – 1.0
- Structural engineering:			
Senior engineer	0,10	0 – 10	0 – 1.0
Engineer, project leader, planning phase	0,10	0 – 10	0 – 1.0
Engineer, project leader, implementation phase	0,10	0 – 10	0 – 1.0
- Civil engineering:			
Senior engineer	0,10	0 – 10	0 – 1.0
Engineer, project leader, planning phase	0,10	0 – 10	0 – 1.0
Engineer, project leader, implementation phase	0,10	0 – 10	0 – 1.0
- BIM/MDB:			
Lead BIM/MDB manager	0,15	0 – 10	0 – 1.5
- LEED:			
LEED/sustainable development specialist	0,15	0 – 10	0 – 1.5
- Interior design:			
Lead designer	0,15	0 – 10	0 – 1.5
3.2.4 Understanding of the project (TOTAL 0-10)	1,0	0 - 10	0 – 10
3.2.5 Scope of services (TOTAL 0-10)	1,0	0 - 10	0 – 10
3.2.6 Management of services (TOTAL 0-15)	1,5	0 - 10	0 – 15
3.2.7 Design philosophy, approach and methodology (TOTAL 0-10)	1,0	0 - 10	0 – 10
Technical rating			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 that could be evaluated	Has little or no 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 does not have 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
	Proposed team is likely unable 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

	Previous projects unrelated to this requirement	Previous projects generally unrelated to this requirement	Previous projects generally related to this requirement	Previous projects directly related to this requirement	Leads in previous projects directly related to this requirement
	Extremely poor; insufficient to meet performance requirements	Little likelihood of meeting performance requirements	Acceptable capability; should ensure adequate results	Satisfactory capability; should ensure effective results	Superior capability; should ensure very effective results

To be given further consideration, proponents **must** achieve a minimum Technical Rating of fifty (50) 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 fifty (50) points.

SRE 4 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals that have achieved the pass mark of fifty (50) points will be opened upon completion of the technical evaluation. When there are three or more responsive proposals, an average price is determined by adding all the price proposals together and dividing the total by the number of price proposals opened. This calculation will not be carried out if one or two responsive proposals are received.

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

The remaining price proposals will be rated as follows:

A The lowest price proposal will receive a price rating of 100

B The second, third, fourth and fifth lowest prices will receive price ratings of 80, 60, 40, and 20, respectively. All other price proposals will receive a price rating of 0.

C On the rare occasions where two (or more) price proposals are identical, the matching price proposals will receive the same rating and the corresponding number of following ratings will be skipped.

The price rating will be multiplied by the applicable set percentage to determine the price score.

SRE 5 TOTAL SCORE

Total scores will be determined 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 will be 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 for informational purposes only and has for objective to help the Proponent make 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, as amended in SI2 Proposal Documents. Proponents may choose to introduce their submissions with a cover letter.

- Team identification: See typical format in Appendix A;
- Declaration/Certifications Form; completed and signed; form provided in Appendix B;
- Integrity provisions – Required documentation – **As applicable** in accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) and as per R1410T (2017-08-17), General Instructions 1 (GI1), Integrity Provisions – Proposal, **section 3a**;
- Integrity Provisions – Declaration of Convicted Offences – **with its bid, as applicable** in accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) and as per R1410T (2017-08-17), General Instructions 1 (GI1), Integrity Provisions – Proposal, **section 3b;**
- Proposal: one (1) original plus five (5) bound copies;
- Front page of the RFP;
- Front page(s) of any solicitation amendment.

In a separate envelope:

- Price Proposal Form: one (1) completed and submitted in a separate envelope (Form provided in Appendix C).

PROJECT ADMINISTRATION

PA 1 PROJECT ADMINISTRATION

SUBJECT

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

1.1 PWGSC Project Management

The Project Manager is the Departmental Representative directly concerned with the project and responsible for its progress. The Project Manager is also the liaison between the Consultant, Public Works and Government Services Canada, and the client departments.

Public Works and Government Services Canada (PWGSC) administers the project and exercises continuing control over the Consultant's work during all phases of development. Unless directed otherwise by the Departmental Representative, the Consultant must meet all federal requirements and obtain all approvals necessary for the work.

1.2 General Project Deliverables

Where deliverables and submissions include summaries, reports, drawings, plans, specifications or schedules, six (6) hard copies plus one (1) copy in electronic format (in original software format and PDF) must be provided unless otherwise specified.

Where deliverables and submissions include models or the results from any given modelling process, six (6) copies in the native electronic format and in 2D (AutoCAD) and 3D (Revit) format must be provided unless otherwise specified.

Electronic format means:

Deliverable	Format accepted by PWGSC
Written reports and studies:	Microsoft Word
Spreadsheets and budgets:	Microsoft Excel
Presentations:	Microsoft PowerPoint
Timelines:	Microsoft Project
Drawings:	AutoCAD and PDF
BIM/MDB models:	Electronic 2D format– AutoCAD
	Electronic 3D format – Revit
Specifications:	National Master Specification (Microsoft Word format)

Specifics around interim, milestone and coordination model-based deliverables between Project Team members, and including all information exchange requirements, will be captured in the BIM Project Execution Plan.

The Construction Manager will be responsible for creating an electronic document sharing site. The Consultant will be responsible for submitting the various deliverables to this site.

1.3 Lines of Communication

Unless otherwise directed by the Departmental Representative, the Consultant must communicate only with the Departmental Representative. There must be no direct contact between the client departments and the Consultant.

The Consultant is responsible for developing a communications management plan, which must be approved by the Departmental Representative and updated over the course of the project.

1.4 Media

The Consultant must not respond to requests for project-related information or questions from the media. Such inquiries are to be directed to the Departmental Representative.

1.5 Meetings and Workshops

The design and construction teams must meet regularly over the course of the project to ensure that work is proceeding in a diligent and efficient manner. Meetings are to be held at the PWGSC offices in Quebec City (1550 D'Estimauville avenue), or at the project site.

The Consultant must schedule the various types of meeting according to their status as a Required Service (RS) or Additional Service (AS):

- RS:
  - Project oversight meetings;
  - Coordination meetings;
  - Design meetings;
  - Technical meetings;
  - Submissions and submission meetings;
  - Tender meetings;
  - Construction meetings;
  - Commissioning meetings;
  - Risk management meetings;
  - Cost coordination meetings;
  - Value analysis meetings;
  - Schedule coordination meetings;
  - Lessons learned meetings;
  - Any other meeting relevant to the project.

- AS:
  - Meetings related to BIM/MDB management;
  - Meetings related to BIM/MDB coordination;
  - Workshops related to the integrated design process (IDP);
  - Any other meeting relevant to the project.

All members of the Project Team are to attend meetings, including:

- The clients (client department representatives);
- The Departmental Representative – PWGSC;
- The Consultant, all Sub-Consultants and the Specialist Consultants;
- The Construction Manager;
- Property management.

As indicated in section B, Required Services (RS), the consultant must prepare and distribute the agenda, invitations and the minutes. The Consultant must issue the final meeting minutes within two (2) working days of the meeting. The format of the minutes must be approved by the Departmental Representative before they are distributed.

Although the Consultant must attend RS6 (construction) meetings, the Construction Manager must be responsible for preparing and distributing the agenda, the notice to invitees and the minutes.

1.6 Response Time

It is a requirement of this project that the key personnel of the Consultant, i.e., the Sub-Consultants, Specialist Consultants or specialist firms, attend meetings or respond to inquiries within two (2) days.

1.7 Submissions, Reviews and Approvals

Writing Style

Writing must be presented in a logical, objective, clear and concise manner. Reports must be written so that the reviewer can easily locate references and respond to related information contained in the report. The reports contain sections including but limited to the following:

1. A cover page indicating the project title, the nature of the report, the consultant contract number and author name, the PWGSC contract name and reference number, and the date in a non-ambiguous format, i.e. January 1, 2018;
2. A table of contents;
3. An executive summary;
4. An introduction;
5. A methodology section explaining the methods and tools used, such as weightings and a comparative analysis;
6. A conclusion and an executive summary;
7. Appendices containing supporting material referenced in the report and supplementary and supporting information.

Report Content

The Consultant must comply with the following directives regarding report content:

1. Ensure that the executive summary is an accurate and complete summary of the report, following an identical structure and containing only the key points, results and recommendations for review and approval;
2. Use an organizing system, such as MS Word Document Map, for ease of reference;
3. Use correct grammar, including complete sentences, to avoid ambiguity and facilitate translation when required. The use of technical terms, industry jargon and cryptic phrasing must be avoided;
4. Write efficiently, with only essential information included in the body of the report and supporting information in an appendix, if required;
5. Ensure all correspondence has been critically analyzed against accepted goals and objectives, PWGSC standards and the requirements identified in this Project Brief.

Revisions and Work in Progress Review
The Departmental Representative, the PWGSC Professional and Technical Services Team (architecture, design, engineering, environment, etc.) and other quality assurance teams, users, and authorities having jurisdiction will, at every phase of the project, review the Consultant's deliverables and provide comments. The Consultant must respond formally in writing to all comments and adjust documentation until all issues are resolved to the satisfaction and approval of all authorities. In the case of conflicting comments, the Consultant must identify these to the Departmental Representative, who will make the final decision.

Submissions

PWGSC Senior Management

Submission format:	Oral presentations, including PowerPoint;
Submission schedule:	When main milestones are achieved, i.e. from RS2 to RS4 on the following schedule: one (1) submission at RS2, one (1) submission at RS3 and two (2) submissions at RS4.
Number of submissions:	Four (4) mandatory submissions, as indicated above.

Project Team
(Including but not limited to: the PWGSC Professional and Technical Services Team – architecture, design, engineering, environment; the building management team; the users; and the Construction Manager)

Purpose of review and approval:	Technical quality assurance of program and design and constructibility reviews.
Submission format:	Reports, drawings, BIM/MDB models and specifications, oral presentations.
Submission schedule:	When main milestones are achieved, i.e. from RS1 to RS4

on the following schedule:

- One (1) submission at RS1 (encompassing RS1a and RS1b);
- Two (2) submissions at RS2 (at 50% and 99% completion);
- Two (2) submissions at RS3 (at 50% and 99% completion);
- Ten (10) submissions at RS4 to be defined according to the size and complexity of each package; package reviews at 50%, 99% and 100% completion.

Number of submissions: At least fifteen (15) mandatory submissions, as indicated above.

Expected turnaround time: Two (2) to four (4) weeks for each document presented.

City of Shawinigan

Purpose of review and approval: Obtain a municipal building permit.

Submission format: As per the terms of the municipality.

Submission schedule: As per the terms of the municipality.

Number of submissions: As needed until approval or permit is obtained.

Expected turnaround time: Municipality's turnaround time.

Chart of Reviews and Approvals (not comprehensive)	PWGSC		Clients		Treasury Board (TB)		Property Management		Construction Manager	
	R	A	R	A	R	A	R	A	R	A
RS1 Analysis of Project Requirements – Verification and Validation										
Project Scope of Services Report	x	x		x			x			
Class D estimate	x	x		x					x	
LEED checklist with comments	x						x		x	
Sustainable Development Action Plan	x						x			
Human resources and communications plan	x	x							x	
BIM/MDB management plan	x	x							x	
Implementation timeline	x	x					x		x	
RS2 Schematic Design										

Design options	x		x				x		x	
Recommended design option		x								
Class C estimate(s)	x	x		x					x	
LEED checklist with comments	x						x		x	
Total cost analysis	x						x		x	
BIM/MDB model	x								x	
Human resources and communications plan	x	x							x	
Implementation timeline	x	x					x		x	
RS3 Design Development										
Design development documents	x	x	x				x		x	
Class B estimate(s) and class B estimate for each construction package	x	x		x		x			x	
LEED checklist with comments	x								x	
Total cost analysis	x								x	
BIM/MDB model	x								x	
Human resources and communications plan	x	x							x	
Implementation timeline per construction package	x	x					x		x	
RS4-5 Construction and Tender Documents (by package)										
50% complete construction drawings	x	x	x				x		x	
66% complete construction drawings and specifications	x	x	x				x		x	
99% complete construction drawings and specifications	x	x	x				x		x	
Class A estimates (50%, 99%, 100%)	x	x		x					x	
Finalized bid documents (by package)	x	x	x				x		x	
LEED checklist with comments	x								x	
Total cost analysis	x								x	
BIM/MDB model	x								x	
Human resources and communications plan	x	x							x	
Implementation timeline	x	x							x	

R = Review
A = Approval

Acceptance of Consultant Deliverables

The Consultant must obtain the Departmental Representative's written acceptance during each of the project phases before proceeding to the next phase.

PWGSC reserves the right to reject incomplete, undesirable or unsatisfactory work, and any such rejected work must be redone and resubmitted for acceptance at the Consultant's sole expense. PWGSC acceptances do not prohibit rejection of work that is determined to be unsatisfactory at later stages of review. If a progressive project design or technical investigation reveals that earlier acceptances should be withdrawn, the Consultant is responsible for redoing the work and resubmitting it for acceptance at the Consultant's sole expense.

No acceptance or approval by PWGSC, whether expressed or implied, will be deemed to relieve the Consultant of professional or technical responsibility. Neither does acceptance of an estimate by PWGSC in any way abrogate the Consultant's responsibility to not exceed the approved construction budget throughout the life of the project, or the requirement to redesign should the lowest acceptable bid differ significantly from the approved construction budget.

1.8 Official Languages

This project requires services in both official languages. Refer to the Supplementary Conditions section entitled "Language Requirements" in this Request for Proposal.

1.9 Other Authorities Having Jurisdiction

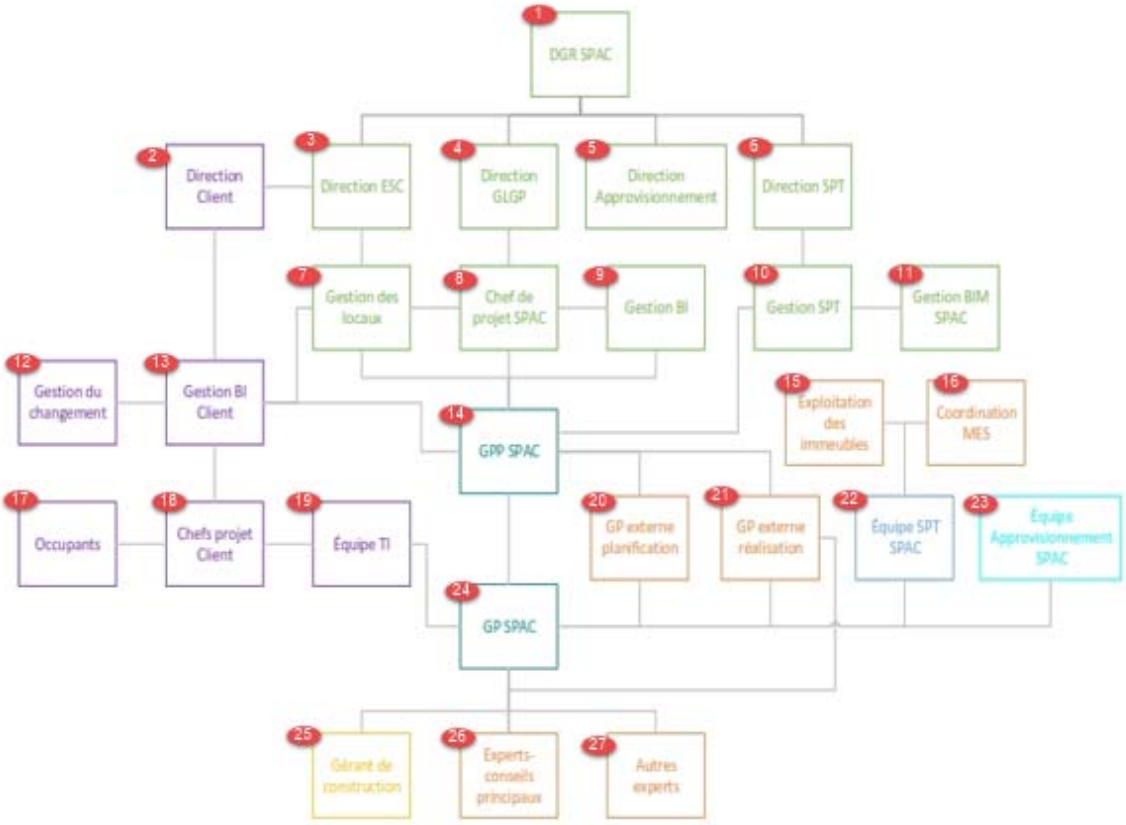
Although the federal government does not formally recognize jurisdiction at other levels of government, voluntary compliance with the requirements of these other authorities are required unless otherwise identified by the Departmental Representative. In areas of conflict concerning provincial requirements, federal authority prevails. Codes, regulations, by-laws and decisions of other authorities having jurisdiction must be observed. In cases of overlap, the most stringent requirements will apply.

2.0 Building Permit

On behalf of PWGSC, the Consultant must apply through the Construction Manager for building permits from the City of Shawnigan by supplying supporting documentation. The Construction Manager will be responsible for payment of the permit. The Consultant must participate in any negotiations and assist in resolving related issues prior to tender of each construction package.

2.1 Project Team Organization and Role

Project Team Organization
This project is to be managed and implemented in a collaborative manner. All members of the Project Team are required to work cooperatively at every phase of the design and construction process in order to ensure a successful and meaningful end result. Under the leadership of the Departmental Representative, all Project Team members are responsible for establishing and maintaining a professional and cordial relationship. The Project Team refers to the key representatives involved in coordinating and delivering the project.



1. RDG, PSPC
2. Client Directorate
3. Client Services Team Directorate
4. APM Directorate
5. Procurement Directorate
6. PTS Directorate
7. Accommodation Management
8. PSPC Project Leader
9. RP Management
10. PTS Management
11. PSPC BIM Management
12. Change Management
13. Client RP Management
14. PPM PSPC
15. Building Operations
16. Cx Coordination

17. Occupants
18. Client Project Leaders
19. IT Team
20. External PM–Planning
21. External PM–Delivery
22. PSPC PTS Team
23. PSPC Procurement Team
24. PSPC PM
25. Construction Manager
26. Senior Consultants
27. Other experts

The PWGSC Team

Accommodation and Portfolio Management Directorate (APM)

- Directs the project;
- Acts as a point of contact for PWGSC senior management and NHQ;
- Updates senior management on project progress and facilitates decision making regarding major project issues.

Client Service Team Directorate (CST)

- Acts as a point of contact for director-level clients;
- Updates client directors on project progress, facilitates decision making, and provides strategic oversight of construction activities for the new building.

Professional and Technical Services Director and Managers (PTS)

- Provide support to the Project Team.

Change Management Consultant

The PWGSC Change Management Consultant provides expertise to departments undergoing workplace modernization. Working directly with clients' change manager, the Change Management Consultant:

- assists clients with aspects of change management;
- helps clients with change management by suggesting and providing strategies, tools, examples and best practices;
- advises the Project Teams;
- evaluates the success of the change management strategy and monitors change progress.

Project Leader

The PWGSC Project Leader represents the interests of management.

Accommodation Manager

The Accommodation Manager is a liaison between the client departments and PWGSC.

Asset Manager and Property and Facilities Manager

The Asset Manager and the Property and Facilities Manager are responsible for the operations and maintenance of Crown-owned properties and facilities.

For the Shawnigan property, an external firm acts as the property manager on behalf of PWGSC.

Project Manager Team

The PWGSC Project Manager Team is composed of the Senior Project Manager and PWGSC project managers. The Team is also supported by an external project management firm, to which it delegates certain activities and responsibilities. The Team acts as a single point of contact to reach the Project Team during project delivery.

Professional and Technical Services Team (PTS)

This team is composed of the following groups:
- Architecture and Engineering Services (AES);
- Technical and Maintenance Services (TMS);
- Environmental Services (ES);
- Geomatics and Surveying Services.

The PWGSC Technical Services Team provides technical advice and quality assurance to the Project Management Team for key architectural and engineering professional disciplines as well as for other specialities, including commissioning (Cx) and building modelling (BIM/MDB). Professional and Technical Services Team members will participate regularly in all phases of the project.

Client Department Representatives

Client department representatives will actively participate in Project Team activities at every phase of the project.

A Project Leader will be appointed for each client department (CRA, ESDC, HC, SSC). The project leaders will:
- identify all client-specific requirements including the continuous interpretation of operational needs in the context of internal departmental and wider government objectives;
- determine security requirements as well as information management and information technology (IM-IT) requirements and needs.

Client Department Change Manager
The main responsibility of the Change Manager is to create and implement strategies and change management plans that maximize the adoption and use of changes by employees and minimize resistance to these changes, ensuring that the relocation and workplace transformation project attains its objectives. The Change Manager also works to encourage a faster adoption and increased end use of the workplace.

Other Parties

IT Team
This team is mandated to ensure that all information technology needs are properly identified, communicated to the Project Team, coordinated with the other project requirements, and incorporated into the project, all in a timely manner. The Team attends Project Team meetings. It is composed of the following members:
- The Shared Services Canada Project Manager, who is also the IT Team Leader;
- The PWGSC IT Consultant, who ensures that IT undertakings meet the project objectives, acts as a liaison between the Project Team and the IT Team, and manages contractual matters between PWGSC and SSC;

- IT representatives of the client departments and property management, and the PWGSC representative for the base building requirements;
- The SSC IT Team and SSC suppliers, who are managed by the SSC Project Manager.

Specialists Retained by PWGSC

PWGSC utilizes the services of specialists including the following, who will report directly to the Departmental Representative.

Construction Manager
Generally, but not exclusively, the Construction Manager is responsible for the execution and supervision of work. The Construction Manager participates in the integrated design process and attends team meetings, design meetings, design workshops and site meetings.

Project Management Support Services (PMSS)
PWGSC will utilize external Project Management Support Services to ensure that the Departmental Representative has access to project management services, construction advice, and project management administrative support. The PMSS will support the day-to-day management of the project. Their contribution to the project will be part of and an extension of the PWGSC Project Manager's responsibilities. Over the course of the project, the Project Management Team will provide a review of deliverables presented by the Consultant and the Project Manager.

Cost Specialist
PWGSC will retain the services of a Cost Specialist, who will support the Project Team. The Cost Specialist will provide an independent assessment of the costs incurred by the Consultant and the Construction Manager as well of risk management efforts, and will provide quality assurance services at every phase of the project.

PROJET DESCRIPTION (PD)

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CONSULTANT SERVICES MANDATE

PWGSC Project: R.082974 – New Federal Government Building in Shawinigan

- Project Description (PD)
- Service Description
  - o Project Administration (PA)
  - o Required Services (RS)
  - o Additional Services (AS)
  - o Schedule 1 (Applicable Standards, Codes and Requirements)

PROJECT DESCRIPTION

PD1 PROJECT INFORMATION

Public Works and Government Services Canada (PWGSC) intends to hire a prime consultant and his multidisciplinary team (e.g., mechanical, electrical, civil, structural and other engineers as well as LEED, BIM and other specialists) for the provision of the services required for this project.

1.1	**PWGSC Project Title:**	New Federal Government Building in Shawinigan
1.2	**Project Address**:	4695 Shawinigan-Sud Blvd., Shawinigan, Quebec
1.3	**PWGSC Project Number:**	R.082974
1.4	**Client:**	PWGSC
1.5	**Principal Users:**	Canada Revenue Agency (CRA) Employment and Social Development Canada (ESDC) Health Canada (HC) Shared Services Canada (SSC)

1.6	**Senior Project Manager for PWGSC:**	Anne Pouliot, Arch.
1.7	**Project Manager for PWGSC:**	Chantal Dassylva, P.Eng.

PD2 PROJECT IDENTIFICATION

2.1 Description

Public Works and Government Services Canada (PWGSC) needs the Required Services (RS) and Additional Services (AS) of a prime consultant to construct a new building that will provide space for, among other occupants, the National Verification and Collections Centre (NVCC) of the Canada Revenue Agency (CRA).

The purpose of this project is to construct a new Crown-owned building with a gross area of about 25.700 m^2, in order to provide new office space in support of the programs run by the Canada Revenue Agency (CRA), Employment and Social Development Canada (ESDC), Health Canada (HC), and Shared Services Canada (SSC). This new building will be constructed on the existing NVCC site.

The work covered by this request for proposals (RFP) includes, but is not limited to:

1. Construction of a new building: The new building at the current site of the National Verification and Collections Centre (NVCC) must have the following characteristics:
   a. A gross area of about 25,700 m²
   b. A usable area of about 20,230 m²

   The existing building will continue to operate for the duration of the work in order to ensure the continuity of operations for clients and users until the move to the new building.

2. Complete fit-out of the new building.

3. Decontamination and deconstruction of the existing building.

4. Deconstruction of the existing parking lot and access lanes and site decontamination: To be carried out in phases (approximate total of 1,200 parking spaces).

5. Phased construction of a new parking lot and access lanes.

6. All site work (in phases).

2.2 Work Context

The Consultant must factor in the following:

- The project will be carried out in project management mode via a Construction Manager hired by PWGSC under a separate contract.

  - Construction management is a form of project execution characterized by collaboration between the client, the Consultant and the Construction Manager, who work together to be more efficient in terms of time, cost and constructability, particularly in the pre-construction phase of a project; it also allows a construction project to begin earlier, without having to wait for the end of the design work.

  - The Construction Manager is the entity responsible for providing the construction services stipulated in the construction management contract.

- The new building will be constructed at the site of the existing building, which will be fully occupied and operational and which must remain so at all times for the duration of the project. The execution strategy must, among other criteria, ensure that a maximum number of parking spaces (at least 500 spaces for users) is maintained for the duration of the project.

- Access constraints to the existing building must be considered at every step of the project. In particular, no access will be permitted to the existing building without accompaniment by a security guard. The detailed access procedure will be provided to the successful proponent.

- The current building is operated by a property manager hired by PWGSC.

- The project is the focus of a great deal of media attention. This fact must be taken into consideration at every step of the project.

2.3 Description of the Existing Building and the Site

The following is provided for general information purposes only. The Consultant must conduct all site surveys necessary to carry out the project work.

Building

Constructed between 1976 and 1978, the current two-storey building (to be decontaminated and deconstructed as part of this project) consists of a ground floor, a second storey, and a roof-top enclosure for mechanical equipment. A basement where the steam plant is located occupies a small portion of the building.

The ground floor and partial basement are built on a concrete slab-on-grade. The second storey and roof are made of structural steel (steel girders and columns and concrete topping, on metal bridging). The building's columns rest on piles.

The building's outside walls are made mainly of insulated prefabricated concrete panels with outer fibreglass cladding. There are curtain walls at both ends of the building, used for the cafeteria in particular. The existing roofing is conventional (metal bridging and concrete slab, vapour barrier, insulation, double-layer built-up bituminous membrane) and features several levels and basins, some of which have skylights. Various components have been installed on the roof, including a few antennae and a flag.

Overview of the existing building's mechanical components

The building is equipped with a passenger elevator, a freight lift and two escalators. The elevators service the building's ground floor and second storey.

The building's domestic water system is supplied by an incoming municipal water main. A drinking water booster pump maintains the pressure required for the cold domestic water system toward the building's various zones.

The domestic hot water system is heated with natural-gas condensing boilers.

The wastewater system consists of a sewage piping system, floor drains, auxiliary drains, backwater valves and vents. The building's buried wastewater pipe connects to the city's sewer main.

The building is equipped with plumbing fixtures such as toilets, urinals, showers, and water fountains. The stormwater drainage system consists of roof drains, stormwater pipes, buried pipes, and catch basins.

The heating system consists of natural-gas hot water boilers. This hot water is sent to the peripheral hot-water convectors, HVAC system coils, and terminal heating coils. An electric hot water boiler is part of the steam plant.

Air conditioning is supplied by a chilled water system with terminal coils installed in the main air-handling units. This system is cooled by a centrifugal chiller and by chillers connected to cooling towers.

The building is equipped with insulated pipes, heat exchangers and accessories that supply hot water to the various heating apparatus. In addition, the building's air conditioning and dehumidification are handled by a chilled water system with terminal coils installed in each of the main air-handling units.

The air distribution system consists of metal piping, variable air volume (VAV) boxes, ceiling diffusers, fire dampers, and accessories.

The main air-handling equipment is controlled via a combination direct digital control (DDC) system / pneumatic control system.

The building is equipped with air-handling units with cooling and heating coils as well as supply and return fans.

The entire building is protected by an automatic sprinkler system. There are also fire protection systems that use fire suppression fluids for the range hoods in the kitchen. Fire suppression includes fusible links, manual pump stations, tanks, and controls panels.

Overview of the existing building's electrical components

Electrical distribution:

Power is supplied to the building through a customer vault substation located on the ground floor, access to which is restricted to Hydro-Québec staff. In this vault, busways are connected to the main circuit breaker of the main switchgear. The switchgear primarily supplies the motor control centres (MCCs), distribution panels, transformers, and various mechanical loads.

Note that there is an underground tank for waste oil from the Hydro-Québec transformer.

Interior lighting:

Interior lighting is provided mainly by T12 fluorescent lamps. There are also T8 fluorescent lamps, halogen lamps, and compact fluorescent lamps.

Emergency exit lighting consists of bilingual signs.

The building's emergency lighting system mostly uses dual lights that work with a battery module or emergency batteries in case of power outage. Some of the interior lights also serve as emergency lighting because they are hooked up to the emergency generator.

Emergency power:

The building has a generator, a diesel day tank, four other tanks, and an automatic transfer switch.

Fire alarm system:

The building has a fire alarm system that consists of manual stations, speakers, annunciator panels, smoke and heat detectors, a fire alarm, chimes, etc.

Other systems:

A telephone system that consists mainly of analogue telephones and a few IP telephones. Most telephony equipment is located in the Telecommunications Room on the building's ground floor. There are also prepaid public phones in the building.

Access control systems and intrusion alarms.

Television system. These televisions have web-based audiovisual content.

A centralized automatic clock system. There are digital and analogue clocks. About 80% of the clocks are centralized and 20% are battery-operated.

Music system and sound systems for public announcements and those connected to the fire alarms.

Server rooms, local area network (LAN), UPS, punching system with stations throughout the building.

Existing site work (parking lot, access lanes, etc.)

Located on a relatively flat lot measuring 107,000 m^2 with a bike path cutting through it, the site can be accessed by Shawinigan-Sud Boulevard, from which a service lane leads to the parking lots and to the building's main entrance.

The site has a parking lot with about 1,200 spaces, parking spaces behind the building for deliveries and maintenance personnel, storage sheds, lawns, trees and shrubs, paved and gravel parking areas, traffic areas and access lanes, concrete pedestrian walkways, sidewalks and curbs, retaining walls, an open pavilion, and a landscaped outdoor courtyard surrounded by a wall that restricts courtyard access via the building. The pedestrian walkway leading to the building's main entrance is covered by a fibreglass archway supported by steel posts.

The paved parking lot has a drainage system consisting of sumps, manholes and pipes.

The parking lot and pedestrian walkways are lit mainly by high-pressure sodium (HPS) lamps.

Note that the power supply for the site's outside lighting comes from the building's electrical room through a connection cabinet installed outside the building and that there is currently no recharging system (with electric charging stations) for electric cars.

A parking lot camera system belongs to the CRA and is installed directly on the lamp posts using a separate wiring system.

Traffic control devices include primary signs (road signs and government signs), secondary signs (identification signs for motorcycles, managers, parking permit holders, etc.) and horizontal markings (on the ground) to indicate access lanes and parking spaces (including special markings for motorcycles, disabled persons, prohibited parking in traffic lanes, etc.).

Environmental constraints (building and site)

An analysis of environmental constraints and issues has identified certain issues at or near the site, mainly:

- A daycare in the southern portion of the lot.
- Hazardous materials and/or substances in the existing building.
- Potentially contaminated soils.
    - A Phase 1 environmental site assessment (ESA) was conducted to identify the potential sources of contamination linked to the site's current and past activities. Potential contamination sources were identified during this study, in particular, two former areas that had underground tanks, the presence of a catch basin, the past presence of a cottage, and the presence of a service station with tanks adjacent to the site.
    - A Phase 2 ESA and a geotechnical study are currently under way. It is intended to delimit the contamination and will be provided to the successful proponent.
- A wetland at the southern boundary of the lot.
- Small wooded areas with a certain value.
    - A study on the value of the trees is currently under way in order to determine the potential of the trees on the site. The study will be provided to the successful proponent.
- The site's archeological potential has been deemed low.

An environmental effects assessment (EEA) under the 2012 *Canadian Environmental Assessment Act* (CEAA) was carried out to determine the project's potential impact on the environment and to identify mitigation measures.

Bird’s eye view of existing site

2.4 Building Users

In addition to meeting the requirements of PWGSC and the property manager that is operating the building on behalf of PWGSC, the new building will have to meet the needs of the following occupant departments.

Canada Revenue Agency (CRA)
As the main occupant of the current building and the new building to be constructed, the CRA applies tax legislation for the Government of Canada and for most provinces and territories. It also administers various social and economic benefits and incentives through the taxation system and oversees tax compliance so as to contribute to the ongoing economic and social well-being of Canadians.

Employment and Social Development Canada (ESDC)
The ESDC Regional Call Centre (RCC) occupies the existing building and will occupy the new building to be constructed. The RCC’s main role is to answer phone calls and respond to enquiries by Canadian citizens regarding citizen services on behalf of various government departments and agencies. Service Canada is a single-window service for government information and services.

Health Canada (HC)
Health Canada is the third federal occupant of the current building and the new building to be constructed and uses the space for offices.

Shared Services Canada (SSC)
In addition to the IT (or server) and telecommunications rooms for which SSC is responsible, a few SSC employees are currently housed in the NVCC.

SSC delivers digital services to federal organizations so they can deliver digital programs and services that meet Canadians' needs.

SSC will also be involved in the project as a key stakeholder for IT-related deliverables at every step of the project.

Other Users
In addition to meeting the needs of the occupant departments listed above, the new building must also meet the needs of the following users:

Property Manager
Acting as the operator of the building on behalf of PWGSC, the property manager occupies the current building and will occupy the new NVCC.

Canadian Corps of Commissionaires
The members of the Canadian Corps of Commissionaires serve as the building's security guards and occupy the Operational Security Centre (OSC) around the clock; the OSC is located near the entrance of the current building and will occupy the new NVCC building.

Food Services Provider
Acting as the operator of the cafeteria, a food service company occupies the current building and will occupy the new NVCC.

Maintenance
The employees of a private company are responsible for building maintenance; they work day and night shifts at the current building and will also occupy the new NVCC.

Others
Other users may be added depending on the conclusions of the Functional and Technical Program (FTP).

2.5 Cost

For information purposes, the cost of construction is estimated at about $106,000,000.00$, excluding taxes:

- Construction of a new Government of Canada building and fit-out for clients: $92,600,000.00$, excluding taxes
- Decontamination/deconstruction of the existing building: $6,200,000.00$, excluding taxes
- Deconstruction of the existing parking lot, construction of the new parking lot and site work: $7,200,000.00$, excluding taxes

2.6 Project Schedule

The main project execution phases are as follows:

- Award of consulting contract: April 2020
- Preliminary design (RS1–RS3): April 2020 to early December 2020
- Final design and tender call (RS4–RS5) December 2020 to mid-May 2023 (by package)
- New building construction and commissioning (RS6, RS8): early November 2021 to late July 2024 (by package)
- Move to the new building: August–September 2024 (in phases)
- Decontamination and deconstruction of existing building: October 2024 to mid-March 2025 (building and parking lot)
- Construction of new parking lot: mid-March to October 2025 (including site work – in phases)
- Project close-out : October 2025 to March 2026

Note that activity durations are preliminary and the Consultant is responsible for verifying and confirming the feasibility of the above schedule as part of its scheduling mandate. The project schedule is driven by the need to move users into the new building as soon as possible.

The Consultant must work closely with the Departmental Representative, the Construction Manager and the users to maintain or reduce the durations set out in this schedule. The warranty period is not included in the above schedule.

PD3 PROJECT BACKGROUND

The CRA Tax Centre (Government of Canada building) was built in Shawinigan, Quebec, at 4695 Shawinigan-Sud Boulevard in the late 1970s.

Over time, the services provided by the CRA to Canadians were transformed with the arrival of new technology and the transition to electronic filing of income tax returns. The Tax Centre (Income Tax Return Processing Centre) evolved to its current structure, called the National Verification and Collections Centre (NVCC). Although the building became more densely used over the years, the building itself underwent mainly minor work.

The building currently does not have any heritage designation. Because it was built 40 years ago, the heritage assessment process is currently in progress with the Federal Heritage Buildings Review Office (FHBRO). The mandate of the FHBRO is to determine whether a building holds heritage value and, if so, to assess that value. Although the building holds no specific designation for the time being, a future designation cannot be ruled out (e.g., recognition of the building, the lesser of the two levels of heritage designation). Given the uncertainty associated with the review process currently under way, no heritage architecture service is included in this mandate.

Because the current building is operating at full capacity and cannot meet the targeted expansion requirements and would need major work to meet operational, functional and financial performance objectives, on February 4, 2019, the Government of Canada announced that a new building would be constructed at the current NVCC site to replace the existing one. The existing building will then be deconstructed to make room for a parking lot. The current users (about 1,600 strong) will therefore remain in the existing building while the new building is being constructed and finished. Project objectives include achieving a Gold-level LEED-NC energy efficiency certification and providing modern workspaces that are equipped with cutting-edge technology and are fully adapted to service delivery by the CRA and other occupant departments.

PD PROJECT OBJECTIVES

Several objectives have been set to ensure the success of the project.

4.1 Quality Management
4.2 Sustainable Development
4.3 Waste Management
4.4 Code Compliance
4.5 Risk Management
4.6 Cost Management
4.7 Schedule Control
4.8 Scope Management
4.9 Security

4.1 Quality Management

Design Principles - General

The Department expects the Consultant to maintain a high standard of architectural and engineering design, based upon recognized contemporary design principles. All design elements, planning, architecture and engineering must be fully coordinated among the disciplines and consistent with good design principles.

The level of quality is to be consistent with other Government of Canada buildings.

Quality of materials and construction methods must be commensurate with the type of building, the quality sought, and the budget. Avoid experimental materials. Take into account the total life-cycle of the building.

The quality management process that will be applied to the project must be respected and applied to all services by the Consultant and by all its Sub-Consultants.

The coordination process for drawings and specifications among all disciplines must be carried out by the Consultant and all its Sub-Consultants. The expected deliverable is that all drawings and specifications are fully coordinated among all disciplines and that their content respect the client's needs. The Consultant is responsible for ensuring that the documents sent are coordinated.

The developed project must allow for keeping operating costs as low as possible. This is to be achieved by compliance with the energy budget, selection of equipment requiring the minimum of operating personnel, building finishes for easy maintenance, etc.

The character, overall configuration and scope of the project and the materials used must be compatible with the surrounding area.

Design for maximum flexibility in immediate and future use of space.

It is important to understand that needs must be met within the available budgets and in compliance with the project schedule in a creative and proactive manner.

4.2 Sustainable Development

The project must be implemented so as to comply with environmental standards and sustainable development principles. The new building must obtain Gold-level LEED-NC accreditation. The specific services required for project delivery are outlined under Required Services (RS).

Sustainability can be defined in broad terms as the capacity to endure, to sustain now and in the future. It’s about building lasting social and cultural equity, economic prosperity and protecting and restoring ecological integrity.

Sustainable development is an integral part of the Government of Canada’s goals. Compared to other projects of the same size, PWGSC aims to obtain more elaborate environmental services

at the time of design. PWGSC aims for this building to be a model for sustainable development. A number of policies and strategies were implemented to provide a framework for the Government's property management practices. Thus, the project to construct a new building and to deconstruct the existing building in Shawinigan must conform to the following guidelines:

- The *Greening Government Strategy* of the Treasury Board of Canada Secretariat;
- The *PSPC Departmental Sustainable Development Strategy: 2017 to 2020*, 2015;
- The *PSPC Real Property Sustainable Development and Environmental Strategy*, 2018;
- The *PWGSC Real Property Sustainability Framework, 2015.*

As part of this project, below is an outline of this strategic plan that must be factored in at every step of project execution.

4.2.1 New building, new parking lot and site work

The following components, at a minimum, must be considered throughout the design and construction phases for the new building, the new parking lot and the site work:

- Minimize energy use and GHG emissions/carbon footprint

- Design a building with a zero carbon balance by being 100% electric.
- Use construction materials with a lower carbon footprint than conventional materials and containing fewer hazardous substances (based on the life cycle analysis or LCA approach).
- An LCA for materials is currently being prepared and will be provided to the successful proponent. The LCA must be taken into consideration during project development.
- Use smart systems to reduce energy consumption.
- Use only building automation systems (a building control system or energy management system (EMS)) and building components that are compatible with an open protocol (BACnet).
- Have enhanced energy performance targeting cost savings of 22% over NECB 2011. An energy study was conducted to validate feasibility and will be made available to the successful proponent.
- Energy efficiency measures will be selected while taking into account the life cycle analysis of the costs over 25 years.
- Aim to produce a design with a Thermal Energy Demand Intensity (TEDI) that complies with CAGBC best practices, if financially justified.

- Climate change adaptation

- Design and build new infrastructure to be resilient to climate change.
- A study on infrastructure vulnerability to potential climate and weather effects is currently being prepared and will be provided to the successful proponent.
- The purpose of this study is to assess the vulnerability of the NVCC site by identifying the components that may be subject to defects, damage and/or wear from climate events (temperature, precipitation, wind, ice, lightning, etc.) and to formulate recommendations for the new building and for site work.

- This study must be taken into consideration during project development.
- Reduce heat islands.

- Water management (drinking water, domestic wastewater and stormwater) and landscaping

- Apply best practices for water use to reduce water consumption.
- Reduce outside water consumption (irrigation), stormwater runoff and the use of toxic products in achieving satisfactory landscaping. Plan for infrastructure that fosters ecological management of runoff in outside traffic areas and parking lots. Favour the use of low-water landscaping and low-maintenance lawns with drought-resistant species.
- Design new infrastructure for efficient management of erosion, stormwater and sediment problems.

- Sustainable building and transportation

- Achieve a level of environmental performance equivalent to Gold-level LEED Canada v4 C+CB.
- Plan for and consider that property management will aim to achieve an environmental performance level equivalent to BOMA Best v3 – Office, Level 2.
- Install fast-charging electric vehicle charging stations with the objective of supporting the conversion of fleet and private vehicles from gas to electric vehicles.
- Achieve better management of domestic waste (and construction, renovation and demolition, or CRD, waste). See section 4.3 detailed below.

- Workplace, employee well-being and local community
- Integrate controlled design components for occupants;
- Provide spaces that include natural aesthetic elements;
- Provide showers and lockers for employees who travel to work on bike or on foot, who jog or who have a membership at a local gym.
- Implement air filtration systems and management strategies to reduce contaminant levels and manage CO2 levels in office spaces.
- Identify quiet and collaborative areas for employees to use.
- Incorporate materials and lighting that minimize light trespass in the building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction and reduce development impact from lighting on nocturnal environments.
- Determine the public spaces and facilities that may be useful to the local community.

4.2.2 Deconstruction of existing infrastructure (building and parking lot)

When deconstructing the existing infrastructure, the following elements must be factored in throughout the design and construction phases.

- Runoff management: develop stormwater, erosion and sedimentation management plans.
- Construction, renovation and demolition (CRD) waste management: develop a waste management plan for numerous materials, including construction, demolition and operational waste, among other programs. See section 4.3 detailed below.

4.3 Waste Management

The PWGSC Real Property Sustainable Development and Environmental Strategy establishes a diversion target to be achieved for the construction and deconstruction project. For this project, the target is to divert at least 90% by mass of all construction and demolition waste. The diversion percentage will be assessed on the aggregate of the construction waste generated.

An initial analysis must thus be established and must include an evaluation of the various types of waste and a quantification of the construction waste for the new building and the demolition waste for the existing building and parking lot.

Potential construction projects for public buildings (e.g., schools) must be identified so that deconstruction materials from the old CRA building can be provided to such projects, preferably regional ones, that match our project schedule.

In addition, potential avenues for waste recovery must also be identified in the analysis confirming the objective of diverting 90% by mass of construction and demolition waste.
The *Construction-Demolition Waste Management and Disposal* section in the National Master Specification (NMS) is a reference to be consulted and used. The Consultant must provide a detailed description of waste management strategies.

4.4 Code Compliance

The Consultant is responsible for verifying and observing standards, codes, legislation, regulations, including municipal by-laws and decisions made by authorities having jurisdiction in project execution. In case of overlap, the most stringent requirements must be applied and take precedence. The Consultant must identify other jurisdictions appropriate to the project.
For information purposes, see Schedule 1 concerning the applicable standards, codes and requirements.

4.5 Risk Management

A risk management strategy is essential to managing PWGSC projects. All project stakeholders are an integral part of the risk management strategy, culminating in an integrated production team. The specific services required for project delivery are outlined under Required Services (RS).

4.6 Cost Management

Effective cost estimating and cost control are crucial at every step of the project. One of the key objectives is to proceed with project implementation while complying with the funding allocated at each step of the project and across all construction packages, justifying, among other things, the viability and profitability of the design choices, and carrying out any necessary design adjustments so that the work stays within the project budget.The specific services required for project delivery are outlined under Required Services (RS).

4.7 Schedule Control

Establishing a schedule for comprehensive control of project execution time and effective schedule control are critical activities at every step of the project.

The Consultant must create a project planning and control system for planning, sequencing and monitoring project activities and for progress reporting. The specific services required for project delivery are outlined under Required Services (RS).

4.8 Scope Management

Definition, development, verification and control of the project scope are crucial at every step of the project. One key objective is to execute the project within the boundaries of the project scope, as defined.

The Consultant must immediately inform the Departmental Representative, in writing, of any potential increase or decrease in the scope of work that may jeopardize the ability to achieve the project objectives, **before** any resulting effects on project costs, scheduling or quality and propose solutions to mitigate the impact of these changes.

4.9 Security

4.9.1 Health and Safety

The *Directive on Construction Occupational Health and Safety (007-2)* states that Public Works and Government Services Canada (PWGSC) acknowledges that any person to whom it gives access to federal government worksites must be protected from any hazard that may cause injury, illness or death.

PWGSC also acknowledges that provincial and territorial occupational health and safety acts and regulations apply to contractors subject to provincial or territorial jurisdiction who are hired to carry out work on Crown-owned or PWGSC-managed assets and lands.
In order to formalize PWGSC's commitment to protecting all persons granted access to construction sites managed or administered by the Department, the Consultant will:

- Ensure that occupational health and safety (OHS) is an integral component of construction project delivery;
- Ensure that construction projects are organized and managed in such a way as to ensure that PWGSC's role is deemed to be that of the builder, principal contractor or prime contractor, and to ensure that PWGSC is not deemed as having control over the work and activities;
- Reduce risks to the Crown and limit legal liability for PWGSC employees;
- Provide clear direction with respect to roles and responsibilities.

PWGSC recognizes that it is required to safeguard the health and safety of all persons working on government construction projects. It also acknowledges that federal and private-sector employees are entitled to all of the protection provided for in occupational health and safety regulations.

To meet this requirement and enhance occupational health and safety protection for all individuals on federal construction sites, PWGSC agrees to comply with provincial and territorial occupational health and safety acts and regulations, in addition to the *Canada Occupational Health and Safety Regulations*.

4.9.2 Physical Security

The various components of physical security must be part of the project at every step.

4.9.3 Industrial Security

This project entails specific security requirements as set out in sections IP6 and CS1. All project stakeholders must comply with these at every step.

PD5 IMPLEMENTATION STRATEGY

The project implementation strategy must make important decisions easier in order prioritize the interim design approvals and allow construction to start early and in an optimized sequence.

5.1 Phased Design Method

Given the type of project execution selected (construction management), a package-based design method is required. While the design development is taking place, certain aspects of the base building design may be accelerated so that construction tender documents can be issued for those areas that do not require the design to be fully completed, such as the building envelope, excavation and backfill.

During the preparation of construction documents, the Consultant must submit, in sequence, the tender call files to the Construction Manager so that the latter may issue them for the purpose of optimizing the construction schedule.

During the design phase, the Consultant must work closely with the Construction Manager to prepare the design. The Consultant must ensure that all information is made available to the Construction Manager so it can provide accurate and complete advice on construction activities such as, but not limited to, the following:

- Construction costs;
- Material delivery and construction schedules;
- Constructability;
- Suitability and availability of materials and components;
- Sustainable, integrated principles and practices for design, construction, commissioning and operation.

5.2 Integrated Design Process (IDP)

In collaboration with the Departmental Representative and Construction Manager, the Consultant must adopt and lead a holistic, integrated approach to the design of this project. In so doing, the Consultant Team will apply an efficient, cost effective and environmentally responsible approach, implementing strategies that can facilitate future changes in use and occupancy, while meeting user needs and project requirements.

This establishes a collaborative strategy that must:

- Consider the design, construction and occupancy of the building over its complete life cycle;
- Engage the users and other stakeholders early in the project to develop and realize a common vision, performance priorities and clearly defined functional, environmental and economic goals and objectives;
- Proceed from whole building system strategies for design of the building's technical installations working through increasing levels of specificity to gradually add details that lead to optimal, integrated solutions;
- Organize and lead team workshops/partnering sessions as key decision-making tools to initiate and stimulate discussions, evaluate options and build consensus.

5.3 Construction Management

A construction management approach will be used for this project.

The role of the Construction Manager is to manage construction by participating in project meetings and workshops, providing advice on the constructability of tender calls and their sequence, defining construction phasing (construction or work packages), establishing and managing the project construction schedule as well as the construction budget.

The Construction Manager will provide advice throughout the project.

The Construction Manager will provide a multidisciplinary team for the entire duration of the project. The Construction Manager and the Consultant Team must have the capacity to quickly respond to evolving situations from day to day (especially at the construction site phase) by coordinating and integrating ongoing construction work with the design work.

The project will be implemented based on a prioritized design approach using multiple, simultaneous construction tender packages prepared by the Consultant and tendered by the Construction Manager. The Construction Manager will define the requirements and sequencing of tender files and will inform the Departmental Representative and Consultant so that the Consultant can plan the tasks and activities accordingly. The Project Team must work collaboratively to coordinate and integrate all the required work.

5.4 Building Information Modelling (BIM)

Building information modelling (BIM) (referred to as the "Model") is a digital representation of a project's configuration, characteristics, and physical and functional attributes and will be used to execute this project.

BIM supports an integrated design process (IDP) built around coordinated, reliable digital information about a project from design through construction. BIM, facilitated by a common data environment, will be used on this project for visualization, analysis and communication of project information for and between all stakeholders (the Project Management Team, the Consultant Team, Construction Manager, etc.). It represents a shared data resource that will assist in the decision-making and approval processes, as well as augment productivity, efficiency and quality of the end product delivered.

The project will be executed in construction management mode. The BIM approach must therefore factor in the aspects of this execution mode and be planned and managed appropriately to ensure that project objectives are achieved. Working with the Departmental Representative and the Construction Manager, the Consultant must foster a spirit of collaboration for monitoring and coordination of design and work execution. The specific services required for project delivery are outlined under Additional Services (AS).

5.4.1 General

The Department's goal is to implement an innovative strategy to improve performance in the reduction of changes during the project and to integrate the BIM/MDB process to take advantage of the various models and information that will be developed during the process of designing and developing tender documents.

The following paragraphs describe the process, roles and responsibilities of the various stakeholders involved in the BIM/MDB process. It is important to note that the services to be provided are to be distributed as follows:

- The services to be provided by the Senior Consultant and BIM/MDB managers in each discipline are included in the Required Services (RS).
- The services to be provided by the BIM/MDB specialist firm, the Senior BIM/MDB Manager and the personnel required to carry out the mandate fall under this section (AS 5).

Description of services
For this Project, BIM/MDB must support the Integrated Design Process (IDP) by focusing the work of all stakeholders on the production and analysis of a model of all Project data. The data thus centralized within the digital models are used to document and support the design, as well as to simulate the construction of the Project, including through the regular sharing of digital models. The BIM brings together all the Project players throughout the design process (steps RS 1 to RS 4).

The application of BIM/MDB to the Project must address, but is not limited to, the following aspects:

- Serve as a design support and concept validation tool for monitoring client functional requirements by synchronizing data between modelling and the functional and technical requirements deliverable (FTP);
- Serve as a communication and visualization tool during the integrated design workshops and design review workshops to stimulate exchanges and optimize decision making;
- Serve as an interdisciplinary coordination tool throughout the design until the construction package tendering;
- Allow visual reviews of the models and interference detection analyses to be carried out and monitored (3D coordination);

- Produce the required plan specifications for each package at the various stages of the Project;
- Achieve the other objectives described in the BIM/MDB management plan (BMP).

5.4.2 Senior Consultant [Required Services (RS)]

The working methods of the various stakeholders, including the Senior Consultant and his or her sub-consultants, are documented in the BMP. The Senior BIM/MDB Manager must submit it to the Senior Consultant, who must then read, understand and improve it at the project's BIM/MDB management meetings. These methods must be adjusted to the needs of the Project so that the BIM/MDB provides real added-value to the work of the Consultant and Construction Manager. The BMP will establish the collaboration methods, the level of modelling detail (minimum LOD 300) and the objectives to be achieved for the success of the project.

The Senior Consultant must assist the Senior BIM/MDB Manager and participate actively and in close collaboration with all stakeholders involved and with the Construction Manager in the meetings described in this document, in order to meet the conceptual needs arising from the established objectives.

The Senior Consultant must also:

- Designate a BIM/MDB Manager for each of the disciplines, who will be the main contact with the Senior BIM/MDB Manager for the planning and deployment of the BIM/MDB approach.
- Deploy and ensure compliance with the BIM/MDB approach within the team in accordance with the BMP; refer to the preliminary BMP presented in Annex A.1.
- Provide the Construction Manager and his subcontractors with design models to optimize the constructability analysis, including, among other things, system coordination and work planning and monitoring.
- Plan drawings in 2D (AutoCAD) and 3D (Revit) at RS 2, RS 3 and RS 4 (50% and 99%) and plans and specifications for submission. Between each submission, the Department's Representative will issue comments to be incorporated into the models produced.
- All plans and specifications issued must be submitted in 2D format (AutoCAD). These plans and specifications must comply with PSPC technical drawing standards.
- Professionals will be required to produce signed and sealed plans for submission and construction (2D). 2D documents must be extracted directly from the BIM/MDB models and transmitted in both paper and PDF formats. These documents will be the contractual documents. The 3D models will be used for design only. Specialized contractors will be able to refer to them for a better understanding when submitting their bid. If there are conflicting elements, 2D documents take precedence over models.
- Participate in six (6) BMP drafting meetings in accordance with the requirements of article B.14, Building Information Modeling Management (BIM) Workshops, under Required Services (RS).

- Participate in twenty (20) BIM/MDB coordination and management meetings in accordance with the requirements of article B.15, Building Information Modeling (BIM) Coordination Workshops, under Required Services (RS).

Fees:

The efforts of the Consultant and his or her key personnel to prepare for and attend BIM/MDB coordination meetings are included in the basic services paid on a percentage basis.

See also section AS 5 BUILDING INFORMATION MODELLING (BIM/MDB) SPECIALIST FIRM for an overall view of the project's BIM/MDB stakeholders.

PD6 PROGRAM

6.1 Objectives

Refer to section PD4.

6.2 Functional and Technical Program (FTP)

The Functional and Technical Program (FTP) for requirements, which is the basic reference document for design and construction, is currently being prepared and will be provided to the successful proponent. This FTP will provide the user requirements and parameters that must be considered during project design. The specific services required for project delivery are outlined under Required Services (RS).

6.3 Work During Building Occupancy

The new building will be constructed at the site of the current National Verification and Collections Centre (NVCC), which will remain fully operational throughout the project. The execution strategy must consider, among other factors, that as many parking spaces as possible must be maintained for users during building occupancy.

Since the work will be carried out while the existing building is occupied, all necessary measures must be taken to keep the site accessible and safe at all times (firefighter access, use of drop-off area and sidewalks, visitor access, access to the daycare centre near the site's main entrance, the bike path, the shuttle service at the main entrance to the building, etc.).

There must be at least 500 safe, operational parking spaces available for federal employees at every step of the project.

6.4 Building Connectivity Components (BCC)

Building connectivity components (BCC) include, but are not limited to:

- Information technology and telecommunications (IT-telecom) systems
  - Information technology:

- Wireless connectivity;
- Telephony;
- Telecommunications;
- Videoconferencing;
- Multimedia;
- Photocopiers;
- Fax machines.

- Integrated security systems (ISS):
  - Electronic and physical access control;
  - Electronic monitoring systems;
  - Indoor and outdoor cameras;
  - Intercommunications and computer system;
  - Electrified hardware;
  - Fire alarm monitoring system.

BCC are essential for meeting functional and operational requirements as well as user safety requirements. Occupancy cannot take place without a successful design and harmonious integration of these components with the project's various aspects. The purpose of the BCC program is to fully meet users' operational requirements so that the new building can be occupied as quickly as possible.

The Consultant Team must be able to provide specialist services in IT and telecom systems and in integrated security systems.

Within each project step, the Consultant must plan and organize BCC meetings on a regular basis with PWGSC, Shared Services Canada (SSC) clients and other stakeholders as necessary to ensure that the project progresses gradually, diligently and efficiently. The various BCC specialists must attend these meetings.

Information technology and telecommunications (IT-telecom) components

As the digital services specialist for the federal government, Shared Services Canada (SSC) will be responsible for IT and telecom equipment design, purchasing and installation, as well as for cable design and installation.

At every step of the project, the Consultant and its IT-telecom specialists must work closely with SSC, PWGSC, the occupant departments, the Construction Manager, and so on, to ensure that the physical infrastructure for IT and telecommunications is fully integrated into the design documents and to ensure the general coordination of requirements for IT-telecom.

The Consultant will be responsible for design of the main and secondary server rooms. The Consultant is also responsible for integrating the IT and telecom physical infrastructure into the design documents.

However, SSC will be responsible for design of the network architecture and the various IT components and equipment inside the server rooms.

SSC is also responsible for wiring and cables.

Integrated security systems (ISS) components
An integrated security system specialist will be hired by PWGSC to design and install ISS components.

The Consultant must coordinate with this specialist to integrate the physical infrastructure into the design documents.

At every step of the project, the Consultant must work closely with the ISS specialist, PWGSC, the occupant departments, the Construction Manager, and so on, to ensure that the physical infrastructure of various systems (for the basic building and all occupants) is fully integrated into the design documents and to ensure the general coordination of requirements for ISS.

6.5 Short Project Description

6.5.1 Construction of a new building

The new National Verification and Collections Centre (NVCC) will consist of a usable area of about 20,230 m² (i.e., a gross area of about 25,700 m²) over several stories (number to be determined), for general purpose offices, support spaces (security, IT/telecom, property management, food services, cafeteria, etc.), and special purpose spaces (SPS).

The new building is intended to provide healthy, safe, high-performance premises that are compliant with current codes and standards and that provide a modern, efficient and productive work space that supports the occupants' main programs.

The new building to be constructed at the current NVCC site must include all the typical construction components required, particularly infrastructure, superstructure, building envelope, architecture, interior fit-out, mechanical and electrical services, IT/telecommunication infrastructure (equipment rooms, cable trays, posts, roof antennae, etc.), security infrastructure and systems (physical and electronic access control, intrusion alarm, video surveillance system, etc.).

The clients essentially need administrative office spaces with all related spaces (i.e., meeting rooms, lounges, etc.) and all special purpose spaces (SPS – i.e., mail room, storage, training rooms, etc.).

Client programs do not involve services delivered directly to the outside clientele. None of the services is dedicated to on-site client service.

All building spaces serve to support the administrative function of the occupant clients.

All spaces and equipment will be required in order to meet the building's operational requirements or to support the building's services for clients (generating sets, specific bearing capacity based on use, e.g., file storage, elevators, maintenance rooms, waste storage, waiting area, the property

manager's repair shop, spare parts storage, telecommunications rooms, etc.). These will be indicated in the FTP.

Other spaces or equipment may be needed in order to meet federal or departmental objectives for employee support (e.g., bike storage, showers, locker room, etc.). These will be indicated in the FTP.
Outside visitors will sometimes access the building for training or for various other services. At certain times of the year, the CRA sometimes needs to operate on shifts given the increase in demand associated with its activities.

The new building must integrate the various sustainable development components identified in section PD 4.2 and under Required Services (RS) and Additional Services (AS).

For information purposes only (to be validated in the FTP), below is a summary of the number of full-time equivalents (FTEs) and the areas:

	Current number of FTEs	Anticipated number of FTEs	Current usable area (square metres)	Anticipated usable future area (square metres)	Anticipated gross future area (square metres), building total
CRA	1,395	1,568	15,250	17,097	
ESDC	210	210	1,807	1,806	
Health Canada	5	5	41	41	
SSC	5	2	173	173	
Other occupants and shared use areas (cafeteria, concession, property manager's offices), excluding the Canadian Corps of Commissionaires and maintenance.	N/A	N/A	1,076	1,113	
TOTAL:	**1,615**	**1,785**	**18,347**	**20,230**	**25,700**

Usable area: Area required for users' operational requirements.
Gross area: Total area of building.

6.5.2 Complete fit-out of the new building

The new building must include all typically required interior fit-out components, in particular, equipment and furnishings (screens, built-in and mobile furniture, etc.), signage, accessories (white boards, display boards, window coverings – security plastic film, blinds, etc.), security components (hardware, video surveillance systems for access control and communications), etc.

The new fit-out must integrate the various sustainable development components identified in section PD 4.2 and under Required Services (RS) and Additional Services (AS).

Accessories, furniture, equipment and moving

The new building will be fitted out with new furniture and new equipment. In addition to preparing space allocation drawings and comprehensive detailed fit-out drawings, throughout the furniture procurement process, the Consultant must assist PWGSC procurement services by organizing, managing and drafting tender documents using PWGSC tools.. The Consultant must also coordinate and fully oversee the phased installation of the furniture. The specific services required for project delivery are outlined under Required Services (RS) and Additional Services (AS).

Although PWGSC will be responsible for coordinating the move of users to the new building through an independent firm, the Consultant must prepare the drawings and specifications for moving so that the Construction Manager can launch the tender call. The specific services are listed under Required Services (RS) and Additional Services (AS).

6.5.3 Decontamination and deconstruction of the existing building

After the users have been moved to the fully operational new NVCC, the existing building must be decontaminated and then deconstructed.

Deconstruction essentially involves independently removing the components and materials of a structure in order to maximize their conservation for reuse or recovery. Deconstruction may require more time than conventional demolition because the materials must be sorted and segregated.

Deconstruction work must take into account the fact that the existing building contains hazardous materials and/or substances such as, but not limited to:

- Asbestos
- Lead (paint)
- Silica (cementitious materials)
- Mercury (fluorescent lamps)
- PCBs (ballast, transformer)
- Halocarbons (refrigerators - CFC 134A and chilling equipment - R-22, R-408 and R-409).
- Mould
- Heavy metals (batteries from emergency lighting units)
- ABC portable fire extinguishers
- Glycol and diesel tanks
- Generator
- Gas boilers
- Compressor
- Miscellaneous barrels containing acids, cleaning products, sanitary products, disinfectants, etc.

For decontamination, the services of an industrial hygiene expert will be required, in particular for the preparation of drawings and specifications, monitoring, quality control, etc. Refer to Required Services (RS)

The hazardous materials and/or substances listed above are identified in the June 2019 report on the inventory of specified substances and hazardous materials. This report will be provided to the successful proponent.

Deconstruction of the building's various components must be coordinated with the environmental aspect at every step of the project.

The new building will be fitted out with new equipment, accessories and furniture. Ecological disposal of existing equipment, accessories and furniture is an integral part of this mandate.

Deconstruction of the building's connectivity components (BCC) is an integral part of this mandate.

Deconstruction must provide for the decommissioning of various components (e.g., mechanical).

6.5.4 Phased deconstruction of the existing parking lot and site accesses

As with deconstruction of the existing building, deconstruction of the parking lot and related components must meet various environmental objectives (e.g., in terms of sustainable development – efficient management of construction waste and recovery), to achieve maximum recovery of construction waste.

Based on preliminary environmental studies, there may be contaminated soil (to be confirmed in the geotechnical report currently under way, which will be provided to the successful proponent).

If contaminated soil is found, the services of an industrial hygiene expert will be required, in particular for the preparation of drawings and specifications, monitoring, quality control, etc. These services will be covered by Required Services (RS).

Deconstruction of the parking lot encompasses all related components (underground infrastructure, lighting, traffic control devices, cameras, landscaping, etc.).

The phasing of parking lot deconstruction must consider that as many parking spaces as possible must be maintained for users (at least 500 spaces).

6.5.5 Phased construction of a new parking lot and accesses

After the new building is constructed and the existing building is deconstructed, the outside areas must be completely redesigned and reworked to be functional yet ecological.

The useful life of the existing parking lot, which has about 1200 parking spaces, has ended and the lot must be entirely deconstructed, reconfigured, redesigned and rebuilt based on the footprint of the new building. The same is true of all traffic lanes at the site. Planning and execution of this work will be carried out in phases, based on the various activities at the site, keeping in mind that the site must be fully operational at all times.

The outside traffic areas and the new parking lot must meet functional, aesthetic and environmental criteria. Design of the traffic areas and parking lot must consider, in particular, the inclusion of principles for reducing heat islands, effectively managing stormwater, the security of people and assets, limiting polluting travel, fostering an ecological balance, preserving biodiversity, and ensuring energy efficiency and reduced energy use.

Outside traffic must be organized into a hierarchy by method of transportation at the building, site and community levels. If the junction with the provincial highway must be reconfigured, the standards of the Quebec Ministère des Transports must be respected. Design of the access lanes must ensure fluid vehicle traffic and must limit speed. Emergency vehicle access must be part of the traffic plan, as must the service accesses for building operation and maintenance. The use of public transit and active transportation modes will be favoured through a focus on the related facilities. For example, by creating comfortable bus shelters that are connected to the building through pleasant pedestrian pathways. Spaces must be organized so as to prioritize and ensure the safety of active transportation modes. Potential traffic conflicts must be identified and innovative site work solutions must be proposed. At important intersections, including that with the daycare centre, pedestrian and bike crossings must be wide and easily visible

Although the exact number of parking spaces has yet to be confirmed as part of the upcoming FTP, an order of magnitude similar to the current number of spaces must be anticipated. Parking spaces must be optimally organized into a hierarchy and positioned by zone and by vehicle category so as to create incentives for carpooling and for using less polluting vehicles. The positioning of reserved spaces near the building for electric vehicles, small vehicles and carpooling must be evaluated (including recharging stations). As regards drainage of paved surfaces, bioretention basins and drainage gutters that promote natural groundwater infiltration must also be used. Ground cover materials with a high solar reflectance index must be selected to limit the presence of heat islands. Also, the parking lot design must entail strategically located snow depot locations to limit damage to surrounding plants, landscaping and site work. Finally, the lighting concepts for the site and parking lot must consider the use of energy-efficient lights that are dark-sky friendly.

6.5.6 Comprehensive site work (in phases)

Site work includes, in particular, outside parking, traffic lanes for vehicles, pedestrians and cyclists, outside courtyards, fencing, traffic control devices, civil engineering works, landscaping, and so on.
The site must be redeveloped so that the installations are suited to the sector's urban and natural environment. The building's positioning on the property must optimize the function of spaces and environmental performance criteria. An evaluation of the trees is in progress and the results of the study will be provided to the successful proponent. The conservation of healthy trees with a good to excellent lifespan should be prioritized when selecting the location of the new building. The trees and wooded areas to be conserved must be protected while the work is being carried out and compensation measures must be adopted for the trees that will be felled.

Treatment of building access must be part of the site work. For example, an entrance area conducive to employee meetings and exchanges among employees when arriving and departing from work must be created. Site development must include signage to identify the building, traffic

control panels and flag posts. The proposed site work must also consider the positioning of a passenger drop-off landing for an intercity bus that will shuttle between neighbouring urban areas. Additionally, merchandise delivery areas, waiting areas for taxis and for stops of less than 10 minutes must be incorporated into the building's periphery. Consideration must be provided to creating a sheltered, safe outside space for bike storage located near an entrance that provides access to showers and lockers. Access for fire department vehicles must also be planned in the treatment of the building's peripheral site work.

Functional and spatial interactions must be factored in, such as the positioning of inside living areas in connection with the outside environment. In particular, by allowing natural light to flow in and by providing perspectives and views from the building's interior on site features: terraces, landscaped pedestrian walkways, gardens and wooded areas. Site work must be versatile to accommodate a range of activities: conversation and relaxation areas for coffee breaks, furnished areas for meals, and outside collaboration areas. Consideration must also be provided to expandable surfaces for activities like outside meetings, workout or yoga sessions, and so on. The choice of surface covering must prioritize durability and minimal maintenance.

The selected plants must limit maintenance as well as the use of water and chemicals. Native and naturalized plants must be prioritized and the possibility of creating wildlife habitats for local populations of insects, small mammals, amphibians and reptiles must be assessed. Runoff management must include the use of permeable surfaces that allow water to percolate into the soil and to refill the site’s aquifer.

PD 7 ISSUES

Although the project’s cost, quality and schedule are very important and must be considered at every step of the project, the following issues are deemed crucial to the execution of this project.

Sustainable development components

The current National Verification and Collections Centre (NVCC) in Shawinigan was created to better meet the needs of Canadians. The government's decision to build a new NVCC confirms the intention to maintain the centre for the long term and to provide NVCC employees with a modern workplace that better meets CRA requirements and that will reflect the government's new requirements for sustainable development. As such, the quality objectives are to build a new, modern building that is environmentally friendly and at the cutting edge of technology for federal employees who work in Shawinigan for the purpose of enhancing their productivity.

Under the Federal Sustainable Development Strategy, the new building will be constructed in accordance with Gold-level LEED energy efficiency standards, must have a carbon footprint lower than that of the current building, and must incorporate modern technology for building construction and maintenance.

Achieving the government's sustainable development objectives is thus a key issue for this project.

Major time issues

The construction of a new NVCC is a significant commitment by the Government of Canada that will give Canadians access to the best possible service when they contact the Canada Revenue Agency.

The current building has reached the end of its useful life, is operating at full capacity, and no longer meets its occupants' requirements. Any delay in building a new facility would lead to increased deterioration in the current building's condition as well as additional maintenance and operating costs and would impact both service delivery by the occupant departments and the well-being of users.

As such, it is essential that the schedule be respected so that users can move to the new building as quickly as possible, while still conforming to the policies of PWGSC. Any methods to improve the schedule must be discussed and, if approved, implemented.

Accessibility issues (barrier-free design and universal, safe access)

All Canadians deserve to be able to fully participate in the life of their community and their workplace and to have an equal chance of success. The Government of Canada adopted the Accessible Canada Act in order to eliminate the obstacles to inclusion that disabled persons continue to face in their day-to-day life in society.

PWGSC must meet accessibility requirements in providing access to and use of its buildings. These requirements include building components, entrances, passenger elevators, public areas and federal work areas. These are minimum requirements.

As part of this project, the objective is to exceed the minimum requirements set out in the Treasury Board of Canada Secretariat’s Accessibility Standard for Real Property, by improving full and equal participation in society by all, especially disabled persons, through the elimination and prevention of barriers, among other measures.

Achieving the government's accessibility objectives is thus a key issue for this project.

Media attention

Construction of a new NVCC is critically important to the CRA as well as to the region’s economic development, as the Government of Canada is a major employer in the area. This means that the project is the focus of a great deal of media attention.

The Consultant must therefore respect the official communication channels throughout the project.

PD8 CONSULTANT SERVICES

Members of the Consultant Team may have the necessary qualifications and expertise to provide services in more than one discipline or specialty. The Consultant Team for this project must be able to provide integrated services in the following disciplines:

Architecture
Colour
Door hardware specialist
Lighting design
Food services
Fit-out and interior design (including furniture)
Signage and orientation aids (traffic control devices)
Universal accessibility
Construction code specialist
Acoustics
Landscape design

Mechanical engineering
Mechanical engineering, energy specialty
Electrical engineering
Structural engineering
Civil engineering
Geotechnical engineering
Commissioning
Commissioning
Vertical transportation
Fire safety
Fire protection
Transport and traffic
Stormwater management vs. municipality

Integrated security systems
Technological security
Information technology and telecommunications (IT, communications, multimedia, videoconferencing, etc.)

Schedule control
Cost management and control
Risk management

Integrated design
Building information management and modelling (BIM)

Sustainable design and development (LEED)
Uncontaminated waste management
Contaminated waste management
Environmental protection
Industrial hygiene
Laboratories

PD9 AVAILABLE DOCUMENTATION

9.1 Existing documentation - available to all proponents

The following drawings for the existing building (Project 029457), in PDF:

ARCHITECTURE

1. SHEET A01/72 - PLOT PLAN
2. SHEET A02/72 - GROUND FLOOR PLAN
3. SHEET A03/72 - UPPER FLOOR PLAN
4. SHEET A04/72 - ROOF PLAN
5. SHEET A05/72 - LONGITUDINAL SECTIONS
6. SHEET A06/72 - TRANSVERSALE SECTIONS
7. SHEET A15/72 - PENTHOUSE PLAN
8. SHEET A16/72 - REFLECTED CEILING – GROUND FLOOR
9. SHEET A17/72 - REFLECTED CEILING – UPPER FLOOR
10. SHEET A18/72 - SPECIAL CEILINGS DETAILS
11. SHEET A20/72 - GROUND FLOOR – FLOOR FINISHES
12. SHEET A21/72 - UPPER FLOOR – FLOOR FINISHES
13. SHEET A24/72 - FACADES
14. SHEET A25/72 - FACADES
15. SHEET A26/72 - FACADES
16. SHEET A27/72 - FACADES
17. SHEET A28/72 - EXTERIOR WALL DETAILS
18. SHEET A29/72 - EXTERIOR WALL DETAILS
19. SHEET A30/72 - EXTERIOR WALL DETAILS
20. SHEET A31/72 - EXTERIOR WALL CLADDING DETAILS
21. SHEET A32/72 - EXTERIOR WALL CLADDING DETAILS
22. SHEET A33-72 - MISCELLANEOUS DETAILS
23. SHEET A34/72 - WINDOWS & MAIN ENTRANCE
24. SHEET A35/72 - CURTAINWALL DETAILS
25. SHEET A36/72 - ROOF & SKYLIGHT DETAILS
26. SHEET A39/72 - ELEVATORS & ESCALATORS
27. SHEET A40/72 - STAIRCASES DETAILS
28. SHEET A43/72 - INTERIOR PARTITIONS DETAILS

9.2 Existing documentation – will be provided to successful proponent

The following documents will be made available to the successful proponent in the language in which they were written.

Environment

- Évaluation environnementale de site - phase I [Environmental Site Assessment - Phase I] - By Akifer, February 22, 2019
- Évaluation environnementale de site – phase II [Environmental Site Assessment - Phase II] (including preliminary geotechnical study) – In progress
- Étude de faisabilité en développement durable en vue de la construction d'un immeuble du gouvernement du Canada [Sustainable Development Feasibility Study for the Construction of a Government of Canada Building] (energy study and options development for GHG reduction, including a comparative study for LEED, WELL, zero carbon) – In progress by Fabrik
- Étude d'analyse des coûts totaux de propriété [Total Ownership Cost Analysis Study] – In progress by PWGSC
- Évaluation des effets environnementaux [Environmental Effects Assessment] – CEAA 2012 - By CIMA+, in progress
- Étude de l'état de santé des arbres [Study on Tree Health] – By CIMA+, in progress
- Inventaire des substances désignées et des matières dangereuses [Inventory of Specified Substances and Hazardous Materials], by WSP – June 2019
- Analyse de Cycle de vie des matériaux à faible empreinte carbone (structure et enveloppe) [Life Cycle Analysis for Low Carbon Footprint Materials (Structure and Envelope)] – in progress
- Étude de vulnérabilité des infrastructures aux effets climatiques et météorologiques possibles [Study on Infrastructure Vulnerability to Potential Climate and Weather Effects], by CIMA+ - In progress

Existing building

- Rapport sur l'état de l'immeuble (REI) [Building Condition Report (BCR)], PWGSC, October 10, 2017
- Original drawings for the existing building, scanned as PDFs
- Plan topographique [Topographic Plan] – In progress
- Étude de la portée des travaux de réfection des stationnements [Scoping Study for Parking Lot Refurbishment] (including a report on the televised survey of stormwater drainage), by BPR, March 25, 2013

New building

- Programme fonctionnel et technique (PFT) [Functional and Technical Program (FTP)]
- Guide des locataires – Services de gestion immobilière et de réalisation de projets fournis par les contrats Biens immobiliers-1 (BI-1) [Tenant Guide - Property Management and Project Execution Services Supplied by Real Property-1 (RP-1) Contracts], by BGIS, August 28, 2018
- Permis de travail – Santé et sécurité [Work Permit – Health and Safety], by BGIS
- Étude de potentiel archéologique [Archeological Potential Study] – By Patrimoine experts, May 7, 2019
- Arrangement en matière d'approvisionnement pour les espaces de travail [Supply Arrangement for Work Spaces] (furniture SA)

9.3 Existing documentation – provided upon request to successful proponent

The following documents will be made available to the successful proponent in the language in which they were written.

- Étude pour entretien préventif des toitures, drains de toits et puits de lumière [Study on Preventive Maintenance for Roofs, Roof Drains and Skylights] – by Cimaise, December 14, 2015
- Étude équipements de cafétéria – CFSS, Rapport de vétusté des équipements du service alimentaire [Cafeteria Equipment Study – CFSS, Report on Obsolescence of Food Services Equipment] – Bouthillette Parizeau – December 3, 2015

Schedule 1 to PD Section

Applicable Standards, Codes and Requirements

The list of reference documents below is not exhaustive and is provided for information purposes only.

A.1 Reference documents

This section incudes all codes, standards and regulations to which reference is made in the following reference documents.

A.1.1 Codes

- National Building Code of Canada 2015
- National Fire Code of Canada 2015
- National Plumbing Code of Canada 2015
- CSA C22.1-18 – Canadian Electrical Code, Part I (24th edition)
- National Energy Code of Canada for Buildings 2017
- Safety Code for Elevators and Escalators, ASME A17.1-2010/CSA B44-10 (ASME A17.1-2016/CSA B44-16 for universal accessibility requirements only)
- Canada Labour Code, R.S.C., 1985, c. L-2, Part II – Occupational Health and Safety; Canada Occupational Health and Safety Regulations (SOR/86-304)
- Environmental Code of Practice for the Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems
- Installation Code for Oil-Burning Equipment (CSA B139)
- Code of Practice for the Environmental Management of Road Salts
- Code of Practice for the Reduction of Volatile Organic Compound Emissions from Cutback and Emulsified Asphalt
- Safety Code for the Construction Industry, S-2.1, r.4
- PSPC 2017-2020 Departmental Sustainable Development Strategy, 2015
- PSPC Real Property Sustainable Development and Environmental Strategy, 2018
- PWGSC Real Property Sustainability Framework, 2015

A.1.2 Standards

- PSPC (PWGSC) standards, guidelines and clauses
- Treasury Board standards
- “Doing Business with PWGSC – Documentation and Deliverables Manual,” January 12, 2018, and “Doing Business with PWGSC – Addenda –Quebec Region,” June 1, 2018
- Computer Aided Drafting & Design: PSPC Quebec Region, Supplément à la norme CDAO [Supplement to CADD Standard], May 2019
- Government of Canada Workplace Fit-Up Standards, PSPC, May 2018
- Technical Reference for Office Building Design, PSPC, July 2017 version
- Accessible Design for the Built Environment - CSA B651-18
- Accessibility Standard for Real Property – Treasury Board of Canada Secretariat
- Federal Identity Program Manual (FIP)

- PSPC Commissioning Manual and PSPC Commissioning Guidelines
- PSPC Asbestos Management Standard
- Norme de conception routière [Road Design Standard], Transport Québec
- MD 15000: Mechanical Environmental Standard for Federal Office Buildings
- MD 15161: Control of Legionella in Mechanical Systems
- MD 16001 – Air Filters for HVAC Systems
- MD 250005-2009 – Energy Monitoring and Control Systems Design Guidelines (EMCS)
- ANSI/TIA 569, Telecommunications Pathways and Spaces and related addendas
- Government of Canada (GC) Workplace Fit-Up-Special Technical Standard Guidelines (Section A4): Telecommunications (Cable Networks) Pathways and Spaces – Planning and Implementation
- AABC National Standards for Total System Balance
- AHRI 410: Forced Circulation Air-Cooling and Air-Heating Coils
- ANSI/AHRI 880: Performance Rating of Air Terminals
- ANSI/AMCA 210: Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating
- ASHRAE handbooks:
  - Handbook – HVAC Applications
  - Handbook – Fundamentals
  - Handbook – Refrigeration
  - Handbook – HVAC Systems and Equipment
- ASHRAE 0: The Commissioning Process
- ASHRAE 4: Preparation of Operating and Maintenance Documentation for Building Systems
- ASHRAE 15: Safety Standard for Refrigeration Systems
- ASHRAE 34: Designation and Classification of Refrigerants
- ASHRAE 52.2: Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size
- ASHRAE 55: Thermal Environmental Conditions for Human Occupancy
- ASHRAE 62.1: Ventilation for Acceptable Indoor Air Quality ANSI/ASHRAE/IES 100: Energy Efficiency in Existing Buildings
- ASHRAE/IES 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings
- ASHRAE 105: Standard Methods of Determining, Expressing, and Comparing Building Energy Performance and Greenhouse Gas Emissions
- ASHRAE 111: Measurement, Testing, Adjusting, and Balancing of Building HVAC Systems
- ASHRAE 135: BACnet: A Data Communication Protocol for Building Automation and Control Networks
- ASHRAE/ACCA 180: Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems
- ASHRAE 189.1: Standard for the Design of High Performance Green Buildings
- ASME UPV: Code for Unfired Pressure Vessels
- ASME BPVC: Boiler and Pressure Vessel Code

- CAN/CSA B149.1: Natural Gas and Propane Installation Code
- CAN/CSA B214: Installation Code for Hydronic Heating Systems
- CAN/CSA B44: Safety Code for Elevators and Escalators
- CAN/CSA B51: Boiler, Pressure Vessel and Pressure Piping Code
- CAN/CSA B52: Mechanical Refrigeration Code
- CAN/CSA B64: Backflow Preventers and Vacuum Breakers (DAR)
- CAN/CSA B651: Accessible Design for the Built Environment
- CAN/CSA C282-15: Emergency Electrical Power Supply for Buildings
- CAN/CSA C743: Performance Standard for Rating Packaged Water Chillers
- CAN/CSA Z204: Guideline for Managing Indoor Air Quality in Office Buildings
- CAN/CSA ISO 50001: Energy Management Systems
- CAN/CSA B651, Accessible Design for the Built Environment
- CSA B125.1, Plumbing Supply Fittings
- CTI STD201: Certified Cooling Towers
- National Environmental Balancing Bureau (NEBB) TABES, Procedural Standards for Testing, Adjusting, Balancing of Environmental Systems
- NFPA 54, National Fuel Gas Code
- NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances
- NFPA 214, Standard on Water-Cooling Towers
- ISO 29481-1:2016 Building Information Models – Information Delivery Manual – Part 1: Methodology and Format
- ISO 29481-2:2012 Building Information Models – Information Delivery Manual – Part 2: Interaction Framework
- ISO/TS 12911:2012 Framework for Building Information Modelling (BIM) Guidance
- ISO 16739:2013 Industry Foundation Classes (IFC) for Data Sharing in the Construction and Facility Management Industries
- ISO 15686-4:2014 Service Life Planning – Part 4: Service Life Planning Using Building Information Modelling
- ISO 16354:2013 Guidelines for Knowledge Libraries and Object Libraries
- Institute for BIM in Canada's Contract Language Documents Package
- The Canadian Practice Manual for BIM

A.1.3 **Directives**

- Occupational Health and Safety Directive by the National Joint Council, Part VII, Noise Control (Levels of Sound)
- Guidelines for Canadian Drinking Water Quality by Health Canada
- Guidelines for Canadian Drinking Water Quality, August 2012

A.1.4 **Regulations**

- SOR/2003-307: Environmental Emergency Regulations
- SOR/2009-264: Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations

- Canadian Environmental Protection Act, Ozone-Depleting Substances Regulations
- Canadian Environmental Protection Act, Federal Halocarbon Regulations

- Regulation Respecting Stationary Enginemen (provincial)
- Migratory Birds Regulations, C.R.C., c. 1035
- Wastewater Systems Effluent Regulations
- Regulation Respecting the Application of Section 32 of the Environment Quality Act
- Transportation of Dangerous Goods Regulations
- Transportation of Dangerous Substances Regulation (C-24.2, r. 43)
- Regulation Respecting Hazardous Materials (Q-2, r. 32)
- Pest Control Products Regulations (SOR/2006-124)
- Regulation Respecting Solid Waste, CQLR, c. Q-2, r.13
- Federal Halocarbon Regulations (2003) (SOR/2003-289)
- Prohibition of Asbestos and Products Containing Asbestos Regulations, (SOR/2018-196)
- PCB Regulations, (SOR/2008-273)
- Ozone-depleting Substances and Halocarbon Alternatives Regulations, (SOR/2016-137)
- Petroleum Products Act (P-30.01)
- Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, (SOR/2008-197)
- Regulation Respecting Snow Elimination Sites, (1997), Q-2 r.31
- Canada Occupational Health and Safety Regulations (s. 9.24) (SOR-86-304)
- Regulation Respecting the Landfilling and Incineration of Residual Materials
- Regulation Respecting Occupational Health and Safety, (c. S-2.1, s. 223)
- Municipal by-law - Environnement [Environment] - SH-1, section 10
- Urban planning by-laws: By-law No. SH-200
- Zoning by-law: By-law No. SH-550
- Zoning by-law: Coupe d'arbre [Tree Felling]

A.1.5 **Specifications**

- Canadian National Master Specification (NMS) (latest edition)

A.1.6 **Guidelines**

- Guideline – Project GHG Options Analysis Methodology

A.1.7 **Documents:**

- Cadre stratégique pour la durabilité des immeubles [Strategic Framework for Building Sustainability]
- Greening Government Strategy by the Treasury Board of Canada Secretariat
- CaGBC LEED BD+C V4.1 or more recent
- CaGBC Zero Carbon Building Standard
- WELL Building Standard V2 or more recent

- Workplace Hazardous Materials Information System (WHMIS) published by Health Canada
- SMACNA Air Duct Leakage Test SMACNA
- Workspaces Supply Arrangement (AMA)
- Critères de qualité de l'eau de surface au Québec [Groundwater Quality Criteria for Quebec]
- Guide de gestion des eaux pluviales [Stormwater Management Guide]
- Guide d'aménagement des lieux d'élimination de neige et mise en œuvre du Règlement sur les lieux d'élimination de neige [Development Guide for Snow Elimination Sites and Application of the Regulation Respecting Snow Elimination Sites] (MEF, 1997)
- Guide for Radon Measurements in Public Buildings, Health Canada

A.1.8 **Policies**

- Policy on Emergency Management and Operational Security Standard - Business Continuity Planning (BCP) Program of the Treasury Board of Canada Secretariat
- PSPC Sustainable Buildings Policy

A.1.9 **Legislation**

- Canadian Environmental Protection Act
- Canadian Environmental Assessment Act (2012)
- Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22)
- Species at Risk Act (S.C. 2002, c. 29)
- Transportation of Dangerous Goods Act (S.C. 1992, c. 34)
- Pest Control Products Act (S.C. 2002, c. 28)
- Hazardous Products Act (R.S.C. (1985), c. H-3)
- Petroleum Products Act (P-30.01)
- Accessible Canada Act (C-81, 2019)

A.1.10 **Standards of client departments**

Canada Revenue Agency (CRA):

- Physical Security Standards and Design Specifications Guide, Version 2.1 (November 4, 2016) Employment and Social Development Canada (ESDC):
- ESDC Interior Design Standards version 2.1 (June 2016): Sections A to G

REQUIRED SERVICES (RS)

A. General

The services that the Consultant undertakes to provide under this mandate include, but are not limited to:

- Professional architecture, engineering and specialized services (as per PD5 and PD8), in accordance with the following required services (RS), set out in this section: RS1 (RS1A, RS1B), RS2, RS3, RS4, RS5, RS6, RS7, RS8, RS9, RS10 and RS11.
- Professional services required to obtain, coordinate and integrate the additional services (AS1, AS2, AS3, AS4, AS5, AS6, AS7 and AS8) and the expertise and laboratory services **(**disbursement) complementing the required services (RS), such as :
    - Envelope Commissioning
    - Envelope Waterproofing (roofing, vapor-barrier, curtain wall)
    - Industrial Hygiene
    - Civil (compaction, sampling and analysis of backfill material, paving, concrete, etc.)
    - Structural (sampling and analysis of concrete, welds, etc.)

  These services include, without being limited to, the following:
    - Drafting of mandates required to obtain additional services (ASW) and expertise and laboratory services (disbursement);
    - Call for tenders, analysis of service offerings and negotiations, if required;
    - Coordination and integration of additional services (AS) and expertise and laboratory services (disbursement) with the documents to be delivered in each stage of the required services (RS).

The Consultant must ensure that its proposition includes the services of all Sub-Consultants (Architects, Interior Designers, Engineers, Landscape Architects and other Specialist Consultants mentioned in the RFP8 section) who will help the Consultant to properly carry out its mandate.

The team members must be authorized to provide the required services to the full extent prescribed by Quebec law, be a member in good standing of the regulatory body for their profession, and respect the security criteria required for this project.

In this Request for Proposal (RFP), unless otherwise indicated, the term “Consultant” includes the services of the Prime Consultant and the services of all its sub-consultants or specialist consultants required to carry out its mandate.

The Required Services task list is non-exhaustive and in no way limits the professional obligations of the Consultant to perform the required tasks for the purpose of fulfilling the mandate of the project.

These required services include:

RS1 Analysis of Project Requirements – Verification and Validation:
RS 1A Pre-Design Services - development (Phase1A)
RS 1B Pre-Design Services - verification (Phase 1B)
RS 2 Schematic Design
RS 3 Design Development

RS 4 Construction Documents
RS 5 Tender Call, Bid Evaluation & Construction Contract Award
RS 6 Construction and Contract Administration
RS 7 Risk Management
RS 8 Enhanced Commissioning of the Facility
RS 9 Cost Estimating and Planning
RS10 Schedule Planning, Sequencing and Control
RS11 Sustainable Development

The required services apply to all of the following project components (except where otherwise indicated in the breakdown of required services):

1. Construction of new building;
2. Complete fit-up of the new building;
3. Decontamination and deconstruction of the existing building;
4. Deconstruction of the existing parking lot and access roads and decontamination of the site;
5. Construction of a new parking lot and access roads;
6. Complete fit-up of the site.

The following non-exhaustive lists identify services expected from each discipline. Some of the activities listed below may require the participation of several or all professionals. The Consultant must coordinate its various team members (including Sub-Consultants and Specialist Consultants) and is responsible for performance of all elements in the mandate. The Consultant is responsible for ensuring that all the documents produced and information supplied are coordinated among all disciplines.

B. Meetings

B.1 Coordination Meetings

The Consultant must:

- Invite its staff members, sub-consultants and specialist consultants, the Departmental Representative, PWGSC support staff, client departments and the Construction Manager to coordination meetings. Half-day meetings will be held on a regular basis (2 weeks) at stages RS1 to RS4;
- Chair the meetings to coordinate and direct the activities of the Project.
- Draft the minutes and distribute copies to all participants within 48 hours.

The Departmental Representative will retain the services of the FTP designer to attend coordination meetings as required when FTP data issues are discussed.

Meetings must, but will not be limited to the following:

- Monitor the progress of the project design against project objectives, scope, costs and timelines and identify the measures to be put in place to ensure that progress meets basic requirements (costs, schedule, contractual scope);
- Ensure communication between all participants;
- Address special problem issues;
- Ensure effective quality assurance and coordination;
- Ensure design coordination of all disciplines;
- Monitor the implementation strategy (construction packages);

- Coordinate critical technical aspects, such as electrified hardware for access control and building connectivity elements (BCE) (integrated security systems, information technology and telecommunications components)
  If the Consultant finds that the amount of time allocated for coordination meetings is insufficient to deal with these technical issues, the Consultant must plan as many technical meetings as will be required to understand and resolve the technical issues raised during the coordination meetings and to properly carry out the Contractor's design work.

B.2 Project Meetings

The Departmental Representative must:

- Invite the Consultant and the Construction Manager to project meetings with PWGSC and client department stakeholders upon request. The half-day meetings will be held on a regular basis (every two weeks) during stages RS1 to RS4;
- Chair meetings, coordinate and direct activities.
- Draft the minutes and distribute copies to all participants within 48 hours.

Meetings must, but will not be limited to the following:

- Inform PWGSC and client department stakeholders of the progress of the project and the issues that affect them.

B.3 Design Document Presentation Meetings

B.3.1 Project Team

The Consultant must:

- Invite its staff members, sub-consultants and specialist consultants, the Departmental Representative, PWGSC support staff and client departments to half-day design document presentation meetings at the following frequency:
  - One (1) presentation at RS1 (including RS1a and RS1b)
  - Two (2) presentations at RS2 (50% and 99% completion)
  - Two (2) presentations at RS3 (50% and 99% completion)
  - Ten (10) presentations at RS4 (percentage of completion and frequency to be determined based on construction packages).

Meetings must, but will not be limited to the following:

- Submit design documents and answer questions about technical quality assurance, the FTP, constructibility, etc.

B.3.2 PSPC Senior Management

The Consultant must:

- Invite its staff members, sub-consultants and specialist consultants, the Departmental Representative, PWGSC support staff and client departments to half-day design document presentation meetings at the following frequency:
  - One (1) presentation at RS2 (99% completion)
  - One (1) presentation at RS3 (99% completion)
  - Two (2) presentations at RS4.

Meetings must, but will not be limited to the following:

- Present design documents and answer questions from stakeholders invited by the Departmental Representative.

B.3.3 Municipality of Shawinigan

The Consultant must:

- Invite its staff members, sub-consultants and specialist consultants to meetings, according to the directions of the municipality and at the required frequency to obtain the building permit.

Meetings must, but will not be limited to the following:

- Submit design documents and answer questions from municipality authorities.
- Confirm that the building permit has been issued.

B.4 Pre-construction Briefing Meetings

The Consultant must:

- Immediately following the award of each construction package, attend half-day information meetings with its staff, sub-consultants and specialist consultants, held with the Construction Manager, selected subcontractor and Departmental Representative, at stage RS6;

The Construction Manager will chair the meetings, write the minutes and ensure their distribution to all participants within 48 hours.

Meetings must, but will not be limited to the following:

- Ensure efficient communication between all participants.
- Ensure effective construction coordination with site and building operations.

B.5 Construction Meetings

The Consultant must:

- Attend half-day construction meetings with its staff, sub-consultants and specialist consultants, where the Departmental Representative and the Construction Manager and subcontractors will be present. Meetings will be held on a regular basis (2 weeks) at stage RS6;

The Construction Manager will chair the meetings, write the minutes and ensure their distribution to all participants within 48 hours.

Meetings must, but will not be limited to the following:

- Monitor the progress and administration of the prioritized construction against the approved scope and construction cost estimate, and the construction schedule. Identify the measures to be put in place to ensure that progress meets basic requirements (costs, schedule, contractual scope);
- Ensure efficient communication between all participants;
- Ensure effective construction coordination with site and building operations. Coordinate and integrate solutions that avoid or mitigate potential conflicts related to information technology systems, multimedia systems and security systems;
- Ensure effective and efficient site coordination of all disciplines and Subcontractors;
- Identify opportunities or problem issues, assigning responsible individuals and dates for resolution;
- Ensure effective quality management.

B.6 Commissioning Meetings

The Enhanced Commissioning Consultant (ECS) must:

- Invite to Enhanced Commissioning Meetings (ECMs) the Consultant, its sub-consultants and specialist consultants, the Departmental Representative, the Construction Manager and its subcontractors. Meetings will be held on a regular basis (4 weeks) from stage RS1 to stage RS6;
- Chair the meetings to coordinate and direct the activities of the Project.
- Draft the minutes and distribute copies to all participants within 48 hours.

Meetings must, but will not be limited to the following:

- Discuss commissioning implementation;
- Coordinate work and progress.

B.7 Functional and Technical Program (FTP) presentation meetings

The Departmental Representative must:

- Invite the Consultant, its sub-consultants and specialist consultants, to three (3) one-day FTP presentation meetings.
- Chair the meetings to coordinate and direct activities.

The Consultant must:

- Draft the minutes and distribute copies to all participants within 48 hours.

Meetings must, but will not be limited to the following:

- Appropriately transfer knowledge between the programmer who completed the FTP, the Consultant, its sub-consultants and specialist consultants.

B.8 Constructability Workshops

The Construction Manager will hold constructability workshops at different stages of the project. It will produce review reports that document the problems identified and recommended solutions. The Consultant is not invited to these workshops. However, it will need to review the reports and take the recommendations into account in its design.

B.9 Cost and Scheduling Coordination Workshop

The Consultant must:

- Invite its staff members, sub-consultants, cost consultant, planning and scheduling consultant, Departmental Representative, client departments and Construction Manager to cost and scheduling coordination workshops. Half-day workshops will be held on an exceptional basis and upon request at the RS4 stage. The Consultant must plan to attend ten (10) meetings;
- Chair the workshops to coordinate and direct the activities of the Project.
- Draft the minutes and distribute copies to all participants within 48 hours.

Workshops must, but will not be limited to the following:

- Monitor the progress of the project design against project objectives, scope, costs and timelines and identify the measures to be put in place to ensure that progress meets basic requirements (costs, schedule, contractual scope).

B.10 Risk Management Workshops

The Departmental Representative must:

- Invite the Consultant, its sub-consultants and the Construction Manager to the risk management workshops. Half-day workshops will be held at each stage (one (1) meeting per stage), from RS1 to RS6;
- Chair the workshops to coordinate and direct activities.

The Consultant must:

- Draft the minutes and distribute copies to all participants within 48 hours.

Workshops must, but will not be limited to the following:

- Identify, inventory and update the risks inherent to the project;
- Identify the risk mitigation measures to be applied;
- Identify, record and update the risk management table.

B.11 Lessons Learned Workshops

The Departmental Representative must:

- Invite the Consultant, its sub-consultants and the Construction Manager to the lessons learned workshops. Half-day workshops will be held on a regular basis (24 weeks) in stages RS4 to RS6;
- Chair the workshops to coordinate and direct activities.

The Consultant must:

- Draft the minutes and distribute copies to all participants within 48 hours.

Workshops must, but will not be limited to the following:

- Document lessons learned from problems related to the design and construction process;
- Identify and update the table of lessons learned inherent to the project;
- Improve the process of producing, issuing and managing tender documents in separate construction packages.

B.12 Value Analysis Workshops

The Consultant must:

- Invite among its staff members, sub-consultants and specialist consultants, those whose participation is required because of the work or other subjects covered. It must also invite the cost consultant, Departmental Representative, client departments and the Construction Manager. Half-day workshops will be held on a regular basis (4 weeks) in stages RS1 to RS4;
- Chair the workshops to coordinate and direct the activities of the Project;
- Draft the minutes and distribute copies to all participants within 48 hours.

Workshops must, but will not be limited to the following:

- Maximize design resources;
- Optimize the proposed construction method;

B.13 Integrated Design Workshops (IDP)

The Integrated Design Process (IDP) Expert must:

- Prepare, chair, facilitate and lead workshops;
- Coordinate with the Senior Building Information Modeling (BIM) Manager the BIM communication and visualization tools required during the workshops;
- Invite to the following workshops the Consultant, its staff, sub-consultants and specialist consultants, the Departmental Representative, PWGSC support staff, client departments and the Construction Manager:

- One (1) half-day start-up workshop to present the key stages of the Integrated Design Process (IDP) Action Plan and to develop a common understanding;
- Ten (10) intensive multidisciplinary integrated design (IDP) workshops of one (1) day each, as part of the Integrated Design Program. The workshops will be divided from stage RS1 to RS3.

The Integrated Design Process (IDP) expert's services fall under AS6.

The Consultant must:

- Assist the Integrated Design Process (IDP) expert in the preparation of workshops;
- Assist with the members of his staff, his sub-consultants and specialist consultants to the above mentioned workshops.
- Prepare reports of the meetings and distribute copies to all participants within 48 hours.
- Integrate the conclusions of the meetings into the design documents.

The Departmental Representative will retain the services of the Functional and Technical Program (FTP) Developer to participate in integrated design workshops as required.

Workshops must, but will not be limited to the following:

- Foster from the outset a collaborative and multidisciplinary design process in which all stakeholders are involved in the decision-making process;
- Define the functional, environmental and economic objectives applicable over the useful life of the facilities;
- Address and solve complex problems in a synergistic manner;
- Reach rapid consensus on key issues;
- Generate better efficiency, integrated, optimal, innovative and sustainable solutions.

B.14 Building Information Modeling Management (BIM) Workshops

The Senior Building Information Modeling (BIM) Manager must:

- Prepare, chair and lead workshops;
- Plan six (6) half-day workshops to write the BIM management plan;
- Invite to the workshops the Senior Consultant and the BIM managers from each of the disciplines of the Senior Consultant and the latter's sub-consultants;
- Draft the minutes of the workshops and distribute copies of them to all participants with 48 hours.

The services of the senior manager of building information modelling (BIM) fall under AS5.

The Consultant must:

- Participate in the Workshops with the BIM managers of each of his disciplines and of all his sub-consultants.
- Integrate to the design and to the production of documents for tenders, the measures agreed upon during the workshops.

Workshops must, but will not be limited to the following:

- Define and standardize the method for integrating information into the Building Information Modeling (BIM) model.

B.15 Building Information Modeling (BIM) Coordination Workshops

The Senior Building Information Modeling (BIM) Manager must:

- Prepare, chair and lead workshops;
- Plan twenty (20) half-day workshops to ensure consistency in the application of the BIM management plan;
- Invite to the workshops the Senior Consultant and the BIM managers from each of the disciplines of the Senior Consultant and the latter's sub-consultants;
- Draft the minutes of the workshops and distribute copies of them to all participants with 48 hours.

The services of the senior manager of building information modelling (BIM) fall under AS5.

The Consultant must:

- Participate in the Workshops with the BIM managers of each of his disciplines and of all his sub-consultants.
- Integrate to the design and to the production of documents for tenders, the measures agreed upon during the workshops.

Workshops must, but will not be limited to the following:

- Ensure that the information integrated into the Building Information Modeling (BIM) model is consistent and coordinated.

C. Coordination with stakeholders mandated by the Departmental Representative

C.1 Functional and Technical Program (FTP) Designer

The Departmental Representative will retain the services of the FTP designer to:

- Perform quality control to ensure that FTP data is fully integrated into the building design phases (RS2 and RS3);
- Provide ad hoc advice, as required, on potential changes that may affect the full integration of FTP data into the design during the development of the implementation file (RS4).

The Consultant must:

- Incorporate into the documents the comments received from the FTP designer in the RS2 and RS3 design phases;
- Integrate changes to FTP data into the Building Information Modeling (BIM).

C.2 Construction Manager

The Departmental Representative will retain the services of a Construction Manager.
The Consultant must:

- Collaborate with the Construction Manager at all design stages from RS1 to RS10.

- Consider the Construction Manager's recommendations regarding constructability, cost estimation and planning, planning, scheduling and schedule control.
- Work closely with the Construction Manager for:
    - Schedule planning, sequencing and control.
    - Preparing and coordinating tender documents in separate construction packages;
    - Tender Call, Bid Evaluation and Construction Contract Award by separate construction packages;
    - Construction and Contract Administration.

C.3 Building Connectivity Elements (BCE)

The Departmental Representative will retain the services of a Consultant specialised in Building Connectivity Elements (BCE), in Integrated Security Systems (ISS) and in Telecommunication and Information Technology components (IT-Telecom).

C.3.1 Integrated Security Systems (ISS)

The Consultant and his Sub-Consultants shall:

- Collaborate with the Integrated Security Systems (ISS) Consultant in order to provide him with the infrastructure (empty conduits network, secure partitions, etc.) required for the integration of his services of:
    - Electronic and Physical Access Control;
    - Electronic Surveillance Systems;
    - Cameras (interior and exterior);
    - Computer System and Intercommunications;
    - Electrified Hardware;
    - Fire Alarm Surveillance System.

C.3.2 Telecommunication and Information Technology components (IT-Telecom).

The Departmental Representative will retain the services of a federal government digital services specialist from Shared Services Canada (SSC).

SSC will be responsible for the network architecture, for selecting various computer components and equipment in server rooms, for the design, purchase and installation of IT and telecommunications equipment, and for cabling.

The Consultant must work closely with Shared Services Canada (SSC) and provide him/her with the required infrastructure to integrate IT and telecommunications services, as follows:

- Design of server rooms (main and secondary) in accordance with SSC requirements;
- Integration of physical IT and telecommunications infrastructure in the design documents (main room and secondary room, empty conduit system, cable trays, etc.).

RS 1 ANALYSIS OF PROJECT REQUIREMENTS – VERIFICATION AND VALIDATION

At the end of the RS1 stage, the Consultant will present a synthesis report that will consolidate the contents of the documents developed and filed in substages RS1A.1 to RS1A.4, RS1B.1 and RS1B.2.

This stage is part of the Integrated Design (IDP) and Building Information Modeling (BIM) program.

RS 1A Pre-Design Services – Development (Phase 1A)

(Applicable to the entire project)

During this stage, the following documents will be produced:

RS1A.1 Implementation Strategy and Schedule (Timeline):
Applicable to the entire project.

RS1A.2 Cost Estimate Report:
Applicable to the entire project

RS1A.3 Sustainable Development Strategies Reports:
Applicable to the entire project.

RS1A.4 Communications and Stakeholder Management Plan:
Applicable to the entire project.

RS 1A.1 Implementation Strategy and Schedule (Timeline)

1A.1.1 Objective

The purpose of this stage is to detail an implementation strategy to meet the project goals and objectives. (Refer to SR10)

1A.1.2 General

Scope of work

The Consultant must provide a detailed implementation strategy and schedule, including (but not limited to) the following:

- Prepare a detailed implementation strategy that documents, in a report, all activities, milestones and deliverables required for the effective delivery of the project including time frames for submissions, reviews and approvals.
- Prepare a project schedule that identifies, in a graphic format such as Critical Path Method (CPM) or Program Evaluation Review Technique (PERT), all activities, milestones including critical deadlines, long lead delivery items and

drop dead dates, required for the effective delivery of the project deliverables, including time frames for submissions, reviews and approvals.

- The Implementation Strategy and Schedule described above must include, but not be limited to the following:
  - ❖ The master schedule;
  - ❖ Decommissioning, deconstruction and environmental clean-up strategy;
  - ❖ Construction strategy;
  - ❖ Procurement of facility equipment and furniture strategy;
  - ❖ Move sequencing.
- Advise the Departmental Representative of any changes to the scope that may affect the schedule or are inconsistent with instructions or written approvals previously given. The Consultant must detail the extent and reasons for the changes and obtain written approval before proceeding.
- Submit the Implementation Strategy and Schedule for review. Make revisions as appropriate. Resubmit for final approval. The approved document will be the basic schedule to be used as a reference document and updated by the Consultant throughout the project.
- Throughout the project, monitor critical path and deadlines for submissions, revisions and approvals. Submit weekly Progress Reports identifying completed deliverables, slippage and upcoming activities.

1A.1.3 Deliverables

- Submit the Implementation Strategy and Time Frames for review.
- Change as appropriate.
- Resubmit for final approval.

RS 1A.2 Class ‘D’ (Indicative) cost estimate reports

1A.2.1 Objective

The purpose of this stage is to provide an indication of the total cost of the project, based on the user’s functional requirements to the degree known at the time. Costs are based on inflation data, location, risk, quality, project size and schedule. All related factors affecting cost are considered to the extent possible.

Such an estimate is strictly an indication of the project total cost and completion date. These estimated costs are used for the Treasury Board submission for preliminary project approval. Expected degree of accuracy: 20 %. (Refer to SR9)

1A.2.2 General

Scope of work

<u>Cost Planning</u>

This activity includes but is not limited to:

- Prepare cost plans from project summaries, preliminary concepts or other preliminary information;
- Prepare cost analysis;

- Prepare option analysis and “what if” scenarios;
- Provide advice and recommendations on project planning in order to achieve the most effective work sequence;
- Identify and quantify potential risks and make contingency recommendations in order to minimize negative cost impacts;
- Advise on alternative procurement and construction strategies for the greatest possible efficiency;
- Identify, forecast and analyze project-related issues including possible market shortages and potential price fluctuations.

Cost Estimates

Establish cost estimates for the project:

- Prepare Class ‘D’ cost estimates (20%) according to the overall summary format and detailed breakdown by elements of the Uniformat II standard for all work (estimates not broken down by construction package);
- Quantify design, construction and deconstruction costs, contingencies and risks;
- Prepare and investigate alternatives to assist in the identification of the most cost-effective design and/or construction approach;
- Investigate and produce a report on life-cycle costs;
- Document all unit pricing, analysis, and valuation.

1A.2.3 Deliverables

- Submit for review:

Cost Planning

- Cost plans;
- Cost analyses and “what if” scenarios;
- Cash flows;
- Reports on alternative procurement and construction strategies or other issues within the project.

Cost Estimates

- Cost Breakdown. Accuracy of Class ‘D’ cost estimates (20%);
- Documentation of the methodology for the estimate and assumptions;
- Documentation of pricing and valuation calculations;
- Reports on investigation of costing alternatives;
- Reports on project life-cycle costs.

- Change as appropriate.
- Resubmit for final approval.

RS 1A.3 Sustainable Development Strategies reports

1A.3.1 Objective

The purpose of this stage is to research and investigate a wide range of strategies to achieve sustainability, including, but not limited to:

- Reduction in energy consumption and greenhouse gas (GHG) emissions / carbon footprint
- Climate change adaptation
- Water management and landscaping
- Sustainable building and transport
- Workplace, employee well-being and surrounding community
- Deconstruction of existing infrastructure
- Life-cycle costing and cost-benefit analysis

1A.3.2 General

Scope of work

The Consultant must research and investigate sustainable development strategies in the context of the project and make recommendations. It must:

- Review potential for environmental impacts and project aspects identified in the Environmental Effects Evaluation (EEE) Report;
- In order to reduce greenhouse gas production and save costs, regarding backfill soil management, it is expected that the designer will consider storing and reusing the backfill soil generated during the construction of the building to backfill following the deconstruction of the existing building or integrate it into the landscape. The specifications of the call for tenders should also encourage the reuse of controlled backfill already present on the site. This strategy is recommended insofar as the environmental quality of backfill soils is established following soil characterization and considered favourable to their reuse.
- As stipulated in the Project Description (PD) section, the design of new structures (building and parking) will have to integrate sustainable development elements in order to meet the objectives of the various sustainable development policies and strategies developed by the Government of Canada.

The following items will need to be considered:

.1 <u>Reduction in energy consumption and GHG emissions / carbon footprint</u>

- Design a building to achieve a carbon-neutral footprint: the aim here is to design an infrastructure whose operational activities will be carbon-neutral. The Departmental Representative will provide the architectural firm with the selected energy scenario to achieve this objective.
- Use building materials with a lower carbon footprint (using a life cycle assessment (LCA) approach) than traditional products and containing fewer hazardous substances. The Departmental Representative will provide the architectural firm with carbon footprint data for several categories of building materials so that the firm can take them into account in the design of the new construction. The targeted materials are structural materials, insulation and exterior cladding.

- Use intelligent systems to reduce energy consumption.
- Use only building automation systems and building components compatible with an open protocol (BACnet).
- Design a building that will achieve minimum energy savings of 28% and cost savings of 22% over requirements set out in the National Energy Code for Buildings – Canada 2011. It must make recommendations for an energy reduction and management plan. It must verify with the client department, revise as required and obtain approval. A feasibility study for the reduction of energy and greenhouse gases (GHGs) is underway and will be provided to the Consultant at the beginning of the mandate.

.2 Climate Change Adaptation

- Design and build new infrastructure to be resilient to climate change: The Departmental Representative will provide the architectural firm with the site's specific constraints related to current and future climate events so that these elements can be considered in the design of new infrastructure.
- Reduce heat islands: incorporate materials that reflect high solar radiation (high albedo) over at least 75% of the impermeable surface, and other heat island reduction strategies. Design urban buildings with a high reflection roof surface or at least 25% green roof.

.3 Water management (drinking water, domestic wastewater and stormwater) / landscaping

- Reduce drinking water consumption by 25% compared to the national average for PWGSC-owned buildings: The Departmental Representative will provide the average consumption data to the architectural firm.
- Reduce outdoor water consumption (irrigation), stormwater runoff and the use of toxic products through proper landscaping. Thus, the architectural firm could design an infrastructure for the recovery and treatment of rainwater, greywater and/or blackwater and reuse them, in particular for toilets, urinals and the irrigation of green spaces.
- Design new construction to manage at least 50% of runoff on site during 95th percentile precipitation events. Design parking based on ParkSmart certification elements (parksmart.gcbi.org) and develop sediment, erosion and stormwater management plans. Management techniques should reduce the amount of suspended solids and total quantity of run-off leaving site after storm, heavy rainfall and snowmelt events.
- Design a landscape to reduce the use of cleaning products and ban the use of toxic pesticides. This design should take into account species selection techniques that can adapt to local constraints.

.4 Building and sustainable transport

- Achieve a level of environmental performance that meets the LEED Canada v4 C+CB Gold level.

- Conduct a Life Cycle Assessment for major building components using the Athena Sustainable Material Institute's Environmental Impact Estimator and EcoCalculator or equivalent.
- Investigate and identify potential "green" building materials for the project, including sourcing (i.e. in order to meet government objectives, sole source is necessary). It must verify with client department, revise as required and obtain approvals.
- Develop innovation pilot projects that take advantage of new technologies to improve building performance in line with the mission zero objectives (energy, GHG, water and waste).
- Design the parking lot according to the installation of electrical charging stations. The Departmental Representative will provide information on the number of kiosks it plans to install in due course.
- Management of household waste: provide adequate indoor facilities for the selective collection of waste: recycling, composting and final waste in order to achieve a minimum threshold of 75% diversion of household waste.
- Construction/Renovation/Demolition (CRD) Waste Management: The target for this project is to divert at least 90% by weight of all construction waste. The percentage of diversion should be calculated in relation to the overall weight of the construction waste/residue generated.

.5 Workplace, employee well-being and surrounding community

- Integrate occupant-controlled design elements such as operable windows, seasonal building solar shading, modular furniture, adjustable radiative technology in furniture for thermal comfort, and ventilation distribution systems which employees can use in order to manage changes. Also allow employees to manage the temperature and lighting levels of their work environment.
- Provide spaces which incorporate natural aesthetic elements such as green walls, indoor gardens, and other biophilic design principles.
- Provide outdoor spaces that allow relaxation, picnic and gathering activities and enhance the natural components of the site such as woodlands, streams, wetlands, etc.
- Provide showers and lockers for employees who commute to work by bike, on foot or who go jogging, and for those who have a membership at a local fitness centre.
- Implement air filtration systems and management strategies to reduce contaminant levels and manage CO2 levels in office spaces.
- Identify quiet and collaborative areas for employees to use.
- Incorporate materials and lighting that minimize artificial light entering the building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction and reduce development impact from lighting on nocturnal environments.
- Identify public spaces and amenities that could benefit the surrounding community and evaluate design strategies to this end. Incorporate a diverse array of space uses and functions within each building.

.6 Deconstruction of existing infrastructure (building and parking)

- Runoff management: develop sedimentation, erosion and stormwater management plans. Management techniques should reduce the amount of suspended solids and total quantity of run-off leaving site after storm, heavy rainfall, and snowmelt events.
- Construction/Renovation/Demolition (CRD) Waste Management: The target for this project is to divert at least 90% by weight of all deconstruction waste. The percentage of diversion should be calculated in relation to the overall weight of the deconstruction waste/residue generated.
- For the existing building to be deconstructed: prepare a detailed inventory of existing non-contaminated materials, systems, equipment that can be reused or recycled; include target markets for recycled material and make recommendations. It must verify with client department, revise as required and obtain approvals.
- Develop a plan for the reduction and management of non-hazardous and hazardous waste (i.e. mechanical equipment that has refrigerants, oil, fire extinguishing products, etc.) and make recommendations. The Consultant must verify with client department, revise as required and obtain approvals.

.7 Life-cycle costing and cost-benefit analysis

- Perform a cost-benefit and life-cycle costing analysis for the Sustainability Strategy for the project.

In all cases (.1 to .7), the Consultant must check with the client department, make the necessary changes and obtain approvals.

1A.3.3 Deliverables

- Submit the Sustainability Strategy for review, in a report.
- Change as appropriate.
- Resubmit for final approval.

RS1A.4 Communications and Stakeholder Management Plan

1A.4.1 Objective

The purpose of this stage is to present in detail a communications management plan and a stakeholder management plan for the project.

1A.4.2 General

Scope of work

Communications Management Plan

- Develop a communication management plan specific to this Project. The Consultant is to work closely with the Departmental Representative to ensure the Consultant’s communications plan is consistent with and complementary to all other communications plans.

- Define the structure and methods of information collection, screening, formatting and distribution.
- Present the understanding, within the Consultant's team, of the actions and processes necessary to facilitate the critical links among people, ideas, and information that are necessary for Project success.
- The Consultant's communications management plan must include, but not be limited to:
  - The internal communications approach and methods of the Consultant's team and the project team, including a table detailing communications interactions;
  - Communications requirements and standards during meetings and workshops and reporting or follow-up afterwards;
  - Description as to how correspondence, reports and performance records are managed;
  - Actions and processes necessary to facilitate the critical links among people, ideas, and information for Project success;
  - A directory of the Consultant Team is to be included to provide contact information for all involved in the Project, including their areas of responsibility.

Stakeholder Management Plan

- Develop and implement a stakeholder management plan tailored to the project that effectively directs the team's activities;
- The Consultant's Stakeholder Management Plan must include, but not be limited to, the following:
  - Identification of all consulting services required for the duration of the project;
  - Consultant Team organization chart clearly indicating how project team resource persons interact with each other;
  - Roles and responsibilities of the Consultant's Team members throughout the Contract;
  - Identification of alternate resource persons for the project team;
  - Any other relevant information regarding the Consultant's services to be provided for the Contract.
- The Consultant must continuously implement the plan in conjunction with the Departmental Representative. It must ensure the latter is engaged in the reassessment process and any modifications to the Consultant's stakeholder management plan.

1A.4.3 Deliverables

- Submit a communications management plan and a human resources management plan for review.
- Change as appropriate.
- Resubmit for final approval.

RS 1B Pre-Design Services – Verification and Validation (Phase 1B)

(Applicable to the entire project)

During this stage, the Consultant will:

- Analyze Project Requirements;
- Review the plans, specifications and other documents of the building and the existing site;
- Review the geotechnical and environmental study prepared by others;
- Review the functional and technical program (FTP) prepared by others;
- Review the studies described in the PD (project description) section that will be provided at the beginning of stage RS1B;
- Make recommendations on pre-construction studies, tests and trials.

RS 1B.1 Analysis of Project Requirements

1B.1.1 Objective

The purpose of this stage is to ensure the Consultant has reviewed and integrated all the project requirements, identified and evaluated conflicts or problems, provided alternative strategies, presented and received approval on a Project scope, delivery process, schedule and estimate required to deliver a cohesive quality project.

The Consultant must review all pre-design studies developed by others and ensure that the information presented is complete and coordinated. It must identify any missing information, contradictions or queries resulting from its verification.

In the event that additional or complementary information is required by the Consultant for the execution of his mandate, he shall transmit as soon as possible by writing his request for information to the Departmental Representative. A formal approval by the Departmental Representative is required before the Consultant can go ahead to mandate and obtain the additional services that shall be processed as disbursements (ex. geotechnical and environmental study, etc.).

The Consultant must identify and assess conflicts and problems. It must list the documents received, check them, validate them and list the missing elements at this stage.

The Consultant must provide the Departmental Representative with a detailed work plan for the development and production of the documents to be provided at this stage. After approval by the Departmental Representative, the Consultant may make the necessary changes or produce the missing documents.

The Consultant must ensure that formal approval is obtained from the Departmental Representative at this stage, as the approved deliverables will become the scope of the project work and will be used as reference documents throughout the duration of the project.

1B.1.2 General

Scope of work

- Visit the building and the site and verify the availability and capacity of services needed for the project.

- Attend project start-up meeting.
- Analyze and validate project requirements.
- Review all available existing material related to the project.
- Review and validate the plans, specifications and all other documents of the existing building. Proceed to verifications and survey's required for the elaboration of deconstruction and decontamination plans of existing building at phase SR4.
- Review and validate the proposed project schedule to ensure that all milestones are realistic and that all stages can be met.
- Identify and verify the authorities having jurisdiction over the project.
- Investigate and validate all applicable codes, regulations and standards.
- Establish a policy for this project to minimize environmental impacts consistent with the project objectives and economic constraints.
- Review potential for environmental impacts and project aspects affected by the Canadian Environmental Assessment Act (CEAA).
- Incorporate Gold-level LEED NC principles, with particular emphasis on energy efficiency.

1B.1.3 Deliverables

- Submit a document listing the documents received, what has been verified and validated and what is missing. After approval by the Departmental Representative, make necessary changes or produce the missing documents. Re-submit for final approval.
- Produce a comprehensive summary of the project brief and program demonstrating understanding of the scope of work, including:
  - Written identification of the problems, conflicts or other perceived information / clarifying assumptions for the acknowledgement of the Departmental Representative.
  - Plans of the existing building validated and updated.
  - Description and validation of proposed elements.
  - Submission of a sustainable development action plan applied to the project with a timeline, including an overview of potential strategies to be considered as part of the project and a LEED NC Gold level annotated checklist for project credits.
  - Report on all applicable codes, regulations, standards and authorities having jurisdiction.
  - Code study.
  - Following the review of the geotechnical study, provide the Departmental Representative with any additional analyses required to complete the data presented, if necessary.
  - Provide the Departmental Representative with the identification of additional analyses required to obtain accurate and detailed information on soil characteristics, biological environment and surface development needs.
  - Submit end-of-stage documents

RS 1B.2 Functional and Technical Program (FTP) Review (prepared by others)

1B.2.1 Objective

The purpose of this stage is to ensure that the Consultant analyzes, reviews, validates and integrates the contents of the FTP developed by others into the delivery of a quality project. The approved result of this stage will become the project scope of services and will be utilized throughout the project to guide delivery.

1B.2.2 General

Scope of work

- Ensure that the Functional and Technical Program (FTP), produced during the pre-design services development phase (RS1A phase) by the FTP designer, is complete, up-to-date and approved.

1B.2.3 Deliverables

- Update of the FTP.
- Integrate Functional and Technical Program (FTP) data into the Building Information Modeling (BIM) model.

RS 2 Schematic Design

(Applicable to the entire project)

RS 2.1 Intent

The purpose of this stage is to translate the project requirements into space parameters in the most environmentally friendly, sustainable way possible, explore design options and analyze them against priorities and program objectives that were previously identified. Out of this process, one option will be recommended to proceed with the design development.

This stage is part of the Integrated Design (IDP) and Building Information Modeling (BIM) program.

RS 2.2 General

Scope of Work

- Provide the Departmental Representative with written responses to the review comments issued at the previous stage (RS1) by the Departmental Representative and the Construction Manager.
- Obtain the written approval of the Departmental Representative to develop alternative design concept options based on an analysis of the project brief.
- Prepare and provide a minimum of three (3) distinct and different design options exploring all viable technical and environmental strategies that could be implemented. Each option must be illustrated separately (reports, BIM model, energy model, life cycle analysis, drawings, power point, etc.) and integrate architectural, structural, mechanical solutions, including the envelope and interior design.

- Present for comments the Building Information Modeling (BIM) model illustrating each option developed. Demonstrate how they respectively meet the general requirements of the FTP.
- Analyze each solution according to the objectives of the project, including the cost and timing of the project (via a comparative analysis detailing the advantages and disadvantages of each).
- Draft a preliminary report on the project's description which describes the different elements and the various alternative options for the systems.
- Minimize the use of hazardous/toxic materials/products and products made from endangered or rare species.
- Recommend one option for further development with all supporting background and technical justifications.
- Verify and ensure compliance with all acts, regulations, codes, standards and municipal regulations applicable to the project design.
- Verify and validate the Gold-level LEED NC processes and update them if necessary.
- Verify and validate the Code Study and update it as necessary (refer to AS8).
- Submit a Class 'C' cost estimate (15%) for the various options according to the overall summary format and detailed breakdown by elements of the Uniformat II standard.
- Produce an implementation schedule, including alternative procurement and construction strategies.

RS 2.3 Details

The following non-exhaustive lists identify services expected from each discipline. Some of the activities listed below may require the participation of several or all professionals. The Consultant must coordinate its various team members (including Sub-Consultants and Specialist Consultants) and is responsible for performance of all elements in the mandate. The Consultant is responsible for ensuring that all the documents produced and information supplied are coordinated among all disciplines. This includes, but is not limited to the following:

2.3.1 Architectural Drawings

- Site plan showing the location of the proposed and existing building to be deconstructed, their orientation and the main access points. The general layout of the site, traffic lanes and parking lots are provided for information only.
- Schematic plans of the new building, of alternatives showing relative disposition of main accommodation areas, circulation patterns, numbers of floors, etc.
- Sketch elevations and sections indicating the basic design approach and aesthetic philosophy.
- Sketch perspectives or massing studies.
- Outside gross building areas and summary of main accommodation areas required and proposed.
- Horizontal and vertical space relationships.

- Plans illustrating deconstruction and decontamination strategies for the existing building.

2.3.2 Landscape Design Drawings

- Concept design drawings including the details of typical sections and relevant archetypes.
- Sketch elevations and sections indicating the basic design approach and aesthetic philosophy.
- Sketch perspectives or massing studies.
- General plan and layout of the building's peripheral facilities, including traffic lanes, parking lots and site layout.
- Traffic simulations.

2.3.3 Civil Drawings

- Existing condition and demolition plans illustrating strategies for deconstructing existing parking lots and access roads.

2.3.4 Structural Drawings

- Proposed or alternative structural systems, including foundation methods and explanatory sketches, and a copy of the site report on which the design is based.
- Initial seismic analysis.

2.3.5 Mechanical

- The concept study submission must include a description of the specific mechanical requirements and the function of each area (or room) in the project. Identify any unique or specialized equipment required by the subject facility. Incorporate in the submission a schedule of requirements listing all rooms and identify the mechanical building services to be provided.
- Explain in the concept study submission the manner in which the proposed mechanical systems meet user requirements.
- Identify whether full-time operating staff will be needed for operation of any of the mechanical equipment. Differentiate between staff that is needed by code requirements and staff that may be needed because of the nature and size of the facility.
- Identify location of entry point into the building of all mechanical services.
- Identify in square metres the area to be provided for mechanical rooms and the percentage of the total building area this represents. Identify location of mechanical spaces in each building.
- Analysis of alternative mechanical schemes at the conceptual design stage must reveal energy consumption of building systems and operating and maintenance costs on a month-by-month basis for a time span of one year. Accordingly, the estimated energy and operating and maintenance costs must be used in life cycle cost analyses in order to determine the most beneficial mechanical systems alternative. Life cycle cost analyses must be based on a projected building life of 25 years.

- Carry out energy analysis on mechanical systems alternatives.
- Establish an energy budget for the building and compare it to energy consumption of other similar buildings. Total energy consumed in the building must be expressed in kWh/m^2.
- Identify the type of boilers to be used (e.g. cast iron sectional, fire tube) and provide an economic and technical explanation of the reason for choosing that type of boiler.
- List of non-Canadian products and materials proposed for the project with written justification.
- Provide the following details by discipline:
  - ❖ Heating – Ventilating – Air Conditioning
    - Provide a preliminary estimate of heating and cooling loads.
    - Indicate the available energy source and the likely choice.
    - Identify the type of boilers to be used (e.g. cast iron sectional, fire tube) and provide an economic and technical explanation of the reason for choosing that type of boiler.
    - Provide a summary list of mechanical systems to be connected to the emergency electrical system and provide a preliminary estimate of the expected loads.
    - Provide technical documentation for the main equipment.
    - Identify the volume of outdoor air to be supplied by the ventilation system.
    - Identify the delivery rate of supply air to occupied spaces.
  - ❖ Plumbing
    - Provide an estimate of the expected domestic water, sanitary sewer and stormwater flows and indicate whether available services can handle this load. If not, develop a solution.
    - Indicate the pressure and flow rate of available water.
    - Indicate the drainage method intended for roofs.
    - Provide technical documentation for the main equipment.
  - ❖ Fire Protection
    - Provide a preliminary estimate of the required water flows and pressure required. Indicate the source of supply.
    - Request a flow test from the Departmental Representative on the two nearest hydrants with a report according to NFPA-13. Provide supervision.
    - Indicate the probable classification of risks by type of premises.
    - Indicate if pumping stations will be required.
    - Provide technical documentation for the main equipment.
- Provide the following plans with the recommended option for all disciplines
  - Plans of each service or network.
  - Show the location of mechanical rooms with the main equipment locations.
  - Indicate by means of single line diagrams the operating principles of the main systems proposed.
- Provide demolition plans for the existing building

- Show the main mechanical equipment to be demolished. Indicate if they have any hazardous materials to recover and provide the necessary procedures. Coordinate this work with the environment manager.
- Indicate the material to be given to the Departmental Representative.

2.3.6 Electrical

- Proposed basic electrical systems of significance to the early design.
- Site plan showing location of service entrances.
- Distribution diagrams showing single line diagrams to distribution centres and including details of the type of connection proposed by the electricity distributor.
- Floor plans complete with locations of major electrical equipment and distribution centres.
- Location of light fixtures (inside and outside).
- Power outlets.
- Ceiling distribution systems for lighting, power and telecommunications.
- List of standard PWGSC details to be utilized.
- Telephone equipment rooms, conduits and telecommunication cable systems requirements and layout.
- Provide an electrical design synopsis, describing the electrical work in sufficient detail for assessment and approval by the Departmental Representative. Include feasibility and economic studies of proposed systems complete with cost figures and disbursements.

2.3.7 Building Connectivity Elements (BCE)

- Collaborate with the Specialist Consultant in Building Connectivity Elements (BCE) in order to provide him/her with the infrastructure required to integrate the latter’s services.

2.3.8 Enhanced commissioning and decommissioning of existing equipment (refer to RS8)

- Define commissioning requirements.
- Define the requirements for decommissioning existing equipment.
- Identify in square meters the area to be provided to maintenance personnel, including storage and workshops for mechanical, electrical and housekeeping.
- Define project verification archives (data storage and retrieval system).

2.3.9 Sustainable Development

- Consider the sustainable development elements as listed in RS1 in the development of the various design options.
- Design and evaluate design options exploring environmental protection strategies.
- Validate that the design options do not result in environmental effects not identified in the EEE report.
- Incorporate Gold-level LEED NC principles into the design and construction, with particular emphasis on energy efficiency, while complying with the available budget. Gold-level LEED NC certification is mandatory.

- Review the life cycle of materials.

2.3.10 Specifications

- Preliminary outline specifications in Uniformat II indicating main building components and options for using green components and systems.

2.3.11 Cost Plan

- Prepare a preliminary cost plan from the design concept.
- Prepare a preliminary cost analysis.
- Prepare an options analysis and “what if” scenarios.
- Provide advice and recommendations on project planning in order to achieve the most cost-effective project sequence.
- Identify and quantify potential risks and make contingency recommendations so as to minimize the repercussions of negative costs.
- Advise on alternative procurement and construction strategies to create efficiencies wherever possible.
- Identify, plan for and analyze project-related issues, including possible market shortages and potential price fluctuations.

2.3.12 Cost Estimate

- Prepare Class ‘C’ cost estimates (15%) using the overall summary format and detailed itemized breakdown of the Uniformat II standard for all work (estimates not broken down by construction package);
- Quantify design, construction and deconstruction costs, contingencies and risks.
- Prepare and review alternative costing solutions to be able to determine the most cost effective design and/or construction strategy.
- Investigate and report on life-cycle costs.
- Provide documentation for all the unit prices, analyses and evaluations.

2.3.13 Timeline (Schedule)

- Prepare and update the project master schedule (based on established criteria).
- Identify potential scheduling risks.
- Advise on alternative procurement and construction strategies to create efficiencies wherever possible.

RS 2.4 Deliverables (50% and 99% completion)

Provide the following

- Concept design drawings.
- Plan and elevation drawings of the current conditions of work areas.
- Preliminary analysis report of current applicable codes, standards, acts and regulations.
- Updated Code Study (refer to AS8).
- Energy Analysis.
- Description of the options with recommendation of preferred solution.
- Project specifications amendments.

- Commissioning plan.
- Report on non-contaminated and contaminated waste management.
- Audit Plan and Phase II Waste Division Action Plan.
- Environmental Design Modification Report.
- Cost Plan, including cost analysis, “what if” scenarios, potential risks, and alternative procurement and construction strategies.
- Class ‘C’ cost estimate (15%), including methodology of the estimate, assumptions made, costing alternatives and life cycle costs.
- Report on deviations from work schedule and recommended corrective measures or updated timeline.
- Total Cost Analysis studies and reports applied to major electrical and mechanical systems as well as to the building envelope.
- Analysis report on maintenance costs for the assessed options.
- Update of the FTP incorporating comments from the Departmental Representative.
- Traffic simulations.
- Update of Gold-level LEED NC Checklist for project credits.
- Update of the communications management plan and the human resources management plan.
- Program of laboratory tests and trials for quality control, geotechnics, etc.
- BIM model (refer to AS5).

RS 3 DESIGN DEVELOPMENT

(Applicable to the entire project)

RS 3.1 Intent

The purpose of this stage is to develop one of the options presented at the Concept Design stage. The Design Development documents consist of drawings and other documents describing the size and character of the entire project as to architectural, interior design, structural, mechanical and electrical, civil and landscape design systems, materials and such other elements as may be appropriate.

This stage is part of the Integrated Design (IDP) and Building Information Modeling (BIM) program.

RS 3.2 General

Scope of Work

- Provide the Departmental Representative with written responses to the review comments issued at the previous stage (RS2) by the Departmental Representative and the Construction Manager;
- Obtain written approval from the Departmental Representative for development of one of the proposed Design Concept options;
- If any alterations are requested, document all required changes, analyze the impact on all project components and resubmit for approval, if required;
- Expand and clarify the Concept Design intent for each design discipline;

- Submit for comment the Building Information Modeling (BIM) model illustrating the conceptual plans, based on the analysis of all comments received in the previous stage. Demonstrate how it meets the requirements and performance requirements of the FTP;
- Present the design materials to the client, design review or other committees as indicated by the Departmental Representative;
- Present the design to the government or local authorities where required;
- Ensure design coordination of all disciplines;
- Analyze the constructability of the project and advise on the construction process and duration;
- Based on all material available at the time, prepare a milestone schedule for consideration, with special attention to the impact on tenants;
- Verify and ensure compliance with all acts, regulations, codes, standards and municipal regulations applicable to the project design;
- Provide a list of all National Master Specification (NMS) sections to be used, complete with a full draft specification, catalogue cuts and sustainable development / green choices;
- Update the Gold-level LEED NC process;
- Update the energy analysis;
- Update the Code Study (refer to AS8);
- Present the design to the government or local authorities where required.

RS 3.3 Details

The following non-exhaustive lists identify services expected from each discipline. Some of the activities listed below may require the participation of several or all professionals. The Consultant must coordinate its various team members (including Sub-Consultants and Specialist Consultants) and is responsible for performance of all elements in the mandate. The Consultant is responsible for ensuring that all the documents produced and information supplied are coordinated among all disciplines. This includes, but is not limited to the following:

3.3.1 Architectural drawings and interior design

- Site plan showing the location of the proposed and existing building to be deconstructed, their orientation and the main access points. The general layout of the site, traffic lanes and parking lots are provided for information only.
- Cross-sections showing the relationship of the building to proposed plantings, in order to illustrate the three-dimensional aspects of the site.
- Deconstruction plans for the existing building.
- Floor Plans of each floor showing all accommodation required with room names and calculated areas, including all necessary circulation areas, stairs, elevators and ancillary spaces anticipated for service use. Indicate building grids, modules, etc., and key dimensions of the major components.
- Furniture and equipment layout plans (Refer to AS3).
- Signage plans (Refer to AS3).

- Elevations of all exterior building façades showing all doors and windows accurately sized and projected from the floor plans and sections. Indicate clear floor and ceiling levels and any concealed roof levels.
- Cross-sections through the building(s) to show floor levels, room heights, inner corridor or court elevations, etc.
- Detail sections of walls, building envelope design features or other special design features requiring illustration and explanation at this stage, including fireproofing methods.

3.3.2 Landscape Design Drawings

- Site plan confirming the location of the proposed building, its orientation, main access points, traffic routes (vehicular, public transit, pedestrian, service and unloading), parking lots and site development (earthworks, existing and proposed elevations), landscaping (plantations, turf).
- Cross-sections showing the relationship of the building to proposed plantings, in order to illustrate the three-dimensional aspects of the site.
- General plan illustrating the site limits, the elements to be demolished and the elements to be recovered.
- General plans, overall design, details, elevations and cross-sections to clarify the geometry of the traffic network, drainage and earthworks, vegetation conservation issues, service infrastructure, surface coating, street furniture, landscaping and other utility works.
- Plans and drawings required for earthworks and soil management, including existing and proposed elevations.
- Plans and drawings required for existing vegetation management work.
- Drawings and design elements of lightweight architectural structures and elements (in association with engineering and architecture).
- Prepare cross-sections that will show the relationship between existing and proposed structures: illustrating differences in elevation and type of infrastructure. Include sketches or detailed drawings relevant to understanding the assemblies.
- Layout plan and/or dimensioning drawings that will illustrate all dimensions, an illustration or explanation, including, for example, furniture anchoring methods.
- Details, sections or elevation or any other special design features that require illustration or explanation, including, for example, various anchoring methods.
- Relevant drawings must be integrated with those of other disciplines.

3.3.3 Civil Drawings

- Drawings showing the proposed structural elements, type of foundation, sub-foundation, construction materials, details for retaining walls if relevant and other significant or unusual details proposed.
- Drawings showing all the existing elements of the rainwater, sanitary, water and electricity networks and the connection point with the public networks.
- Drawings of the locations of new elements of the rainwater, sanitary, water and electrical network, including foundations, embankments, key levels and floors.
- Details, utility trench cuts or any other special design features that at this stage require illustration or explanation.

3.3.4 Structural Drawings

- Drawings indicating the proposed structural elements, construction materials, and other significant or unusual details proposed. Drawings may be separate from or incorporated into architectural drawings. Include a copy of the site report on which the design is based.
- Update the seismic report.

3.3.5 Mechanical

Special Requirements

- Produce preliminary designs based on the approved concept. Update the energy analysis and energy budget established at the concept design stage.
- Update the schedule of requirements.
- Provide information of all internal and external energy loads in sufficient detail to determine the compatibility of the proposal with existing services, approved concept and energy budget.
- Analysis of selected equipment and plant with schematics and calculations sufficient to justify the economy of the selected systems.
- Describe the mechanical systems (including their preliminary capacities) to be provided and the components of each system.
- Describe the proposed operation of the mechanical systems including all the information required to understand the diagrams on the plans.
- Explain the skills required of operating staff to operate the building systems and the expected functions of this staff.
- Explain the acoustical, vibration and seismic control measures that are to be included in the design.
- Describe the selected forms of renewable energy as well as their installation and mode of operation; attach the operating diagrams for heating, air conditioning and ventilation; attach calculations showing the economic benefits of the selected systems.
- Provide the following details by discipline:
  - ❖ Heating – Ventilating – Air Conditioning
    - Provide in tabular form, for each system, the following preliminary information
      - Identification of systems, areas served
      - Area served
      - Heating capacity
      - Cooling capacity
      - Average air flow rate per m2
      - Total air flow rate, fresh air flow rate, static pressure
      - Pump water flow rate, head pressure
      - Engine horsepower
      - Power connected to the emergency electrical system

- Indicate whether the ventilation system should be shut down in the event of a fire alarm
- Provide a report on design criteria including operating temperatures and pressures of the various systems.

❖ Plumbing
- Indicate the intended energy source for domestic water heating.

❖ Fire Protection
- Provide in tabular form, for each system, the following information:
  - System identification
  - Area served in m^2
  - Probable number of sprinkler heads
  - Risk categorization
  - Water flows and pressures anticipated
  - Capacity of the pumps if required.
- Indicate the power of the equipment to be connected to the emergency electrical service if required.
- Indicate the required connections to the alarm system.

❖ Control
- Describe the building systems control architecture. Provide preliminary Building Automation or Energy Management & Control Systems (EMCS) network architecture, mechanical system control schematics, and sequence of operation.

Drawings (construction)
- Site Plan showing service entrances for water supply, sanitary and storm drains and connections to public utility services, including all key invert elevations. Include plumbing diagrams (domestic water with domestic water heater and recirculation, sanitary, vent and rainwater circuit) and show service floors at building entrances.
- Drawings showing preliminary sizing of ventilation, cooling and heating systems, showing locations and all major equipment layouts in mechanical rooms. Include operating diagrams of water and air systems to understand how the proposed systems work.
- Drawings of plumbing system, showing routing and sizing of major lines and location of pumping and other equipment where required.
- Drawings of the fire protection systems showing major components. Show in a single line diagram the main fire protection networks.
- Drawings of control diagrams of the main equipment.

Drawings (deconstruction)
- Demolition plans for the existing building.
- Show the main mechanical equipment to be demolished. Indicate if they have any hazardous materials to recover and provide the necessary procedures. Coordinate this work with the environment manager.
- Indicate the material to be given to the Departmental Representative.

3.3.6 Electrical Drawings

- Provide drawings showing advanced development of the following
  - ❖ Single line diagram of power circuits with their metering and protection systems, including:
    - Power rating of connected equipment
    - Ratios and connections of CTs and PTs
    - The description of energy smart sub-metering
    - Maximum short circuit levels on which design is based
    - Identification and capacity of services
    - Connected load and estimated maximum demand on each load centre
  - ❖ Electrical plans with
    - Floor elevations and identification of electrical, information technology and telephony rooms
    - Legend of all symbols used
    - Circuit numbers at outlets and control switching identified
    - All conduit and wire sizes except for minimum sizes which should be given in the specification
    - A panel schedule with loadings for each panel
    - Telephone/computing conduits system layout for ceiling/floor distribution
  - ❖ Riser diagrams for lighting, power, telephone and telecommunication cable systems, fire alarm and other systems
  - ❖ Distribution diagrams for quick charging terminals for electric vehicles
  - ❖ Elementary control diagrams for each system
  - ❖ Schedule for motor and controls
  - ❖ Complete lighting layout and fixture schedule clearly indicating methods of circuiting, switching and fixture mounting
  - ❖ Electric heating layout and schedule
  - ❖ Provide the following data
    - Total connected load
    - Maximum demand and diversity factors
    - Sizing of standby load
    - Short-circuit requirements and calculations showing the ratings of equipment used

3.3.7 Building Connectivity Elements (BCE)

- Collaborate with the Specialist Consultant in Building Connectivity Elements (BCE) in order to provide him/her with the infrastructure required to integrate the latter’s services.

3.3.8 Enhanced commissioning and decommissioning of existing equipment (refer to RS8)

- Define operational requirements.
- Define commissioning requirements.

- Prepare a Commissioning Brief describing major commissioning activities for mechanical, electrical and integrated system testing.
- Define and establish project specific archives.

3.3.9 Sustainable Development

- Design and evaluate design options exploring environmental protection strategies.
- Procurement contracts for materials and equipment should be green and include specific criteria to meet the elements of sustainable development. To this end, the Departmental Representative's Procurement and Environment experts will work with the Consultant to define the criteria to be included in the plans and specifications.
- Integrate the mitigation measures identified in the Environmental Effects Evaluation (EEE) Report into plans and specifications, where applicable.
- Incorporate Gold-level LEED NC principles into the design and construction, with particular emphasis on energy efficiency, while complying with the available budget. Gold-level LEED NC certification is mandatory.
- Review the life-cycle of materials.

3.3.10 Specifications

- Provide a list and draft specification sections of all NMS sections to be used.
- Submit outline specifications for all systems and principal components and equipment.
- Provide in the outline specifications manufacturers' literature about principal equipment and system components proposed for use in this project.
- Highlight proposed green materials, components and systems.

3.3.11 Cost Plan

- Update cost plan.
- Highlight changes from preliminary cost plan.
- Include cash flow analysis.

3.3.12 Cost Estimate

- Provide a Class "B" (substantive) cost estimate (10%).
- Prepare the cost estimate according to the overall summary format and detailed breakdown by elements of the Uniformat II standard. Produce a breakdown of the costs where the amounts are clearly differentiated by funding source (breakdown for base building and each client department). The cost estimate must also be broken down by construction package.
- Highlight changes made to the Class "C" (indicative) cost estimate (15%) and solutions proposed to prevent cost increases.

3.3.13 Timeline (Schedule)

- Update timeline (Schedule).
- Highlight changes to the time plan and solutions proposed to prevent deadline extensions.

-

RS 3.4 Deliverables (50% and 99% completion)

- Floor plans, including all disciplines showing all floor elements and services in detail, which are necessary to make all design decisions and to substantially estimate the cost of the project.
- Two (2) or three (3) building sections.
- Deconstruction plans.
- Architectural, structural, engineering, landscape design, millwork and finishing details to determine choice of materials and finishes.
- Reflected ceiling plans.
- Elevations.
- Interior and/or exterior perspectives.
- Analysis report of applicable codes, standards, acts and regulations in effect.
- 3D models of the site and the building as necessary.
- Schedules of finishes and colour schemes and samples.
- Preliminary outline specifications for all systems and principal components or equipment.
- Updated cost plan and cash flow.
- Class ‘B’ cost estimate (10%).
- Preliminary construction schedule, including long-term delivery items.
- Fire Protection Engineers Report, including requirements, strategies or interventions for protection of the building and its occupants.
- Project dossier detailing the basic assumptions of the project and the justifications for all major decisions.
- Commissioning plan.
- Updated sustainable development strategy report.
- Description of building components with data on design structured as an EPD.
- Final Total Cost Analysis studies and reports applied to major electrical and mechanical (HVAC) systems as well as to the building envelope.
- Analysis report on maintenance costs for the assessed options.
- Updated Energy Analysis.
- Updated Code Study (refer to AS8).
- Update of the FTP incorporating comments from the Departmental Representative.
- Operating diagrams for heating, air conditioning and ventilation systems, including the selected renewable energy sources.
- Traffic simulations.

RS 4 CONSTRUCTION DOCUMENTS

(Applicable to the entire project)

RS 4.1 Coordination with the Construction Manager

Since the project will be carried out under the construction management mode by a Construction Manager hired by the Departmental Representative under a separate contract, the Consultant must adapt the method of preparing the tender documents (plans and specifications) based on several separate construction packages.

The tender documents to be produced by the Consultant at stage RS4 must represent a coherent, complete and coordinated set of drawings and technical specifications (specifications) that meet the project requirements and allow the Construction Manager to proceed with the bidding process.

The services to be provided by the Consultant in this section apply to all solicitation documents that will be processed in the required services RS5.

The Construction Manager and the Consultant must work together to

- Establish the scope and extent of the documents to be prepared for each construction package that will be the subject of separate tender documents.
- Split tender documents into packages, according to different disciplines, in order to select subcontractors who will carry out each stage and sub-stage of the project.
- Agree on changes to be made to the tender documents and the sequence of work in order to optimize the timing of the work.
- Coordinate the changes to be made to the tender documents.
- Ensure that the tender documents are complete by incorporating comments and suggestions for revisions before the publication of the calls for tenders.
- Produce a Building Information Modelling (BIM) model according to the terms of AS5 in which the relationships between the various elements constituting the building and its location, the names or identifiers, dimensions and shapes as well as any other information necessary to carry out the work and obtain the desired results will be illustrated in detail. Ensure that conflicts are identified and corrected weekly in the model. Revise and optimize the individual work flow of each Consultant Team member to meet schedule requirements and shorten durations.

Tender documents (plans and specifications) must be prepared in accordance with the publication “Doing Business with PWGSC – Documentation and Deliverables Manual” and “Doing Business with PWGSC – Addendum – Quebec Region”. Tender documents must describe

- The products, materials, standards, equipment, construction systems, methods and processes and level of workmanship required.
- The physical and environmental conditions to be created and maintained in work areas, on-site, in adjacent work areas or off-site.
- Procedures for contract administration.
- Performance verification and progress reporting requirements.

Design Services:

The Consultant must ensure congruency between all construction tender packages and

- Confirm the content and timing of each construction tender package with the Project Team.

- Coordinate with the Construction Manager on the scope and content of each construction package.
- Coordinate with the Departmental Representative and the Construction Manager to prepare and finalize performance specifications per discipline.
- Coordinate and integrate all the submissions from the Consultant Team.
- Define commissioning procedures, construction monitoring requirements, performance expectations, Consultant-led and Contractor-led training sessions, requirements for operating and technical maintenance manuals, post-construction monitoring, and record drawings/model.
- Submit construction tender packages, conduct design charrettes and respond to construction tender package comments.
- Coordinate and integrate all construction tender package submission review comments.
- Confirm the format of the model, drawings and specification and comply with the stipulated requirements for the project.
- Confirm drawings and specification format requirements with the Construction Manager.
- Update the Consultant's design schedule and ensure coordination with the Construction Manager's construction schedule.
- Provide input for the construction tender packages and overall construction estimate by the Construction Manager.
- Provide all support required for the Construction Manager when the Construction Manager splits the construction tender packages into the trade-specific tender packages such as content, cost estimates, unit prices.

RS 4.2 Intent

The purpose of this stage is to prepare drawings and specifications for each distinct construction package, describing in detail the requirements for carrying out the work and establishing the final project cost estimate.
This stage is part of the Building Information Modeling (BIM) program.

- Documents must be submitted for verification at the following levels of progress
    - 50% indicates 50% completeness of technical development of all working documents.
    - 99% is the submission of complete construction documents ready for the tender call and submission to local authorities for pre-permit purposes.
    - Final submission incorporates all revisions required in the 99% version and is intended to provide the Departmental Representative with complete construction documents for the tender call.
- Develop a project-specific Systems Operations Manual (SOM).
- At every phase and sub-phase, the Consultant is responsible for ensuring that all documents produced are properly and completely coordinated among all the disciplines and specialties involved in the project.
- Follow up on the Review Reports from Architectural and Engineering Services after the intermediate (50%) and complete (99%) submissions.

- Prepare plans and specifications in both official languages, as per AS2 terms and conditions. The construction drawings must be coordinated among all disciplines involved, the technical specifications and the descriptive specification at 99% progress.
- Prepare a Class 'A' Pre-Tender Estimate, with a 5% contingency allowance, establishing the project's total cost. Prepare according to the overall summary format and detailed breakdown by elements of the Uniformat II standard as well as the distribution of costs according to the model provided.
- Update the project execution timeline (schedule).
- Develop a project-specific Systems Operations Manual (SOM).
- These documents constitute the entire file that the Construction Manager can use to establish a bid and to build the structure. In the event of a coordination problem or error, corrections must be carried out by and at the expense of the Consultant.

RS 4.3 General

Activities are similar at all three stages (50%, 99% and final); completeness of the project development should reflect the stage of submission. The Consultant is responsible for ensuring the seamless coordination of documents between the different disciplines. This preparation must be done for each separate construction package.

Scope of work for each construction package:

- Provide the Departmental Representative with written responses to the review comments issued at the previous stage (RS3) and at the 50% and 99% stages by the Departmental Representative and the Construction Manager;
- Obtain Departmental Representative's approval for Design Development submissions (50% and 99%);
- Confirm format of drawings and specifications;
- Specify specific methods (i.e., staggered execution of the work in phases and according to several distinct construction packages);
- Submit for comment a Building Information Modeling (BIM) model illustrating the plans at the 50%, 99%, and final stages based on the analysis of all comments received in the previous stage. Demonstrate how it meets the requirements and performance requirements of the FTP;
- Submit complete and coordinated drawings and specifications per construction package at the required stages (50%, 99% and final). Hard copies of plans and specifications. Electronic copies of drawings and specifications, in DWG and PDF formats, according to the directory structure provided by the Departmental Representative;
- Ensure compliance with codes, standards, legislation and regulations that are in effect and apply to the project;
- Provide written replies to all review comments and incorporate them into the Construction Documents where required;
- Advise as to the progress of cost estimates and submit updated cost estimates as the project develops;

- For each work package, prepare a Class “B” estimate (10%) according to the overall summary format and detailed breakdown by elements of the Uniformat II standard. Produce a breakdown of the costs where the amounts are clearly differentiated by funding source (breakdown for base building and each client department) at the 50% progress mark;
- Prepare a final Class “A” (substantive) estimate (5%), according to the overall summary format and detailed breakdown by elements of the Uniformat II standard at 99% progress and at final submission;
- At each level of progression (50%, 99% and final submission), prepare an overall cost estimate for the work (including for all work and packages), identify gaps, and propose solutions to ensure compliance with the overall construction budget;
- Update the project schedule, including the package schedules and overall schedule;
- Prepare summaries of disciplines that follow the Normative Directory model;
- Review specifications for construction materials and processes and confirm that they meet sustainable development objectives;
- Update the Gold-level LEED NC Checklist with comments;
- Review specifications for construction materials and processes and confirm that they allow for Gold-level LEED NC certification;
- Prepare the administrative file and technical file (simulations, technical data sheets, interpretation requests, reports, etc.) required for Gold-level LEED NC certification;
- Update the Energy Analysis.
- Prepare and submit a final analysis report on current applicable statutes, regulations, codes and standards (refer to AS8);
- Prepare and submit a final Total Cost Analysis studies and reports applied to major electrical and mechanical systems as well as to the building envelope;
- Prepare and submit the Construction Waste Management Plan.

RS 4.4 Details

The following non-exhaustive lists identify services expected from each discipline. Some of the activities listed below may require the participation of several or all professionals. The Consultant must coordinate its various team members (including Sub-Consultants and Specialist Consultants) and is responsible for performance of all elements in the mandate. The Consultant is responsible for ensuring that all the documents produced and information supplied are coordinated among all disciplines. This preparation must be carried out for each separate construction package. This includes, but is not limited to the following:

4.4.1 Progress Review

- As work progresses on construction drawings, submit drawings, schedules, details, pertinent design data and updated Cost Plan and Project Schedule as required. Coordinate Project Schedule with Construction Manager.

4.4.1.1 Mechanical

- Flow diagrams, system layout plans, equipment selections and dimensions, floor plans showing major equipment.
- All major ductwork sized and shown on drawings including layout plan for all major mechanical and transformer rooms.
- Building Automation or Energy Management & Control Systems (EMCS) network architecture, mechanical system control schematics, sequence of operation for each mechanical system, electrical system control schematics, direct digital control (DDC) input/output point schedules.
- Update the building load calculation, energy analysis and energy budget.
- Submit at the stipulated progress submission all calculations for mechanical design and equipment selection. These calculations must be presented in a three-ring binder with identification tabs.
- Calculations submitted must not necessarily be reviewed. They are required for record purposes and in certain instances to assist in the understanding and interpretation of designs. Calculations must be submitted in a format that is legible, neat and easily understandable.
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.2 Electrical

- Provide drawings showing advanced development of the following
  - ❖ Single line diagram of power circuits with their metering and protection systems, including
    - Power rating of connected equipment;
    - Ratios and connections of CTs and PTs;
    - Description of energy smart sub-metering;
    - Maximum short circuit levels on which design is based;
    - Identification and capacity of services;
    - Connected load and estimated maximum demand on each load centre.
  - ❖ Electrical plans with
    - Floor elevations and identification of electrical, information technology and telephony rooms;
    - Legend of all symbols used;
    - Circuit numbers at outlets and control switching identified;
    - All conduit and wire sizes except for minimum sizes which should be given in the specification;
    - A panel schedule with loadings for each panel;
    - Telephone/computing conduits system layout for ceiling/floor distribution.
  - ❖ Riser diagrams for lighting, power, telephone and telecommunication cable systems, fire alarm and other systems;
  - ❖ Distribution diagrams for quick charging terminals for electric vehicles;
  - ❖ Elementary control diagrams for each system;
  - ❖ Schedule for motor and controls;
  - ❖ Complete lighting layout and fixture schedule clearly indicating methods of circuiting, switching and fixture mounting;

- ❖ Electric heating layout and schedule;
- ❖ Provide the following data:
  - Total connected load;
  - Maximum demand and diversity factors;
  - Sizing of standby load;
  - Short-circuit requirements and calculations showing the ratings of equipment used;
  - Voltage drop.
- ❖ Calculations submitted must not necessarily be reviewed. They are required for record purposes and in certain instances to assist in the understanding and interpretation of designs. Calculations must be submitted in a format that is legible, neat and easily understandable;
- ❖ Specifications and an index of specification sections. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.3 Architectural drawings and interior design

- Complete and coordinated drawings (plans, sections, elevations, details, etc.) showing the scope of the work and work location at the site.
- Furniture and equipment layout plans (Refer to AS3).
- Signage plans (Refer to AS3).
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.4 Landscape Design Drawings

- Complete and coordinated drawings showing the scope of the work and work location at the site: location, demolition and protection of plants, installation, levelling and drainage, planting, construction sections and details, granular infrastructure, etc.
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.5 Civil Drawings

- Complete and coordinated drawings showing the scope of the work and work location at the site.
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.6 Structural Drawings

- Complete and coordinated drawings showing the scope of the work and work location at the site.
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

4.4.1.7 Building Connectivity Elements (BCE)

- Collaborate with the Integrated Security Systems (ISS) Consultant in order to provide him with the infrastructure required for the integration of his services.

4.4.1.8 Enhanced commissioning and decommissioning of existing equipment (refer to RS8)

- Commissioning plan including the required sections of Division 1 of the NMS.

4.4.1.9 Hygiène industrielle

- Complete and coordinated decontamination drawings showing the scope of the work and work location at the site.
- Specifications and an index of specifications. Use the most recent version of the NMS. Use the sections specific to PWGSC, where applicable.

RS 4.5 Deliverables

- The deliverables are similar at both stages (50% and 99%), except for:
  - a Class “B” estimate (10%) (substantive) at the 50% progress mark, including a breakdown of the costs where the amounts are clearly différentiated by funding source (breakdown for the base building and each client department);
  - a Class “A” final estimate (5%) (substantive), at the 99% progress mark and upon final submission.

- Completeness of the project development should reflect the stage of a submission.
- If the progress of documents is less then what is required, and if the documents are not coordinated among all disciplines, the Consultant must resubmit its work.

4.5.1 99% Submission

- Complete specifications and working drawings.
- 99% Commissioning Plan and Systems Operations Manual.
- One copy of the complete colour schedules, including textures, sheens, super-graphics, colour chips and material samples.
- One copy of site information, soil study report, geological cross-sections from the drilling report, etc.
- One copy of concept, design and other criteria required by the Departmental Representative’s Technical Services for final verification and archiving.
- One copy of updated cost plan and project schedule.
- Updated Energy Analysis.
- Updated Code Study (refer to AS8).
- Final Total Cost Analysis studies and reports applied to major electrical and mechanical systems as well as to the building envelope.
- Analysis report on maintenance costs for the assessed options.

4.5.2 Final Submission

- This submission incorporates all revisions required by the review of the 99% submission. Provide the following:
  - ❖ Complete set of construction drawings (hard copy, PDF and DWG formats).
  - ❖ Complete set of specifications (hard copy, PDF and DWG formats).
  - ❖ Class ‘A’ cost estimate (5%), according to the overall summary format and detailed breakdown by elements of the Uniformat II standard.

- ❖ Comprehensive plan for enhanced commissioning and decommissioning of existing equipment.
- ❖ Complete Systems Operations manual.
- ❖ Complete set of original Colour Schedule.
- ❖ Complete set of the soil investigating report with amendments if any.
- ❖ Complete set of the Hazardous Substances Study Report (provided by the Departmental Representative).
- ❖ Updated project delivery schedule.

- Coordinate Project Schedule with Construction Manager.
- As a safeguard against loss of or damage to the originals, retain a complete set of drawings in reproducible form and one copy of the specifications.
- Submission to the appropriate inspection services (i.e. Municipal Building Services).
- Submit to the appropriate inspection services the required plans and specifications for approval prior to the call for tenders (i.e., the consultant must apply for and obtain building permits, the cost of which will be paid by the Departmental Representative).

RS 5 BID SOLICITATION, BID EVALUATION AND CONSTRUCTION CONTRACT AWARD

(Applicable to entire project)

RS 5.1 Intent

The construction project will be carried out using the construction management method based on a series of separate construction packages.

The purpose of this step is to obtain, through the Construction Manager hired by the Department Representative, bids from competent contractors to carry out the project in accordance with the bid documents. The Construction Manager will assess these, then award the construction contract.

The Construction Manager will take over and inform the Consultant of the need to specify and update the construction tender packages and modify the sequencing to optimize the schedule.

The Consultant must:

- Confirm with the Construction Manager the intent and scope of each tender package;
- Provide the services described in this section for all tender packages, other than the purchasing and installation of furniture and signage, which are excluded from the Construction Manager's mandate (see AS3);
- Clearly indicate in the documents which components are non-contractual (furniture, signage, etc.);
- Obtain written authorization from the Department Representative before issuing each construction tender package.

RS 5.2 General

Scope of Work:

- Provide the Construction Manager with all documents required to conduct the tender call for contractors. This requires that all documents be complete and be coordinated among all disciplines. This is the responsibility of the Consultant;
- The bid forms will be prepared by the Construction Manager;
- Assist the Construction Manager during the information meetings for bidders for each separate construction package;
- Prepare addenda based on questions arising in such meetings for issue by the Construction Manager;
- Provide, in addendum form, all information required by bidders to properly interpret the construction documents. The Construction Manager must send this information to all bidders;
- Keep full notes of all inquiries during the bidding period and submit same to the Department Representative at the end of the period for placement in PWGSC's record;
- Carry out a Class A cost estimate for each construction package in order to countercheck the costs submitted by the Construction Manager;
- Proceed to the analysis of tenders costs presented by the Construction Manager for each construction package and forward recommendations to the Department Representative.
- Assist in bid evaluation by providing advice on the following:
  - ❖ The completeness of bid documents in all respects;
  - ❖ The effect of alternatives and qualifications that may have been included in the bid;
- If the Construction Manager decides to launch a new bid solicitation, provide the Construction Manager with advice and assistance through the Department Representative;
- Determine and report to the Construction Manager and the Department Representative any effect the addenda to the tender call or to the contract have on the project cost or Project Schedule;
- In the case of a cost overrun, the Consultant must revise and modify, at its expense, the construction tender packages, the BIM model and the technical characteristics, so that the cost is returned to below the stated limits;
- Jointly with the Construction Manager, prepare and send a detailed description of the effects that re-tendering may have on the building's connectivity components, particularly in terms of costs, risks and proposed mitigation measures.

RS 5.3 Deliverables

- Originals of drawings and specifications;
- Electronic copies of the drawings and specifications in DWG and PDF format based on the directory structure supplied by PWGSC;
- Furniture plans and moving plans;
- Quote for moving;

- Addenda where needed;
- Changes to the documents, where re-tendering is necessary;
- Updated cost estimate or Project Schedule.

RS 6 CONSTRUCTION AND CONTRACT ADMINISTRATION and POST-CONSTRUCTION WARRANTY REVIEW

(Applicable to entire project)

The list below is incomplete and in no way limits the professional obligations of the Consultant, its sub-consultants and specialist consultants.

RS 6.1 Intent

The construction project will be carried out using the construction management method based on a series of separate construction packages.

The purpose of this step is to implement the project in accordance with the Contract Documents and to provide direction for and monitor all necessary or requested changes to the Scope of Work during construction.

RS 6.2 General

Scope of Work:

- During the implementation of the project, act on behalf of the Department Representative to the extent stipulated in this document;
- Incorporate the addenda to the drawings and specifications issued for bids and submit the for-construction drawings and specifications. Hard copies of drawings and specifications. Electronic copies of drawings and specifications, in DWG and PDF format, according to the directory structure provided by the Department Representative;
- Review the work at appropriate intervals to determine if the work complies with the Contract Documents;
- Keep the Department Representative informed of the progress and quality of the work and report any defects or deficiencies in the work observed during the course of the site review;
- Ensure compliance with Commissioning Plan, update plan as necessary;
- Determine the amounts owing to the Construction Manager based on the progress of the work and certify such payments to the Department Representative;
- Interpret the requirements of the Contract Documents;
- Provide cost advice during construction;
- Notify the Department Representative of all potential changes to the scope of the work during project implementation;
- Review documents submitted by the Construction Manager;
- Draft Contemplated Change Notices (CCNs) to be provided to the Construction Manager by the Department Representative and justify them using directives;
- Submit a cost estimate for each CCN to the Department Representative;

- Analyze the quotations submitted by the Construction Manager and negotiate with the Construction Manager, where necessary, within two (2) working days following receipt of the quotation;
- Provide the Department Representative with a recommendation for issue of Change Order (CO);
- Keep a record of CCNs detailing the history of each until the date at which a CO is issued;
- Indicate any changes or material/equipment substitutions on Record Documents.
- Prepare and post Systems Operating Instructions;
- Monitor construction by overseeing the technical applications of the Gold-level LEED NC project checklist;
- Conduct the energy studies, analyses and simulations required to show that LEED certification performance levels have been achieved;
- Approve the construction materials and systems based on the ecological criteria required in the tender documents;
- Perform quality control of the work to ensure that performance requirements under the sustainable development strategy are met;
- Make sure the Construction Waste Management Plan is being followed;
- Verify commissioning during the construction period for all disciplines;
- Ensure that all end-of-project documents and manuals are complete and in compliance with contractual requirements before submitting them to the Department Representative;
- Finalize the Systems Operations Manual;
- Conduct a final warranty review;
- During the 12-month warranty period, investigate all defects and alleged defects and issue instructions to the Construction Manager;
- Update the Communications and Stakeholder Management Plan;
- Update the Energy Analysis.
- Final update of Code Study (Refer to SA8).
- Coordinate and monitor the delivery and installation of furniture in consultation with all suppliers and the Construction Manager (refer to AS3).

RS 6.3 Details

6.3.1 Project Schedule

- Once construction contracts are awarded, obtain from the Construction Manager the Project Schedule with detailed commissioning requirements shown separately and ensure proper distribution;
- Verify that the construction work is being carried out in accordance with the approved schedule, take necessary steps with the Construction Manager to ensure that the schedule is respected, and submit a detailed report to the Department Representative concerning any delays;
- Keep accurate records of causes that lead to delays and associated costs;

- Make every effort to assist the Construction Manager to avoid delays with respect to the Project Schedule, in particular by acting proactively and by providing clear, accurate answers that are consistent with requirements.

6.3.2 Time Extensions

- Only the Department Representative can approve a request to extend a deadline. Approval will be issued in writing by the Department Representative.

6.3.3 Cost Breakdown

- Obtain from the Construction Manager a detail cost breakdown on a standard PWGSC form and submit to the Department Representative with the first Progress Claim.

6.3.4 Subcontractor Changes

- The Construction Manager is required to use the subcontractors named on the list provided following the bid opening, unless a change is authorized by the Department Representative. Changes are only considered when they involve no increase in cost. Review all requests for changes of subcontractors and submit recommendations to the Department Representative.
- When subcontractors have not been listed on the tender form, obtain the list from the Construction Manager no later than 10 working days after the contract award date.

6.3.5 Labour Requirements

- The Construction Manager is bound by the contract to employ qualified, experienced workers throughout the project and to comply with statutes, regulations and obligations on labour conditions. The Consultant must inform the Department Representative of any labour situations or working conditions that appear to require corrective action by the Construction Manager.
- The Consultant must ensure that a copy of the Labour Conditions is posted in a conspicuous place on site.

6.3.6 Regulatory Compliance

- Ensure that construction complies with applicable statutes and regulations.

6.3.7 Construction Safety

- The Construction Manager must comply with provincial occupational health and safety acts and regulations, as well as with all directives pertaining to occupational health and safety on worksites issued by the provincial authority having jurisdiction.
- Where the construction site is inside an occupied building where it is not possible to relocate federal employees, and the federal employees continue to carry out their regular tasks in the construction work area, the Construction Manager must also comply with the *Canada Occupational Health and Safety Regulations*. In cases of divergence between the regulations, the Construction Manager must apply the more stringent requirements.

- Fire safety provisions during construction must comply with the version of the National Fire Code (NFC) in effect in the federal government.
- Ensure that the Construction Manager is mandated to coordinate, isolate, protect and recommission the fire protection and suppression systems during construction. Notify the Property Manager each time the fire protection and suppression systems are bypassed and provide information on the estimated reinstatement time. Check that the Construction Manager is complying with the NFC.

6.3.8 Site Visits

- Provide work inspection services at a minimum frequency of two (2) visits per week. Ensure compliance with Contract Documents.
- Ensure that qualified persons providing services are fully aware of the technical and administrative requirements of the project and have taken the General Occupational Health and Safety Course for Construction Sites course and any other training required under regulations or set out in the specifications. Ensure that the individuals comply with the Occupational Health and Safety Regulations.
- Establish a written agreement with the Construction Manager as to what stages or aspects of the work are to be inspected prior to being covered up.
- Ensure that the work is performed in accordance with the drawings and specifications. Assess quality of work and identify in writing to the Construction Manager and the Department Representative all defects and deficiencies observed at the time of such inspections.
- Prepare a Site Visit Note for every visit.
- Inspect materials and prefabricated assemblies and components at their source or assembly/fabrication plant, as necessary for project progress and work compliance.
- Submit any deficiency list, directive or clarification to the Department Representative in writing.

6.3.9 Clarifications

- Provide clarifications on drawings and specifications or site conditions, as required to prevent project delays.

6.3.11 Progress Reports

- Report to the Department Representative regularly on the progress of the work. To that end, submit reports once a week summarizing the planned activities, detailing the activities carried out or not carried out, and assessing the Construction Manager’s employees on the site.

6.3.12 Work Measurement

- If work is based on unit prices, measure and record the quantities for verification of monthly Progress Claims and the Final Certificate of Measurement.
- When a Contemplated Change Notice is to be issued based on unit prices, keep accurate account of the work. Record dimensions and quantities.

6.3.12 Detail Drawings

- Provide for the Department Representative's information any additional detail drawings as and when required to properly clarify or interpret the Contract Documents.

6.4.13 Shop Drawings

- Review shop drawings and technical data sheets submitted by the Construction Manager to ensure that they comply with the design and inform the Construction Manager of their compliance. Repeat the process until the documents are deemed compliant.
- On completion of the project, forward three copies of the reviewed shop drawings to the Department Representative. Ensure that shop drawings include the project number and are recorded in sequence.
- Verify the number of copies of shop drawings required. Consider additional copies for review by client departments.
- Shop drawings must be stamped "Checked and Certified Correct for Construction" by the Construction Manager and stamped "Reviewed" by the Consultant before return to the Construction Manager.
- Expedite the processing of shop drawings.

6.3.14 Inspection and Testing

- Provide the Department Representative with a list of recommended tests, including on-site and factory testing.
- Ensure that all testing is detailed in the Commissioning Plan (RS8).
- Once the contracts are awarded, come to an agreement with the testing laboratories concerning the procedures (report content structure, report distribution, communication channels, etc.), to the satisfaction of the Department Representative.
- Review all test reports and take necessary action with the Construction Manager when work fails to comply with contract documents.
- Immediately notify the Department Representative when tests fail to meet project requirements and the necessary corrective work will affect the work schedule.
- Check the accuracy of the invoices submitted for the services provided by the testing laboratories before submitting them to the Department Representative.

6.3.15 Training

- Provide the Department Representative with a list of recommended training.
- Ensure that all training is detailed in the Commissioning Plan (RS8).

6.3.16 Changes to Work

- The Consultant does not have the authority to change the work or the price of the contract. However, the Consultant will prepare Contemplated Changes Notices (CCNs) and Change Orders.
- Changes that affect project cost or the design concept must be approved by the Department Representative.

- All changes, including those not affecting the cost of the project, will be covered by Change Orders.
- Draft Contemplated Change Notices (CCNs) and Change Orders (COs), to be provided to the Construction Manager by the Department Representative and use directives to provide rationales for them.
- Upon the Department Representative's approval, obtain a detailed quotation from the Construction Manager. Review the quotation and promptly submit recommendations to the Department Representative.
- The practice of "trade-offs" is prohibited.

6.3.17 Construction Manager's Progress Claims

- Each month, the Construction Manager must submit a progress payment claim for work and materials, in accordance with requirements under the construction management contract. Review progress payment claims and make appropriate recommendations.
- The claims must be prepared by the Construction Manager by completing the following forms, where applicable:
  - Request for progress payment claims;
  - Cost Breakdown for Unit and/or Combined Price Contract;
  - Cost Breakdown for Fixed-Price Contract;
  - Statutory Declaration Progress Payment Claim.
- Review, recommend and sign designated forms and promptly forward to the Department Representative for processing;
- The Construction manager must submit with each Progress Claim:
  - Updated schedule of work progress;
  - Photographs of work progress.

6.3.18 Materials on Site

- The Construction Manager may claim for payment of material on the site that was not incorporated into the work.
- Material must be stored in a secure place designated by the Department Representative.
- A detailed list of the materials with the supplier invoices showing the price of each item must be provided to support the Request for Progress Payment, in the detailed cost section, of the designated form. The Consultant is required to check this list.
- As material is incorporated into the work, the cost of such material must be removed from the material list. The Consultant is required to monitor and check the list.

6.3.19 Acceptance Board

- The Consultant must inform the Department Representative when satisfied that the project is substantially completed. The Consultant must ensure that its representative, the representative of its Sub-Consultants, Resident On-Site Reviewer, the Construction Manager and the major sub-trades representatives

are part of the Project Acceptance Board and attend all meetings organized by the Department Representative.

6.3.21 Interim Inspection

- The Consultant must inspect the work and list all unacceptable and incomplete work (deficiencies) and assess their value on a designated form. The Consultant must accept the project as carried out by the Construction Manager subject to elimination of the deficiencies and completion of the uncompleted work listed and priced.

6.3.21 Interim Certificates

- Payment requires completion and signing, by the parties concerned, of the following documents:
  - ❖ Certificate of Substantial Performance;
  - ❖ Cost Breakdown for Fixed Price Contract;
  - ❖ Cost Breakdown for Unit and/or Combined Price Contract;
  - ❖ Inspection and Acceptance;
  - ❖ Statutory Declaration – Certificate of Substantial Completion;
  - ❖ Worker's Compensation Board Certificate.
- The documents to be provided will be issued several times in accordance with the package-based construction delivery mode.
- Verify that all items are correctly stated and ensure that completed documents and any supporting documents are furnished to the Department for processing.

6.3.23 Building Occupancy

- The Department Representative or Client Department may occupy the building after the date of interim acceptance of the building by the Acceptance Board. The acceptance date is normally that of the Interim Certificate of Completion issued by the Consultant. At the acceptance date, the Construction Manager may cancel the Contract Insurance and the Department Representative or Client Department (as the case may be) assumes responsibility for:
  - ❖ Security of the work(s);
  - ❖ Fuel and utility charges;
  - ❖ Proper operation and use of equipment installed as part of the project;
  - ❖ General maintenance and cleaning of the work(s);
  - ❖ Maintenance of the site (except any landscaping maintenance covered by the contract).

6.3.23 Operation and Maintenance Data Manual

- Operation and Maintenance Data Manual: 4 hard copies and 1 electronic (PDF) copy of each volume established by the Construction Manager in accordance with the project specifications sections and verified for exhaustiveness, relevance and presentation format by the architectural, mechanical and electrical consultants. The documents must be submitted to the Department Representative prior to interim acceptance or actual start of the work and the

instruction period, whichever occurs first. The Construction Manager must retain one copy of each volume for its records and use during the instruction period.

6.3.24 Instruction of Operating Personnel

- Make arrangements and ensure that the Department Representative's operating personnel is properly instructed on the operation of all services and systems using the final manuals as reference.
- Consultant to provide training sessions, as required, on design intent and systems operations. Utilize Systems Operations Manual for training sessions.

6.3.25 Keys

- Ensure that all keys and safe combinations are delivered to the Department Representative and/or the Client Department as applicable.

6.3.26 Final Inspection

- The Consultant must inform the Department Representative when satisfied that all work under the construction contract has been completed, including the deficiency items on the Inspection and Acceptance form as a result of the Interim Inspection. The Department Representative reconvenes the Acceptance Board which makes a final inspection of the project. If everything is satisfactory the Board makes final acceptance of the project from the Construction Manager.

6.3.27 Final Certificate of Completion

- The final payment requires completion and signing, by the parties concerned, of the following documents:
  - ❖ Final Certificate of Completion;
  - ❖ Cost Breakdown for Fixed Price Contract;
  - ❖ Inspection and Acceptance;
  - ❖ Statutory Declaration – Final Certificate of Completion;
  - ❖ Cost Breakdown for Unit and/or Combined Price Contract;
  - ❖ Worker's Compensation Clearance Certificate;
  - ❖ Hydro Certificate.
- The documents to be provided will be issued several times in accordance with the package-based construction delivery mode.
- Verify that all items are correctly stated and ensure that completed documents and any supporting documents are furnished to the Department Representative for processing.

6.3.28 Take-over

- The official take-over of the project or parts of the project from the Construction Manager is established by the Department Representative's Project Team, which includes the Consultant and the Client Department. The date of the Interim Certificates of Completion and of the Final Certificates of Completion for the work (for the work completed after the Interim Certificates of Completion are issued), consistent with the beginning of the warranty periods (12-month base warranty and extended warranties). The warranty periods will be staggered based on each

construction package and will begin at the dates indicated on the various certificates, in accordance with the contract's General Conditions.

- Provide the Department Representative with the original copy of the Construction Manager's warranties for all material and work covered by an extended warranty or guarantee, according to the conditions of the specifications. Verify their completeness and extent of coverage.
- Investigate the execution deficiencies found by the Department Representative during the twelve (12) month warranty period and convey the appropriate instructions to the Construction Manager and the Department Representative. Take part in five (5) official visits of the building accompanied by the Construction Manager and the Department Representative. The parties must agree on the visit dates based on the packages deemed critical. Provide a visit report at the completion of each inspection.

6.3.29 As-Built and Record Drawings and Specifications

As the Project will have multiple construction tender packages under the construction management model, for each construction tender package, the Consultant must:

- Following the take-over, obtain marked-up hard-copy as-built drawings from the Construction Manager, for each construction package, showing:
  - Significant deviations in construction from the original Contract Documents, including changes shown on post-contract drawings and changes resulting from Change Orders or from on-site instructions.
- Check and verify all as-built records for completeness and accuracy and submit to the Department Representative.
- Produce record drawings by incorporating as-built information into project drawings.
- Hard copies of drawings and specifications. Electronic copies of drawings and specifications, in DWG and PDF format, according to the directory structure provided by the Department Representative.
- Submit 2 hard copies and 2 electronic copies with drawings in compliance with the CADD standard within 8 weeks following the final acceptance of the work.
- Provide a complete set of final Shop Drawings.

RS 6.4 Deliverables

- Originals of drawings and specifications issued for construction.
- Electronic copies of drawings and specifications issued for construction, in DWG and PDF format, according to the directory structure provided by the Department Representative.
- Written reports on site visits, including the persons involved.
- Written reports on the progress of the work and the cost of the project at the end of each month.
- Detail drawings when required to clarify, interpret or supplement the Construction Documents.

- As-built and record drawings and specifications, incorporating the information for the finished work.
- Interim or final certificates.
- Debrief of commissioning activities.
- As-built records.
- Warranty deficiency list.
- Report on final warranty review.
- As-built drawings on CD, in PDF and DWG format, in conformity with the PWGSC CADD standard for each discipline;
- As-built drawings in velum hard copy for each discipline.
- List of spare parts for units and apparatus used in the project.
- Furniture plans and moving plans.
- Quote for moving.
- Updated Energy Analysis.
- Final update of Code Study (refer to AS8).
- Documentation (including the presentations for verification) and final certification of performance assessment criteria for sustainability (i.e., LEED, etc.).

RS 7 RISK MANAGEMENT

(Applicable to entire project)

RS 7.1 Intent

The Consultant must help the Department Representative identify risks throughout the project. See the documents “Doing Business with PWGSC – Documentation and Deliverables Manual v. 1.0 (January 12, 2018)” and “Doing Business with PWGSC – ADDENDA-Quebec Region v. 1.0 (January 12, 2018)” for the risk management “Definitions” and “Checklist.”

RS 7.2 General

Scope of Work

Risk Management Process:

- Identify risk events based on past experience and using proposed checklist or other available lists;
- Qualify/quantify probability of risk events (low, medium, high) and their impact (low, medium, high);
- Prioritize risk events (i.e., concentrate efforts on risk events with high probability and medium to high impact);
- Develop risk response (i.e., evaluate alternatives for mitigation—the real added-value of risk management);
- Implement risk mitigation.

RS 8 COMMISSIONING OF THE FACILITY

(Applicable to deconstruction of the existing building (decommissioning), construction and fit-out of the new building, construction of the new parking lot and services lanes, and site work (commissioning))

The construction project will be carried out in construction management mode based on a series of separate construction packages. Commissioning and decommissioning must factor in this particularity.

To comply with the requirements of the Gold-level LEED-NC certification, the Consultant must retain the services of a Commissioning Manager from a firm other than that of the Consultant and Sub-Consultants in engineering.

The Commissioning Manager represents the interests of the Department Representative and the Client Departments. He or she is responsible for all commissioning activities during the project's development, execution and post-construction periods.

During this step, in order to successfully complete the commissioning services, the Commissioning Manager, the PWGSC Commissioning Coordinator, and the Construction Manager's Commissioning Agent must collaborate closely with the Consultant's Design Professionals in order to produce coordinated drawings, reports and manuals in accordance with Contract Documents.

The requirements under the Gold-level LEED NC Gold evaluation system must be met.

RS 8.1 General Requirements

8.1.1 Glossary

Consultant: Entity responsible for project, including Design Professionals.
Consultant's Design Professionals: Professionals responsible for the design of a project's drawings and specifications.
Commissioning Manager: A commissioning professional. Must be a resource external to the Consultant's firm. This resource must not have been involved in the design of the project.

8.1. 2 Composition, Duties and Responsibilities of the Commissioning Team

Department Representative to maintain overall responsibility for project management and is sole point of contact for members of Commissioning Team.

The project's Commissioning Team consists of the following collaborators:

- **PWGSC Commissioning Coordinator (Quality Assurance)**
  The Coordinator supervises the execution of all commissioning-related activities so as to deliver a fully operational project. He or she is assisted by the PWGSC Design Quality Review Team, which will periodically review the site to observe work progress. His or her responsibilities include, but are not limited to:
    - Review of the commissioning documents from an operational perspective;

- Approval of the following: performance, reliability, durability of operation, accessibility, maintainability, and operational efficiency under all conditions of operation;
- Quality monitoring for commissioning activities, training supervision, approval of commissioning documents.

- **Commissioning Manager**
  The Manager's responsibilities include, but are not limited to:
  - Organization of commissioning and meetings;
  - Development of commissioning documentation;
  - Drafting of minutes of meetings and the commissioning report;
  - Monitoring of commissioning activities;
  - Review of the following: performance, reliability, durability of operation, accessibility, maintainability, and operational efficiency under all conditions of operation;
  - Witnessing and certifying the accuracy of select reported results;
  - Witnessing testing, adjusting and balancing operations and related testing, and select certification;
  - Approval of the Building Management Manual;
  - Development and implementation of the final Commissioning Plan;
  - Verifying performance of installed systems and equipment;
  - Approval of Training Plan.

- **Consultant's Design Professionals**
  The resources' responsibilities include, but are not limited to:
  - Participation in commissioning activities and meetings;
  - Participation in development of commissioning documentation;
  - Review of the following: performance, reliability, durability of operation, accessibility, maintainability, and operational efficiency under all conditions of operation;
  - Certification and approval of selected reported results;
  - Certification of testing, adjusting and balancing operations and related testing.
  - Preparation of the Building Management Manual, in accordance with the instructions of the Commissioning Manager;
  - Participation in the development and implementation of the final Commissioning Plan;
  - Participation in verification of performance of installed systems and equipment;
  - Development of Training Plan.

- **Construction Manager**
  The Construction Manager's team includes its Subcontractors and suppliers. This team must carry out construction/installation in accordance with the requirements in the Contract Documents. Responsibilities include, but are not limited to:

- Full collaboration and participation in commissioning activities;
- Testing;
- Performance of testing, adjusting and balancing operations;
- Performance of commissioning activities;
- Delivery of training and provision of commissioning documentation;
- Development of the Building Management Manual;
- Designation of the Construction Manager's Commissioning Agent who will collaborate with the Commissioning Manager, the Consultant's Design Professionals, and the PWGSC Commissioning Coordinator for administration and coordination matters.

- **Construction Manager's Commissioning Agent**
  The Agent performs the commissioning activities indicated in the specifications. His or her responsibilities include, but are not limited to:
  - Organization of commissioning and meetings;
  - Implementation of final Commissioning Plan;
  - Demonstration of operation of equipment and systems;
  - Implementation of Training Plan;
  - Witnessing testing and certifying accuracy of reported results;
  - Testing;
  - Witnessing testing, adjusting and balancing operations and related testing, and certification;
  - Preparation and submission of test reports;
  - Monitoring of static verification and performance control records with Subcontractors;
  - Development of the Building Management Manual.

- **PWGSC Property Manager**
  The Manager plays a key role during the operations phase and afterward. Responsibilities include:
  - Acceptance of the facility;
  - Day-to-day operation and maintenance of the facility.

8.1.3 General Instructions

- The Commissioning Manager must:
  - Provide commissioning services for the project to ensure that the planning, design, installation, testing, optimization, and operating and maintenance conditions of the finished work, systems and equipment are in accordance with project requirements, the Basis of Design and any other requirement set out in the Contract Documents for construction.
  - Bear general responsibility for commissioning, production of reports and commissioning documentation.
  - Compile the commissioning data and prepare a report for the PWGSC Commissioning Coordinator.
  - Regularly transmit an update of the log of commissioning issues to the PWGSC Commissioning Coordinator.

- Assemble the final commissioning documentation, transmit the final Commissioning Plan and manual to the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent for review and acceptance, and recommend acceptance or rejection of the project's finished work, systems, equipment and assemblies.

- The designation of a PWGSC Commissioning Coordinator and a Commissioning Manager does not permit the Consultant's Design Professionals to waive their professional responsibilities as outlined in the contract, including on-site supervision and reviews to ensure that the finished work conforms to the requirements, to the project's design intent and Contract Documents, and to the applicable regulations, codes and standards.

8.1.4 Services Required During the Planning Phase

- The Commissioning Manager must:
  - Examine the documentation on the project requirements, including the commissioning requirements and Statement of Work document prepared for it and for the Construction Manager's Commissioning Agent by the Consultant's Design Professionals, as well as the Commissioning Plan and the commissioning specifications for the model/pre-design phase.
  - Propose recommendations for improving functionality, efficiency, operability, maintenance capacity and savings.
  - Notify the Department Representative of all necessary special tests to be added to the project.
  - Examine the scope of commissioning with the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent.
  - Examine the operation and maintenance requirements and the project requirements.
  - Support the Project Team and the Commissioning Team during investigations and when preparing the design and recommendation options (IAR).

8.1.5 Services Required During Design Phase

- The Commissioning Manager must:
  - Integrate the requirements and activities of the commissioning process, the Commissioning Plan and the commissioning specifications, and commissioning forms.
  - Examine the operation and maintenance problems that need to be considered in the design phase.
  - Prepare and review the project's Contract Documents to coordinate the required interfaces among systems, equipment and assemblies.
  - Review or draft the commissioning specifications.
    The commissioning specifications must include detailed descriptions of the responsibilities of all the parties, including the Construction Manager, Subcontractors, manufacturers and testing contractors, for each of the commissioning activities; details on the commissioning process; and reporting and documentation requirements, including formats requested:
    - alerts relating to coordination problems;

- the commissioning issues log and a description of how shortcomings were resolved;
- pre-functional checklists and start-up requirements;
- the performance testing process;
- the specific requirements and procedures of the performance tests;
- requirements relating to test equipment and instrumentation;
- the acceptance criteria for each applicable system, piece of equipment and assembly.

- Respond promptly to comments made by the Commissioning Team during design review (review of drawings and specifications) or when there are other issues.
- Develop or update the Commissioning Plan for the design phase. Submit it for review by the PWGSC Commissioning Coordinator and by the Construction Manager's Commissioning Agent. Include the Commissioning Plan in section 01 91 13.13 of the specifications.
- Prepare the commissioning sections (017800, 017900, 017900.13, 019113, 019113.13, 019113.16, 019200) for all commissioned equipment.
- Ensure that the operation and maintenance of systems and equipment are described in detail in the project's Contract Documents to ensure that the commissioning is properly applied and executed.
- Ensure that the project's design documents and Contract Documents include all devices, elements and instruments required for the execution of commissioning and for satisfactory documentation on the operation of each applicable piece of equipment, system and assembly.
- Examine, and where necessary incorporate, the comments of the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent made in reviews of the preliminary drawings and specifications.
- Ensure that all drawings are to scale.
- Provide drawings in A2 format to the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent for the 99% issuance and for construction.
- Submit the drawings and specifications to the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent or comment at each issuance. A minimum of 10 working days must be given for review.
- Inform the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent of any change during the design/construction process (including Change Orders).
- The PIPVF (Product Information and Performance Verification Form) test forms and installation checklists (ICL) must be prepared by the professional responsible for design, inserted in the specifications and adapted to the project. Coordinate with the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent for review and include all comments in the documents.
- Design commissioning forms specific to the project, systems, equipment and assemblies, including (as necessary):

- pre-functional checklists,
- start-up checklists,
- procedures and report templates for functional performance testing,
- procedures and report templates for integrated systems testing.

These requirements apply to all project-specific systems and equipment that are new or have been modified, or have been connected to new or modified systems. Attach forms to the submissions under the specifications section (01 91 13.16) of the commissioning forms.

- Verify and confirm that the testing, adjusting and balancing (TAB) specifications and the specifications for performance and field quality control of other systems and equipment are satisfactory and exhaustive.
- Make sure that requirements for maintenance space are respected: leave enough space to access equipment for maintenance purposes. Safe access to equipment.
- CMMS requirements:
  - The Commissioning Manager must identify the CMMS numbers on equipment affected by the project and show them in the drawings.
  - Equipment must be labelled by the Construction Manager according to PWGSC standards and requirements for rating plates. CMMS standards, requirements and forms are to be incorporated in the specifications by the Commissioning Manager.
  - Specify that labels produced must follow the rating plates standards. Include a copy of the standards in the specifications.
- Procedures for the update of single-line electrical diagrams (where applicable):
  - The Commissioning Manager is responsible for ensuring that changes to single-line diagrams are made by the Design Professionals.
  - The Commissioning Manager must recommend approval of the corrected final drawings to the Department Representative.
  - The Commissioning Manager must ensure that the Design Professionals have incorporated the changes to the single-line diagrams to the CAD version.
- Training: the Commissioning Manager must ensure that the Construction Manager is responsible for providing training on the renovated facilities to operational personnel. Indicate all training sessions and content of required training in the specifications. Indicate in the specifications that the Construction Manager must provide a Training Plan for prior approval. The Commissioning Manager must ensure that the Design Professionals have detailed the content of the Training Plan in their specifications.

8.1. 6 Services Required in the Construction, Acceptance and Closeout Phases

- The Commissioning Manager must:
  - Attend the work assessment visit / the pre-bid meeting. Present the project's commissioning process and requirements to the Construction Team. Answer questions about commissioning from the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent.

- Coordinate and direct commissioning activities in a logical, sequential and effective manner using uniform protocols and forms, centralized documentation, clear and regular communications, and consultations with all necessary parties. Update time frames, schedules and technical expertise.
- Coordinate commissioning with the Construction Manager and the Construction Manager's Commissioning Agent to ensure that commissioning activities are included in the Construction Manager's main schedule.
- Where applicable, revise the Commissioning Plan for the construction phase that was developed during design, including the scope of work and schedule.
- Examine the submissions and applicable Shop Drawings of the Construction Manager from the perspectives of commissioning, integration, performance, operation and maintenance. Examine the installation, operation and maintenance (IOM) manuals, directives and start-up checklists, and any other relevant documentation from the equipment manufacturer. Identify issues or problems. Submit forms and comments from the Shop Drawings review to the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent.
- Revise, adapt and update the test procedures in the Commissioning Plan and the commissioning forms (pre-functional, start-up, functional performance tests and integrated systems tests) based on modifications made to the system and equipment during the construction and acceptance phase, particularly those prescribed by inquiries, job site directives and change notices from the Design Professionals.
- Jointly with the Construction Manager, coordinate the integration of commissioning activities into the project's construction schedule.
- Organize a commissioning coordination meeting with the Construction Manager's Commissioning Agent, the Construction Manager, its Subcontractors and others involved in the commissioning (contractor in charge of call-ups, testing, adjusting and balancing contractors, manufacturer's representatives, specialized testing contractor, and others as necessary) and the PWGSC Commissioning Coordinator. Chair the meetings and prepare and distribute minutes.
- Perform site visits and inspection to review component, equipment and system installations in preparation for the completion of the Pre-Functional and Installation Verifications and Checklists.
- Monitor and evaluate the execution of inspections and pre-functional and installation tests by the Construction Manager. Ensure that pre-functional and installation test reports are accurate and exhaustive.
- Identify any shortcomings and problems and determine the corrective action to take. Prepare checklists and final reports using approved forms, and confirm that equipment and systems are ready for start-up. Submit reports to the PWGSC Commissioning Coordinator for review and approval.
- Perform the following pre-functional tasks:
    - Witness sufficient pressure tests on piping and flushing to confirm that appropriate procedures have been followed. Include the test documentation in the commissioning records.

- Ensure that installation checklists have been duly executed by examining their completion on periodic site visits.
- Ensure that registration forms for pre-functional systems tests have been duly completed by examining their completion on periodic site visits.
- Verify and comment on water balancing reports through selective job site inspections and by consulting final reports. Approval and final acceptance of these reports are the responsibility of the design professional.

- Monitor and witness start-up verifications of systems selected for commissioning by the Construction Manager, the manufacturer's representative or the specialized testing contractor, as the case may be. Ensure that start-up reports are accurate and complete. Identify any shortcomings and problems and determine the corrective action to take. Prepare final start-up reports using start-up reports, data, results and adjustments provided by the Construction Manager and confirm appropriate operation or preparedness of equipment or systems for functional performance testing (FPT).
- Monitor and witness FPT and integrated systems testing (IST) of systems and assemblies carried out by the Construction Manager. Supervise and coordinate members and participants of the Commissioning Team when tests are being carried out. Compile and verify all results, data and other relevant information generated by the testing. Prepare FPT and IST reports for commissioning using approved forms. Document shortcomings and action to be taken in light of the FPTs and ISTs. Recommend acceptance or rejection of the commissioning of each system or piece of equipment. Submit the duly completed FPT and IST reports to the Commissioning Coordinator for review and approval.
- Regularly examine the Construction Manager's drawings (annotated "as built") to verify their accuracy relative to the facilities. Report any discrepancy or problem to the PWGSC Commissioning Coordinator.
- Review and comment on the progress reports and log of commissioning issues.
- Review and comment on commissioning test reports, data and results. Confirm that tests and their results conform to the project requirements, the Basis of Design, and the Contract Documents.
- Participate in the training of operation and maintenance personnel and/or users by presenting the project's conceptual design, Basis of Design, and operation and maintenance directives.
- Review, comment on and accept the Construction Manager's documentation (which may include as-built drawings, diagrams and schedules).
- Review and comment on the Construction Manager's data and its operation and maintenance manual. Examine completeness, accuracy and updates, including modifications made in the course of the project.
- Review equipment warranties to ensure that the responsibilities of operational personnel are clearly defined.

- Review and comment on the commissioning plan and the final commissioning manual.
- Validate the project's as-built drawings. Submit these to the PWGSC Commissioning Coordinator and the Construction Manager's Commissioning Agent for review and comment. The as-built drawings must be approved by the Design Professionals.
- Make a recommendation to the Department Representative for acceptance or rejection of the finished work, system and equipment.
- Prepare the final report on the commissioning process. The report must be organized as follows and include:
    - A summary report with a list of the members of the Commissioning Team and the participants, roles and responsibilities, a brief description of the building and project, a summary of the project's requirements and the Basis of Design, and an overview of the scope and the commissioning and test methods. For each system and piece of equipment commissioned, the report must include an assessment by the Commissioning Manager concerning the adequacy of systems and equipment in conforming to the project requirements, the Basis of Design and the Contract Documents in the following fields:
        - Specifications of equipment installed;
        - Installation of equipment and systems;
        - Operation of systems and equipment, functional performance, efficiency, and optimization;
        - Adequacy of operation and maintenance, operational state;
        - Documentation requested in the specifications relating to operation, maintenance, data and performance records, etc.
        - Operators' training documents and comments on their quality.
        - Final update and status of logs of commissioning issues. All shortcomings, problems and non-conformities must be specifically classified. Each item must correspond to the test, inspection or specific trend log report for which it is identified and documented. Include recommendations for corrective action, improvements, optimization, system and equipment operating parameters, performance and efficiency, future action, changes to the commissioning process, recommissioning, etc.
- Assemble all final commissioning documents and prepare the final commissioning manual. Submit the manual to the PWGSC Commissioning Coordinator for review and approval. Documents for the final commissioning manual must be gathered in searchable electronic format (PDF) and must include:
    - the final commissioning report;
    - the project requirements document;
    - the Basis of Design (BOD);
    - the design schematics;
    - the construction drawings;
    - the as-built or record drawings;

- the single-line as-built diagrams;
- the schedules of as-built products and equipment;
- the commissioning specifications;
- the commissioning reports (PF, S-U, TAB, FPT, IST, controls, DDC trend log reports, data logger reports, others as applicable);
- the operator training files;
- the equipment forms for the Computerized Maintenance Management System (CMMS);
- any other report or correspondence relevant to the project;
- the systems and equipment manuals:
  - a set of applicable Shop Drawings (including consignments and forms and approvals examined);
  - the installation, operation and maintenance manuals;
  - the performance indicator data records (amended to be considered commissioned, if necessary);
  - any other relevant document, brochure, data sheet or technical information from the manufacturer;
  - equipment warranties; and
  - system operational manuals / standard operating procedures (SOP).

- Notes regarding requirements for development and use of commissioning forms (PF, S-U, FPT, IST)
  - Pre-Functional (PF) Inspections/Verifications and Start-Up (S-U) Checklists
    - When available from equipment manufacturers, the manufacturer's installation, operation and maintenance (IOM) instructions and its installation verification and start-up checklists are acceptable and must be used. As deemed necessary by the Commissioning Manager, supplemental verifications and additional data could be required for specific project conditions, and such verifications and data must be documented on same or separate forms. Functional Performance Testing (FPT) and Integrated Systems Testing (IST). The Functional Performance Test (FPT) must include and cover the operation of the system and elements through each written sequence of operation and the other modes and sequences, including start-up, shutdown, idle, manual, organization, the various alarms, power outages, security alarm in the event of shock, and links to other systems or equipment. The sensors and levelers must be calibrated during pre-functional verification by the construction contractors doing the installation, and spot-checked by the Commissioning Agent during the functional test.
    - If possible, testing of respective HVAC equipment and systems must be conducted during seasons requiring heating and air conditioning. However, some overwriting of control values to simulate conditions is allowed. The FPT must be conducted using

conventional manual methods, the control system's trend logs, and, if considered appropriate or required, the data loggers. The FPT must be conducted in order to provide a high level of confidence in the system's operation, as deemed appropriate by the Commissioning Manager.

- The FPT procedures and reports must allow for full examination and analysis of performance, operational parameters and sequence of the systems and equipment.

RS 8.2 Regulatory Requirements

8.2.1 Requirements Relating to Codes, Standards, Policies, Guidelines, Design and Construction Documents

The Commissioning Manager is required to perform the work in accordance with all applicable codes, statutes and regulations in effect at the time of project implementation. The Commissioning Manager is responsible for formally notifying the PWGSC Commissioning Coordinator if he or she receives any directive that contravenes a code, law, regulation, statute or any other mandatory or legal requirement in effect.

8.2.2 PWGSC Departmental Policy (DP) 039: Policy on the Use of the National Master Specification (NMS)

- The last update of the NMS must serve as the source document for drafting sections of the specifications dealing with commissioning in project manuals covering all future construction and renovation work performed by or for PWGSC.
- When preparing specifications sections concerned with commissioning, the Commissioning Manager must use the latest and most current release of the National Master Specification (NMS) to the maximum extent to which that version is applicable, in accordance with the departmental policy and subject to the Commissioning Manager's overriding responsibility for the content of the construction project specifications. The NMS must be amended or supplemented as necessary to produce a project manual that is adapted to the particular circumstances of the project and free from all conflict or ambiguity.
- The Commissioning Manager is responsible for obtaining the NMS User's Guide from an authorized supplier, and an up-to-date version of the NMS specification sections needed to prepare the project specifications. The NMS User's Guide is also available from the NMS Secretariat office.

8.2.3 Computerized Maintenance Management System (CMMS)

All work performed under the construction contract must meet the requirements set out in PWGSC's CMMS.

- CMMS inventory records must be provided for all major elements and systems.
- Before removing or replacing elements or systems as part of the project, note and submit their respective CMMS sequence numbers to the PWGSC Commissioning Coordinator.
- Collect and record all CMMS data for all new or moved equipment that is installed, replaced, removed or decommissioned from an existing equipment inventory.

- Inventory records must include all data on the product, including its serial and model number, the description of the equipment, and its location.
- Provide the PWGSC Commissioning Coordinator with fully completed inventory data records for all new equipment two (2) weeks before requesting approval, so as to identify the proposed elements.
- All CMMS inventory records must be added to the operation and maintenance manual provided by the Construction Manager and its Subcontractors.
- The CMMS is applicable to all major elements or systems. Minor elements such as switches, thermostats, etc. need not be inventoried in CMMS. The PWGSC Commissioning Coordinator must respond to any requests for clarification from construction contractors.
- The specifications must hold the Construction Manager responsible for providing the PWGSC Commissioning Coordinator with all necessary CMMS data and inventory records.

RS 8.3 Requirements for Commissioning

8.3.1 Mechanical, Electrical, Architectural, Physical Security and Accessibility Systems

The commissioning program, services and documentation must adhere to the following standards, policies and guidelines, if required by the scope of the work.

- CSA Z320-11 – Building Commissioning Standard and Check Sheets
- ASHRAE Guideline 0 – The Commissioning Process
- ASHRAE Guideline 1 – The HVAC Commissioning Process
- ASHRAE 202 – Commissioning Process for Buildings and Systems
- PWGSC Commissioning Manual, CP.1, 4th edition, November 2006
- PWGSC Commissioning Guidelines, CP.3 to CP.13
- BCA – Manual, samples and templates.
- PECI – Commissioning plan and commissioning specifications template
- PECI – Document templates and samples
- PECI – Sample functional tests and checklists
- CAN/CSA-B651-12 - Accessible Design for the Built Environment

8.3.2 Fire Safety and Protection

The commissioning program, services and documentation for systems fire safety and protection must also adhere to the standards.

- CAN/ULC S1001-11 Integrated Systems Testing of Fire Protection and Life Safety Systems and Fire Protection Commissioning.

RS 8.4 Variances

8.4.1 Table 1: Variances with CSA Z320-11

The scope of the Commissioning Agent’s services must comply with CSA Z320-11, Building Commissioning, ASHRAE Standard 202-2013, Commissioning Process for Buildings and Systems, including the variances listed in Table 1 below, and the reference guide for LEED BD+C, version V4, EA Credit: Enhanced Commissioning (achievement of Option 1: Enhanced Systems Commissioning).

Commissioning of built works managed by RPB and/or by RP contractors must comply with CSA Z320-11: Building Commissioning Standard & Check Sheets, with variances as listed in Table 1 below. Note that the section and subsection numbers indicated in Table 1 refer to sections and subsections in CSA Z320-11.

CSA Z320-11 Section	**CSA Z320-11 Subsection**	**Variances**
1.2 Specific systems	1.2.1 General	In addition to the requirements listed in this section, commissioning must apply to all built works, including bridges, dams, and engineering assets. It must not be limited to the building enclosure.
3 Definitions	Systems Operation Manual	An additional clarification should be added to the definition of Systems Operation Manual: The term “systems operation manual” is equivalent to the PWGSC term “Standard Operating Procedure”.
3 Definitions	Owner	An additional clarification should be added to the definition of Owner: The Crown, or an entity representing the Crown, is considered to be the Owner.
4.2 Pre-design phase		In addition to the requirements listed in this Section 4.2, the Owner’s Project Requirements must meet all the requirements of Section 6.2.3 of ASHRAE Standard 202-2013 Commissioning Process for Buildings and Systems, henceforth referred to as ASHRAE Standard 202.
4.2 Pre-design phase	4.2.1 (b) Establishment of Basis of Design	In addition to the requirements of Subsection 4.2.1(b), the Basis of Design must meet all the requirements of Section 8: Basis of Design, ASHRAE Standard 202.

CSA Z320-11 Section	CSA Z320-11 Subsection	Variances
4.2 Pre-design phase	4.2.3 Commissioning plan	In addition to the requirements listed in section 4.2.3, include the following items in the Commissioning Plan: Identification of all systems and sub-systems to be commissioned. Identification of all deliverables. The requirements of Section 7: Commissioning Plan, ASHRAE Standard 202
4.3 Design phase	4.3.1 General	Prepare commissioning specifications.[1] Prepare Training Plan.[1] Prepare preliminary commissioning manual.[1] Perform Design Review, meeting the requirements of Section 10, ASHRAE Standard 202.
4.4 Construction Phase	4.4.1 General	In addition to the requirements listed in section 4.4.1, include the following item: Perform Commissioning Submittal Review meeting the requirements of Section 11 ASHRAE Standard 202.
4.4 Construction Phase	4.4.2 Pre-construction	In addition to the requirements listed in section 4.4.2, include the following items: Prepare commissioning Schedule.[1] Prepare installation/start-up checklists.
4.4 Construction Phase	4.4.4 Static verification	In addition to the requirements listed in section 4.4.4, include the following item: Obtain certificates of authenticity for equipment.[1]

CSA Z320-11 Section	CSA Z320-11 Subsection	Variances
4.5 Functional Performance Testing	4.5.3 Implementation	In addition to the requirements listed in section 4.5.3, include the following item: Functional performance tests must be documented according to Section 13: Issues and Resolution Documentation of ASHRAE Standard 202.
4.7 Facility turnover activities	N/A	In addition to the requirements listed in section 4.7, include the following item: Facility turnover activities must also be required where a project rather than an entire facility is being turned over.
4.9 Final documentation	4.9.1 General	In addition to the requirements listed in section 4.9.1, include the following item: The final documentation must be retained in a document archive.[1]
4.9 Final documentation	4.9.3 Additional commissioning documentation	In addition to the requirements listed in section 4.9.3, include the following items: Interim certificate of acceptance[1] Final certificate of completion[1] Deferred commissioning test reports[1] System and environmental checks report[1] Final commissioning report[1]
4.11 Training and Education	4.11.1	In addition to the requirements listed in section 4.11.1, include the following item: Meet the requirements of Section 15.2 Training Requirements of ASHRAE Standard 202.

CSA Z320-11 Section	CSA Z320-11 Subsection	Variances
4.13 Record drawings (as built)	N/A	In addition to the requirements listed in section 4.13, include the following item: Record drawings are required whenever the built work being commissioned is connected to or impacts the operation of the base building systems.
4.14 Manuals	4.14.2 Systems operation manual	In addition to the requirements listed in section 4.14.2, include the following items: The systems operation manual must indicate both normal and emergency modes of operation.[1] The systems operations manual must include Life Safety Compliance Report.[1]
5.1 Architectural systems	5.1.3.4 Functional performance testing (interior space)	In addition to the requirements listed in subsection 5.1.3.4, include the following item: The following additional system must be part of the commissioning process: • Sound masking, as per design documents[1]
5.4 Mechanical systems	5.4.3.4 Functional performance testing	In addition to the requirements listed in subsection 5.4.3.4, include the following items: The following additional tests are to be performed, as per design documents: • Duct pressure test • Duct leakage test • Indoor air quality test

CSA Z320-11 Section	**CSA Z320-11 Subsection**	**Variances**
Annex A (informative) – General guidelines	N/A	This annex is adopted as a mandatory requirement.
Annex B (informative) – Architectural systems guidelines (informative)	N/A	The architectural testing protocols listed in Table B.1 are the minimum mandatory testing requirements.

RS 8.5 Table of Commissioning Duties and Responsibilities

E: Execution
A: Assisting/Participation

Lead	Departmental Representative	Design Quality Review Team	Commissioning Coordinator - Quality Assurance	Design Professionals	Commissioning Manager	Commissioning Officer	Construction Manager's Team	Property Manager
Organization	PWGSC	PWGSC - AES	PWGSC - TMS	Consultant	Independent Consultant	Construction Manager	Subcontractors and Suppliers	Operation - BGIS
Update of:								
Design Quality Review Team	R		V					
Commissioning Coordinator - Quality Assurance	R							
General Work Progress:								
Action		R						
Design:								
Commissioning Meetings	A		A	A	R	A		
Commissioning Risks	R		A					
Specifications - Commissioning Section			V	A	R			
Commissioning Planning								
Commissioning Organization			V		R	A	A	
Commissioning Plan			V		R	A		
Commissioning Schedule			V		V	R		
Commissioning:								
Commissioning Activities	A		A		V	A	R	A
Performance and Operation			A	V	V	R		
Testing			A	V	A	A	R	
Test Reports			V	V	V	R	A	
TAB Operations			V	V	A	A	R	
Building Management:								
Building Management Manual			V	V	V	A	R	
Training:								
Training Plan	A		V		R		A	
Training			A		V	A	R	A
Documentation:								
Commissioning Documentation			V	V	A	A	R	
PI and PV Forms/Records			V		V	R	A	
Operations:								
Acceptance								R
Operation and Maintenance								R

RS9 ESTIMATING AND COST PLANNING

(Applicable to entire project)

RS9.1 Cost Specialist Consultant

Delivering this project on time and within budget is an absolute priority. That is why the Prime Consultant must retain the services of an experienced, fully qualified cost estimating, cost planning and cost control team, with a demonstrated record of success with major construction projects. This team will be referred to as the Cost Specialist Consultant in this section.

The construction project will be carried out in construction management mode based on a series of separate construction packages. Estimating and cost planning must take these specificities into account.

The Estimating and Cost Planning Team must be led by an estimating and cost planning specialist who is a Construction Estimator Certified (CEC) or a

Professional Quantity Surveyor (PQS) who is a member of the Canadian Institute of Quantity Surveyors (CIQS).

This Estimating and Cost Planning Team must be conversant with all aspects of construction cost estimating during the design stages including the use of Elemental Cost Analysis, Risk Analysis, Life Cycle Costing and Value Engineering/Management techniques.

The purpose of cost planning and cost control is to help meet project cost objectives. It is a continuous and interactive process involving planning, action, measurement, evaluation and revision.

The key objective involves carrying out the project in accordance with the authorized funding, by justifying the viability of and return on design choices with recognized conservation standards. This will be achieved through, but not limited to, the following measures:

- A rigorous cost management system to both monitor and report on cost.
- Formal costing submissions for each construction tender package and for the overall project, in accordance with all Required Services (RS) and Additional Services (AS) sections.
- Design review for the work to maintain the construction cost budget (where required).
- Determination of budget reserves.
- Iterative and continuous design analysis and adaptation to meet cost objectives in collaboration with the PWGSC Cost Specialist Consultant.
- Sound, strict change control system.
- Effective communications.
- Approval procedures.
- Management of risk fund.

Since the construction budget is of a fixed value, value engineering (VE) as well as appropriate design choices must be a continuous process throughout the project.

RS9.2 Scope of Services

The Cost Specialist Consultant must provide an interactive and continuous cost consulting service from the commencement of project design through to construction completion. It must prepare exhaustive estimations of costs for all disciplines, cost escalation, inflation and contingency costs.

The Cost Specialist Consultant must provide the Department Representative and the Consultant with cost advising and cost monitoring/reporting services.

The Cost Specialist Consultant is to be available for, and attend, all project meetings. It must be ready to submit estimates to the Department Representative and to justify them, as necessary.

RS9.3 Services – Basic Activities

The Cost Specialist Consultant must cooperate with the Consultant and its team and the Department Representative on the cost of components for the building and the various facilities. Estimates must be presented in Uniformat II, be detailed and include cost summaries.

9.3.1 Reporting

Progress Reports

At each phase specified in this document, the Cost Specialist Consultant must present a full account, which must include the requisite summaries as well as all supporting worksheets clearly showing the process used to prepare estimates. The Department Representative will essentially use the worksheets and the information these contain in examining the estimates. Worksheets must also include cost comparisons and cost reports identifying the differences between successive estimates, the reasons for these gaps, and their effects on project costs.

In addition, the Cost Specialist Consultant must coordinate all estimates with project schedules and break down costs by steps (RS1 to RS6) and fiscal year.

A typical progress report will contain, in particular:

- A summary of project cost estimates;
- A summary of cost estimates, broken down by item in Uniformat II;
- A cost breakdown that clearly differentiates amounts by source of funding (broken down for the base building and each of the Client Departments) at the 50% RS3 and RS4 steps only.
- Details supporting estimates:
  - Basic data used to calculate cost escalation, inflation and contingency costs;
  - Detailed measurement and pricing.
- Narrative:
  - Outline description of estimate basis;
  - Description of information used in the estimates, including the date received;
  - List of elements included;
  - List of elements excluded;
  - List of high-risk items/aspects;
  - Notes on Cost Specialist Consultant’s past and planned activities.
- Estimate reconciliation:

- With last submission;
- With Construction Cost Plan.

Any other pertinent information must be included.

Monthly Reports

In addition to the progress reports, the Cost Specialist Consultant must produce Monthly Reports on the status of the last month's activities, sensitive aspects, new data, forecasts and proposed revisions to current estimates. The report must contain, in particular, the updated Elemental Cost Summary:

- A summary of project cost estimates;
- Elemental Cost Summaries;
- Narrative:
  - Description of the basic elements of the estimate revision;
  - Description of the new data included in the estimates and indication of their date of receipt;
  - List of elements included;
  - List of elements excluded;
  - List of high-risk items/aspects;
  - Notes on Cost Specialist Consultant’s past and planned activities.

Variance Report

The Cost Specialist Consultant must provide continuous cost monitoring, timely identification and early warning of all changes that affect or potentially affect the estimated construction costs of the project.

If the estimate falls short of or exceeds the Construction Cost Limit due to such changes, the Cost Specialist Consultant with the Consultant Team must fully advise the Department Representative. The Cost Specialist Consultant with the Consultant Team must submit to the Department Representative proposed alternative design solutions. Thereafter, the most recent estimates must be revised.

A Variance Report will include sufficient description and cost detail to clearly identify, among other information:

- Scope Change: Identifying the nature, reason and total cost impact of all identified and potential project scope changes affecting Construction Cost Estimate.
- Cost overruns and under-runs: Identifying the nature, the reason and the total cost impact of all identified and potential cost variations.
- Options enabling a return to the Construction Cost Estimate: Identifying the nature and potential cost effects of all identified options proposed in order to return the project within the Construction Cost Estimate.

9.3.2 Submission Requirements

Summary Format

- Elemental Cost Analysis: All estimates must be summarized in an agreed and consistent Elemental format. The Consultant and the Cost Specialist Consultant must use the general summary format and the elemental detailed breakdown form of the Uniformat II standard as well as the cost breakdown that clearly differentiates amounts by source of funding (broken down for the base building and each Client Department).
- Discipline Summary: Prioritize the use of discipline summaries following the Masterformat standard.
- Project Cost Breakdown: The estimate must isolate the costs of each phase of construction. The anticipated costs for each phase must be broken down.
- Cost breakdown for the base building and for each of the Client Departments.

Timeframe
Estimates associated with the Progress Reports must follow the submission of the Consultant's documents within five (5) working days.

Use of Available Information
The Cost Specialist Consultant must provide complete estimates even if the available information is incomplete at the schematic design and design development phases and when preparation of the Construction Drawings commences. In such cases, the Cost Specialist Consultant must make assumptions and, after verifying them with the Consultant, must either submit them as is or incorporate them into an outline specification that the Consultant will modify, as necessary. The assumptions used must be identified in the reports by the Cost Specialist Consultant.

9.3.3 Techniques

The Cost Specialist Consultant must be familiar with a wide range of techniques, especially the following:

Risk Analysis
All construction estimates (except the final pre-tender estimates) must include and identify design, estimating, inflation and currency exchange allowances as are deemed necessary in light of the current information available. The Cost Specialist Consultant must provide the necessary justification for the level and/or amount of these allowances for each estimate.

Scheduling
The Cost Specialist Consultant must provide the Consultants and the Specialist Consultants with the quantitative information, information on the building systems and other quantifiable parameters deemed appropriate for establishing a justified Project Schedule. The Consultant must assist the Cost Specialist Consultant by keeping the schedule of all design activities up to date as well as by updating the call tender and construction schedules that the Cost Specialist Consultant will include in the estimates in a timely manner.

Life Cycle Costing and Value Engineering

Life cycle costing is used to obtain the optimal economic performance of project components over their useful life while minimizing their ecological footprint over their life cycle.

Value engineering aims to meet the project's functional requirements at the best cost.

To orient the Consultant as regards best practices in cost estimating, the Cost Specialist Consultant must apply comparative methods in order to propose alternative solutions. It must use the available resources to prepare a comprehensive cost profile that will be used for decision-making throughout the design and construction processes.

Continuing Estimate Process

The Cost Specialist Consultant may apply a process of continual adjustments of previous estimates in place of total re-measurement at each milestone reporting point. If the Cost Specialist Consultant chooses this approach, it must nevertheless submit, for each phase, a complete and current Elemental Cost Summary including a separate, complete and detailed supporting file, as described earlier.

Project Research

The Cost Specialist Consultant must obtain the necessary information from the Consultant in order to become familiar with the condition, accesses, etc., of the proposed and alternative construction sites. For the purpose of determining price levels, it must also analyze the local context in terms of labour and procurement, as well is the call tender methods and the competition.

RS10 SCHEDULE PLANNING, SEQUENCING AND CONTROL

(Applicable to the entire project)

RS10.1 Planning and sequencing requirements and implementation

Planning and sequencing are high priorities for all federal government projects. They should facilitate the achievement of project objectives through a continuous, interactive process of planning, intervention, measurement, evaluation and revision.

The Consultant shall take the following particularities into account in providing its services:

- The construction project will be carried out according to the construction management mode based on separate construction packages.
- The Construction Manager will be responsible for managing the master project schedule. At each stage and on a monthly basis, the

Consultant must provide the Construction Manager with the data required to populate the design portion of the master schedule

- The Consultant shall harmonize the structure of its schedule with that of the Construction Manager.

RS10.2 Construction Manager and Consultants' project control system

The Consultants shall collaborate with the Construction Manager to develop a project control system that uses network analysis techniques such as the critical path method (CPM) to plan, schedule, monitor and report on the project.

The Construction manager responsibilities include establishing in collaboration with the Consultants' the schedule in MS Project format and monitoring it regularly. MS Project 2013 shall be used to plan the schedule. The structure shall cover at least five (5) levels: project, stages, elements, sub-elements, and work packages. Elements with a direct impact on the schedule must be identified, and mitigation measures must be planned and implemented.

RS10.3 Personnel

The Consultant shall assign competent, experienced internal resources to the key positions in the process of developing and monitoring the project schedule. These resources must provide service from the beginning of the project study phase (RS1) to the end of construction (RS6). The Consultant shall also provide planning and sequencing services in accordance with the general and specific instructions.

RS10.4 Object of the proposal

The following is a list of the main planning and sequencing tasks to be completed and coordinated with the Construction Manager during the design, plans and specifications, contract award and construction phases:

- Develop a work breakdown structure
- Assist in developing the project objectives
- Develop the project master network
- Develop, monitor and maintain detail schedules, bar charts, and milestone lists
- Define project activities
- Attend meetings
- Define the main elements and work phases
- Identify construction tendering and sequencing requirements
- Identify design team coordination requirements
- Identify the requirements for coordinating the work of the design team with the work of Shared Services Canada (SSC)
- Prepare the required progress reports (monthly or as required)

- Prepare the pre-execution schedule
- Prepare pre-commissioning schedule

RS10.5 Planning

10.5.1 Project work breakdown structure

Within five (5) business days of the option being exercised (RS1 to RS11 and Additional Services), prepare a project work breakdown structure (PWBS) with the Construction Manager. The PWBS is the tree structure of the services and other work under the project; it is used to organize, define and present the project graphically. The PWBS shall cover at least all of the following: project, stage, element, sub-element and work package.

10.5.2 Project master plan/cash flow projection

Within ten (10) business days of the option being exercised, prepare, with the Construction Manager, a project master plan and corresponding cash flow forecast covering all major activities and cost items expected to be incurred in connection with the project.

This will involve confirming the validity of alternatives to the milestones initially identified in the proposed major milestone schedule.

The main phases of project execution are programming, concept design, design development, working drawings and specifications, tendering, contract award and construction.

Unless otherwise specified in this section, durations expressed in days refer to working days, i.e. five (5) days per work week, less all statutory holidays (approximately 250 days per year).

The original master plan will be "frozen" to provide an original delivery or baseline schedule. This delivery schedule may be amended on instruction from the Departmental Representative, if circumstances require. All amended delivery schedules and cash flow projections will be reconciled with previous projections and schedules, to provide a continuous audit trail.

The Construction Manager will provide the Consultant and the Departmental Representative with the initial and subsequent master plans.

After five (5) working days to review the above, the Consultant will meet with the Construction Manager and the Departmental Representative to agree on a project master plan and cash flow forecast acceptable to all parties.

RS10.6 Sequencing

10.6.1 Detail schedules – Design, drawings, tendering and contract award

Preparation of the detail schedule

The Consultant shall, within twenty (20) working days of the option being exercised, provide a detailed project schedule. It must include the activities of all concept design and preliminary study stages and all necessary reviews and approvals.

The detailed schedule will be developed by the Construction Manager. The Contractor will, on a regular basis, provide the Construction Manager with the information needed to update the master schedule, as follows:

- Design deliverables (RS1 to RS4)
- Approvals (shop drawings, product data, samples)
- Testing
- Commissioning
- IDP meetings
- BIM meetings
- Walkthroughst
- Furniture
- Relocation

Working drawing and specification activities broken down into construction packages, leading through the key milestones of 50% and 99% approvals, must also be shown.
This will be followed by coordination and review activities broken down into construction packages, leading to final tender documents (100%), and then by a description of the tendering process leading to contract award.

Prior to the completion of the bid documents, the initial construction and commissioning activities included in the main project schedule shall be further broken down to confirm the validity of the approaches adopted for these stages. The descriptions shall be detailed enough to show the sequence and interdependence of all contract tasks and to facilitate the coordination and control of all project activities.

The schedule shall be detailed enough to be used to ensure proper planning and monitoring of work progress. It is also recommended that activity durations should not exceed five days. The detail activities must relate at all times to the milestones developed and approved in the master project schedule.

To the extent possible, activities with no float (i.e., activities that start and finish on their early calculated dates), which form the "critical path," must be calculated and clearly indicated on the logical network as being, wherever possible, a continuous sequence of activities from the beginning to the end of the project. No

more than 25 percent of the project's activities shall be critical or near-critical. Near-critical activities are those with a float of one to five working days.

Review and approval of the detail schedule

The Consultant shall allow one week for review of the proposed detail schedule by the Construction Manager and the Departmental Representative.

Following the review, all required amendments shall be submitted to the Departmental Representative no later than one week after the request is made.

The Consultant shall, at the request of the Departmental Representative and at no additional cost, provide any additional information that the Departmental Representative deems necessary to assess the practicality of the proposed schedule.

Compliance with detail schedule

The Consultant shall comply with the approved detail schedule. The Consultant shall also direct its sub-consultants by helping them to plan and coordinate according to this schedule.

10.6.2 Progress monitoring and reporting

The Consultant will work with the Construction Manager to regularly update the detail schedule.

10.6.3 Tender and construction schedule requirements

Construction and commissioning periods

As design progresses and the scope of construction work becomes more clearly defined, the Consultant will collaborate with the Construction Manager to develop more detailed schedules and cash flows to illustrate the sequencing of work as it relates to activities and/or constraints in other contracts. This work will help

- confirm or challenge the duration and staging already established for the work; and develop more precise cash flow projections for the work;
- identify coordination needs and/or potential sources of conflict;
- review and assess the financial implications of the schedule established by the successful contractor using the critical path method.

Before the tenders are issued (when the drawings are 99% complete), the Consultant shall produce section 01 32 16.16 of the specifications to be included in the contract documents for planning and sequencing the work, submit it for review by the Departmental Representative and the Construction Manager, and

discuss with them how it can be broadly aligned with the other relevant contract administration requirements.

RS10.7 Project control during construction

10.7.1 Consultant's role

The Consultant shall

- verify that planning and sequencing are consistent with the specifications;
- provide the Construction Manager with the information to be included in the master plan;
- review the Construction Manager's submissions for completeness, accuracy and treatment;
- determine in detail the travel of client departments;
- assist in developing the commissioning schedule;
- provide advice on and prepare gap analysis reports.

The Construction Manager shall prepare the required planning and sequencing documents in accordance with the instructions in section 01 32 16.16 of the NMS.

Within five (5) working days of the contract award, the Consultant and the Departmental Representative shall meet with the Construction Manager to review the scope of the work and construction package methods. This meeting is an opportunity to emphasize the importance of meeting the planning and sequencing requirements set out in the contract documents.

Within five (5) working days of receiving the master plan and initial cash flow prepared by the Construction Manager, the Consultant shall verify the appropriateness and accuracy of these documents by comparing them with the construction schedule prepared by the Consultant prior to contract award.
The Consultant shall formally submit its findings and recommendations to the Departmental Representative for discussion with the Construction Manager.

Once accepted by the Departmental Representative, the initial master plan is preserved in its original version and becomes the baseline work schedule.

Within ten (10) working days after receiving the detail schedule and cash flow prepared by the Construction Manager, the Consultant shall verify that the activity dates and costs match what is shown in the master plan. The Consultant shall submit its findings and recommendations to the Departmental Representative and the Construction Manager.

Upon receipt of the monthly status report, the partial payment request and the electronic storage medium containing the project schedule from the Construction Manager, the Consultant shall verify its contents as follows:

- assess overall progress to date; and
- compare the current status of the detail schedule and cash flow with the status in earlier documents.

The Consultant shall provide the Departmental Representative, when the latter so requests (approximately every three months), with a detailed written report on the results of its analysis of the following documents provided by the Construction Manager:

- initial and monthly updates of the master plan and cash flow, as well as the detail schedule and associated cash flow.

RS11 SUSTAINABLE DEVELOPMENT

(Applicable to the entire project)

Sustainable development shall include, but is not limited to, the following points:

- Deliver a project based on integrated design principles;
- Meet or exceed, to the extent possible, applicable PWGSC standards and commitments for green buildings;
- Go beyond the rating system or performance target design strategies (LEED v4 BD+C Gold certification);
- Take a realistic, timely and life-cycle approach;
- Build on best practices and innovative, sustainable, low-carbon solutions;
- Incorporate sustainability objectives and innovative strategies throughout the project;
- Assess the environmental, social and economic impacts in each decision-making process in the project;
- Promote smarter, healthier, more productive workplaces;
- Provide the facility with high-performance, efficient and flexible components, technologies and systems that meet current and future operational and functional requirements;
- Make it easier for users to carry out their activities.

RS11.1 Description of services

11.1.1 LEED NC Gold certification

- The project must receive LEED v4 BD+C Gold certification.
- The project will be registered in advance by PSPC under LEED NC v4.
- The Consultant shall engage the services of a LEED specialist who shall
  - be part of the project team from the beginning of the design process and for the duration of the project;
  - work on the file in LEED Online to allow the project team to track the certification process in real time;

- take charge of the entire certification process, including payment of the project registration fee;
- coordinate with the Consultant once the work begins to complete the LEED NC Checklist and determine which credits to target for Gold certification;
- identify the Innovation credits to target, where necessary;
- collaborate with the Consultant and save the necessary documentation in the file;
- make recommendations to the Departmental Representative regarding the credits to target, favouring measures with the lowest costs or the quickest return on investment, required to meet government commitments;
- prepare the documentation, submit LEED NC certification applications, and obtain Gold certification.

- A LEED certification feasibility study is under way and will be provided to the successful proponent. Preliminary results show that
  - 68 points were identified as achievable, and 21 points were classified as "possibly achievable."
- The priority credits for departmental commitments are as follows:
  - Location and transportation
    - Bicycle facilities
    - Green vehicles
  - Sustainable sites
    - Protect or restore habitats (classified as "possibly achievable")
    - Stormwater management
    - Reduce heat islands (classified as "possibly achievable")
    - Light pollution reduction
  - Water efficiency
    - Reduced water consumption
  - Energy and atmosphere
    - Enhanced commissioning
    - Advanced energy metering
  - Materials and resources
    - Reduced building life-cycle impact
    - Construction and demolition waste management
  - Indoor environmental quality
    - Enhanced indoor air quality strategies
    - Indoor air quality assessment
    - Thermal comfort
    - Interior lighting

11.1.2 EEA report mitigation measures

- Spot-check the implementation of mitigation measures identified in the EEA report.

11.1.3 Energy-saving measures

- The energy feasibility study identified potential energy-saving measures. The Consultant will confirm whether those measures are appropriate, based on the final geometry of the building and the mechanical systems concept selected, or develop alternative ways for the proposed concept to achieve the energy performance target, as demonstrated by the Life Cycle Assessment.
- Decisions will be based on a 25-year Life Cycle Assessment, taking into account initial costs, operating costs, maintenance costs, one-time replacement costs and residual value at the end of the analysis period. However, there is also a desire to stay within the project budget, which the energy feasibility study showed was possible.
- Plan for a few ad hoc assessments of particular systems, which may be required during the design phase to optimize the choice of energy efficiency measures or test new ones.

11.1.4 Energy modeller

- The Consultant shall engage the services of an energy model specialist who has performed energy model simulations for complete buildings with design assistance tools, for the following purposes:
    - identify and evaluate energy efficiency measures;
    - determine the proposed models' energy balance and consumption;
    - consider life-cycle costs and GHG impacts to find carbon-neutral solutions.

- The specialist must be ASHRAE BEMP-certified as an energy modelling professional or registered as an experienced modeller by the CaGBC.
- The software used must comply with the ASHRAE 140 standard. A simulation has already been performed with eQuest, and may be made available. However, it was done before the final geometry was determined.

- The energy model specialist shall
    - have proven experience in modelling large commercial buildings using advanced, pre-approved software, and have successfully produced a minimum of three (3) energy models;
    - attend ten (10) one-day intensive multidisciplinary integrated design (IDP) workshops;
    - contribute to design decisions by producing precise modelling and detailed models of selected building components, in addition to a model of the entire building.

- The modeller shall develop and submit an energy model and an NECB 2011 compliant building model for comparison at the following three (3) stages:
    - At the end of RS2, based on the data for the option selected to be developed in RS3. Perform the simulation, which shall confirm the geometry of the building and the choice of electromechanical systems proposed by the designer. More than one option may be considered at this stage. (Plan for five (5) iterations.)
    - At the end of RS3, to fine-tune the more detailed design choices, test other energy-saving measures (modify measures or introduce new ones) and make sure the objectives are still achievable, update the simulation before initiating RS4, and prepare tender documents for each construction package.
    - At RS6, perform the final update of the simulation for submission to CaGBC and submission of the LEED file, following receipt of the revised shop drawings.

These simulations are in addition to what is required by LEED for the integrated design credit (water and energy analyses).

11.1.5 Management of construction, renovation and demolition (CRD) waste

- The Consultant must follow up with the construction manager in order to:
    - Submit the Construction Waste Management Plan project to the Departmental Representative for verification;
    - Submit to the Departmental Representative for verification the Construction Waste Management Report at the end of the demolition and deconstruction work;
    - Meet the targets (diversion of at least 90% by weight of all construction and deconstruction waste).

ADDITIONAL SERVICES (AS)

The Additional Services task list is incomplete and in no way limits the professional obligations of the Consultant, its Sub-Consultants and its Specialist Consultants to perform the required tasks for the purpose of fulfilling the mandate of the project.

These additional services include:
AS 1 Bilingual Construction Documents
AS 2 Enhanced Site Supervision Services
AS 3 Interior Design Services
AS 4 Food Services
AS 5 Building Information Modeling (BIM)

AS 6 Integrated Design Process (IDP)
AS 7 Wind and Snow Study
AS 8 Code Study

AS 1 BILINGUAL CONSTRUCTION DOCUMENTS

1.1 Construction documents shall be submitted in both official languages.

1.2 Official language requirements:

- The Consultant shall prepare all construction documents in Canada's two official languages.
- The two languages are considered equal in status; neither is considered to be a translation of the other.
- The Consultant is responsible for the accuracy and comprehensiveness of the texts, as well as consistency within documents. Both versions of the plans and specifications (French and English) must be sealed and signed by the Consultants.
- The current practice is to produce a single set of drawings with notes written in French and English, and separate documents in each language for the specifications, the addenda and all other documents needed for tendering reasons such as archive drawings and documents dealing with operations, maintenance and the like.

AS 2 ENHANCED SITE SUPERVISION SERVICES

2.1 Description of Services

The purpose of enhanced supervision services is to:

- Ensure the full-time presence of the Consultant's Resident Site Representative to coordinate inspection and testing with other Consultants as well as to inspect and monitor all aspects of the work during construction. This supervision complements and completes the site visits planned for the required services (RS6).
- Provide liaison with the Contractor, Departmental Representative and other agencies. More than one person may be required to cover the hours of construction.
- The Consultant's Resident Site Representative is responsible for
    - Providing full-time (including overtime) resident inspection for all aspects of the project and maintaining daily records of all construction work in progress.
    - Ensure communication between the Departmental Representative, the design Sub-Consultants, the construction manager and the regional fire commissioner.
- The Consultant's Resident Site shall report directly to the Consultant. He/she is required to become familiar with and master:
    - All contractual documents;
    - The National Building Code of Canada 2015;
    - All federal, provincial and municipal standards for the health and safety

of construction sites;
- The requirements of the Consultant Project Brief and project responsibilities of others which relate to these services.

NOTE: The Consultant shall plan for optimal use of these hours, based on site requirements. The Departmental Representative may terminate these continuous site inspection services at any time.

The Consultant shall submit the name and the resumé of the person who will be performing increased site supervision for the Departmental Representative's approval.

2.2 Specific Duties and Responsibilities

The Resident Site Representative shall provide full-time resident inspection, coordination and monitoring during the construction work and be responsible to the Consultant. In addition, the Departmental Representative may delegate additional responsibilities subject to the Consultant's agreement.

The Resident Site Representative is required to update his or her construction files on a daily basis and to ensure communication with the Consultant and his or her Sub-Consultants, specialized Consultants, the construction manager and the Departmental Representative.

The Resident Site Representative shall coordinate the activities of and provide any necessary instructions to an assistant (where necessary) approved by the Departmental Representative.

In case of emergencies, the Resident Site Representative is empowered to stop the work, or give orders to ensure the safety of the workers and to protect Crown property.

2.3 Inspection and Reporting

It is the responsibility of the Resident Site Representative to inspect all work in progress and identify any discrepancies between site conditions, contract documents and accepted construction procedures. Following validation with the Consultant and the Departmental Representative, he/she must notify the construction manager of the discrepancies observed and the corrective measures to be taken. He/she must keep a daily log of his/her inspections and is to issue a weekly written report to the Consultant, both for distribution, in the form directed. The Resident Site Representative is to prepare any other reports or surveys as may be requested by the Departmental Representative through the Consultant.

2.4 Interpretation of the Contract Documents

Interpretation of the contract documents shall be the responsibility of the Consultant. The Consultant may, however, have the Resident Site Representative provide him/her with pertinent information regarding implementation conditions and may require him/her to relay day-to-day instructions to the Construction Manager.

It shall be the duty of the Resident Site Representative to assist the Consultant and further inform him/her of any anticipated problems that may delay the progress of the work. The method of transmission of information is at the discretion of the Consultant.

2.5 Changes in the Work

The Resident Site Representative must not authorize or order any change in the work which will constitute a change in design or in the value of the contract except as delegated by the Departmental Representative.

The Resident Site Representative assists the Consultant, upon request, in assessing the modifications to be made to the work, as he/she is the only person qualified to describe the implementation conditions at the site.

5.7 Communication and Liaison

The Resident Site Representative shall:

- Convey the instructions regarding the required standards of workmanship to the Construction Manager;
- Identify defects or work that does not conform to drawings and specifications and notify the Consultant. Obtain instructions from the latter regarding the corrective measures to be taken and forward them to the Construction Manager. The Resident Site Representative must not deal directly with foremen or tradespeople or influence the progress of the work in any way;
- Communicate formally with the Construction Manager in memorandum form only. When such a document is issued, the Resident Site Representative must immediately file copies with the Departmental Representative and the Consultant;
- Contact the Consultant immediately when it is apparent that information or action is required of him or her, e.g. general instructions, clarifications, sample of shop drawing approvals, requisitions, contemplated change orders, site instructions, details, and drawings;
- Accompany the Departmental Representative on inspections and report requirements, comments or instructions from the Departmental Representative to the Consultant. Note that the Resident Site Representative should encourage the provision of such requirements, comments or instructions in writing;
- Consider and evaluate any suggestions or modifications to the documents advanced by the Construction Manager and immediately report these to the Consultant with comments;
- Ensure that the Departmental Representative and the Consultant are notified promptly when key pieces and/or components of materials and equipment are delivered, so that these parties can arrange for the appropriate personnel to have an opportunity to inspect same prior to installation;
- The Resident Site Representative shall investigate, schedule and approve in writing all temporary or permanent connections into any of the buildings' systems prior to the work being done; and
- The Resident Site Representative shall provide advanced forecasts and advise the Departmental Representative of any interruption of normal building services with a

minimum of twenty-four (24) hours' notice prior to the work being undertaken, where this work cannot be done outside working hours.

2.7 Daily Log

The Resident Site Representative must keep a daily log recording, in particular:

- Weather conditions, particularly unusual weather relative to construction activities in progress;
- Major material and equipment deliveries;
- Daily activities and major work done;
- Start, stop or completion of activities;
- Presence of inspection and testing firms, tests taken, results, etc.;
- Unusual site conditions encountered;
- Significant developments, remarks, etc.;
- Unusual visitors on site;
- Authorities given to the contractor to undertake certain work or hazardous work;
- Environmental incidents;
- Reports and instructions from appropriate authorities regarding emergency response actions.

Note: This log is the personal property of the Resident Site Representative. Copies of the logbook, certified as copies, are to be provided to the Departmental Representative and the Consultant at the end of the project.

2.8 Weekly Records

The Resident Site Representative is to prepare weekly reports for the Consultant in the form directed, including:

- Progress relative to schedule;
- Major activities commencing or completed during the week; main activities now in progress;
- Major deliveries of materials and/or equipment;
- Difficulties that may cause delays in completion;
- Materials and labour required immediately;
- Cost estimates of work completed and materials delivered (cost plus contracts);
- Outstanding information or action required by the Consultant or the Departmental Representative;
- Labour;
- Weather;
- Remarks;
- Accidents on site;
- Life safety or building hazards caused by the work, the Construction Manager or his agents.

2.9 Site Records

The Resident Site Representative is to maintain orderly and updated files at the site for the use of the Departmental Representative and the Consultant and for own use as follows:

- Contract documents and tender documents;
- Approved shop drawings;
- Approved samples;
- Samples;
- Site instructions;
- Contemplated change notices;
- Change orders;
- Memoranda;
- Test and Deficiency Reports;
- Correspondence and minutes of meetings;
- Names, addresses and telephone numbers of the representatives of the Client, the Consultant and all Contractors and of sub-trades key personnel associated with the Contract; including home telephone numbers in case of emergency.

In addition, the Resident Site Representative shall maintain an updated progress schedule. A reproduction of the original contract drawings shall be carefully preserved and shall be kept marked up to date with all memoranda, change orders, site instructions, details, as-built conditions, etc., issued subsequent to the award of the contract.

2.10 Inspection of the Work

The Resident Site Representative shall make on-site observations and spot checks of the work to determine whether the work, material and equipment conform to the contract documents and supplementary conditions. The Resident Site Representative shall advise the Construction Manager of any deficiencies or unapproved deviations via memorandum and report immediately to the Consultant and Departmental Representative any of these where the Construction Manager is being slow to or refuses to correct.

The Resident Site Representative shall arrange for the Consultant’s architectural, structural, mechanical engineering, electrical engineering and other Sub-Consultants to make the periodic inspections required by the Contract entered into with the Consultant, and for these inspections to be made in a timely manner with respect to the progress of the work.

The Resident Site Representative shall also report if material and equipment are being incorporated into the project prior to approval of related shop drawings or samples.

The Resident Site Representative shall assist in the preparation of all deficiency reports, interim, preliminary and final, in collaboration with the Department’s and the Consultant’s representatives.

The Resident Site Representative shall be responsible for the measurement of all work to be done on a unit cost basis.

2.11 Site Meetings

The Resident Site Representative shall attend all job-site meetings.

2.12 Inspection and Testing

The Resident Site Representative must see that the tests and inspections required by the contract documents are conducted, and should observe these tests and report the results in the daily log.
The Consultant should be notified if the test results do not meet the specified requirements, or if the Construction Manager does not have tests undertaken as required.

2.13 Emergencies

In the case of an emergency where safety of persons or property is concerned, or work is endangered by the actions of the Construction Manager, to safeguard the interests of PWGSC, the resident site representative shall give immediate written notice to the Construction Manager of the potential hazard. The Resident Site Representative has the authority to stop the work or order corrective measures. He/she must immediately contact the Consultant for instructions.

2.14 Limitations

The Resident Site Representative shall not, in particular:

- Authorize deviations from the contract documents;
- Conduct tests;
- Approve shop drawings or samples;
- Advise the Client in any matter without first obtaining guidance from the Consultant;
- Approve any work or portions of the building;
- Enter into the area of responsibility of the Construction Manager;
- Stop the work unless convinced that an emergency exists as noted above.

2.15 Hazardous Construction Operations

It is the duty of the Resident Site Representative to examine all site conditions and methods to be used by the Construction Manager undertaking hazardous operations. The Resident Site Representative shall give written authority to the Construction Manager to undertake hazardous operations when fully satisfied that all necessary precautions and actions have been taken by the Construction Manager to safeguard the life safety of the workers and building occupants and Crown property. This written authority shall be countersigned by the Construction Manager to acknowledge that the latter is aware of the Resident Site Representative's instructions and requirements. Both parties will retain copies of the authority document jointly signed by them.

The Resident Site Representative will inspect the areas where hazardous work is under way to ensure that the Construction Manager is maintaining the agreed safety standards. Any infractions may result in the representative stopping the work. All infractions or work stoppages must be reported in writing and verbally to the Consultant and the Departmental Representative.

2.16 Building Security

Special precautions must be taken at all times to prevent unauthorized entry into the building.

The Resident Site Representative is to ensure that all Construction Manager-made openings and means of access are firmly secured when the Contractor leaves the site. The Resident Site Representative shall liaise closely with the Construction Manager and the Departmental Representative on all security and/or safety problems that may arise because of the Construction Manager's operations.

AS 3 INTERIOR DESIGN SERVICES (PREPARATION OF FURNITURE PURCHASE FILE, SIGNAGE AND RELOCATION)

3.1 General

The person responsible for the design of the space arrangements (lead designer) assigned according to the provisions of the required services (RS), will be assigned by the Consultant to the provision of additional services (AS 3). Additional services will be provided by a senior interior designer, responsible for the design and supervision of the design team.

3.1.1 Furniture (SA)

The Government of Canada Furniture Supply Arrangement (SA) is a mandatory procurement instrument (tool) for furniture, which is governed by strict and specific rules that do not correspond to the procurement process for furniture used in private-sector projects.

PWGSC's Procurement Service is responsible for the procurement process with respect to the publication of calls for tenders for the SA and is responsible for opening and verifying bids.

It should be noted that the acquisition process is a long process. Please refer to the document on the duration of the purchasing process, which will be given to you at the SA start-up meeting.

3.1.2 Furniture (excluding SA)

Non-SA furniture includes all furniture items that are not governed by the Supply Arrangement (SA). The bidding process for non-SA furniture requires the production of a comprehensive specifications document.

PWGSC's Procurement Service is responsible for the procurement process with respect to the publication of tenders for the Non-SA and is responsible for the opening and verification of tenders.

3.1.3 Signage

Signage and Evacuation signage must be ordered via a dedicated supply tool (standing offer). PWGSC will provide the Consultant with a standard template for the preparation of the technical documents required for orders. The supplier will provide and install the signage and evacuation signage.

3.1.4 Relocation

The relocation consist of employee's personal effects, records and common equipment.

3.2 Description of Services

3.2.1 Furniture (SA)

The Consultant's lead designer will select, acquire and coordinate the installation of the furniture. The services to be provided include, but are not limited to, the following:

- Sign the confidentiality agreement concerning the elements of the SA furniture.
- Review the SAs (Supply Arrangements) for the purchase of furniture.
- Attend a four-hour training session and four (4) meetings (as required), required to understand and assimilate the furniture purchasing process (use of SA) and define the content of the documents to be produced. The training will be provided by PWGSC's procurement division and design resource.
- Attend regular coordination meetings (as required) to ensure the smooth running of the project for the acquisition of furniture. Meetings will be held with PWGSC's procurement division and design resource. The Consultant shall plan to attend fifteen (15) meetings.
- Establish with PWGSC's procurement department, the procurement strategy,

phasing and schedule, based on the scope of the project and the products to be procured. Obtain prior written approval from the procurement division.

- Develop and prepare furniture tender documents in both official languages in accordance with SA requirements, including but not limited to:
    - Selection of furniture finishes;
    - Specific plans for the purchase of furniture;
    - Excel files and any other documents required for publication by PWGSC's procurement division;

- Define all requirements for relocations in the Construction Manager's tender documents.

- Answer suppliers' questions by producing suppliers' questions and answers in both official languages during the posting of the furniture call for tenders.

- Assist to the kick-off meeting with the suppliers and the Departmental Representative.

- Manage, coordinate and receive furniture deliveries and supervise their installation on site.

- Perform deficiency management and follow-up on correctives measures to be applied.

3.2.2 Furniture (Non-SA)

The Consultant's lead designer will select, acquire and coordinate the installation of the furniture. The services to be provided include, but are not limited to, the following:

- Attend regular coordination meetings (as required) to ensure the smooth running of the project for the acquisition of furniture. Meetings will be held with PWGSC's procurement department and design resource. The Consultant shall plan to attend fifteen (15) meetings.

- Establish with PWGSC's procurement division, the procurement strategy, phasing and schedule, based on the scope of the project and the products to be procured. Obtain prior written approval from the procurement division.

- Develop and prepare furniture tender documents in both official languages in accordance with SA requirements, including but not limited to:
    - Selection of furniture finishes
    - Specific plans for the purchase of furniture;
    - Technical Specifications (generic statement of requirements) for Non-SA furniture.
    - Excel files and any other documents required for publication by PWGSC's procurement division.

- Define all requirements for relocations in the construction manager's tender documents.

- Answer suppliers' questions by producing suppliers' questions and answers in both official languages during the posting of the furniture call for tenders.

- Manage, coordinate and receive furniture deliveries and supervise their installation on site.

- Perform deficiency management and follow-up on correctives measures to be applied.

3.2.3 Signage

The services to be provided by the Consultant's lead designer include, but are not limited to, the following:

- Primary, secondary and tertiary signage:
  - Preparation of drawings indicating positions and types of signage, coordinated with stakeholders;
  - Preparation of order documents;
  - Coordinate installation.

- Evacuation signage:
  - Preparation of drawings indicating positions and types of signage, coordinated with stakeholders, as required by client departments;
  - Preparation of order documents;
  - Coordinate installation.

3.2.4 Relocations

The services to be provided by the Consultant include, but are not limited to:

- Planning and preparation of relocation documents for tenders, such as :
  - Elaboration of plans of origin (existing building), including the survey of existing condition, updating of existing furniture plans and elaboration of equipment list.
  - Numbering of workstations between plans of origin (existing building) and plans of destination (new building), including common equipment.
  - Elaboration of phasing plans (origin and destination).
  - Specification writing and editing.
  - Coordination meetings and correspondence.

- Assist the Construction Manager during tenders.

AS 4 FOOD SERVICES

4.1 General

For this RFP, the needs to be met are considered to be identical to the existing facilities in terms of area, equipment, schedule and type of food services to be provided. These requirements may be modified/adjusted following the production of the Functional and Technical Program (FTP) which will be prepared by the FTP Designer.

4.2 Basic Parameters

The basic parameters are:

- Area : 730 m2 usable (445 m2 dining area / 285 m2 kitchen-preparation-serving)
- Future population: about 1,785 people at full capacity
- Monday to Friday Schedule: 6:30 am to 3:30 pm / snacks 11:30 am to 1:30 pm / dinner
- Mid-March to early June Schedule: 6:30 am to 5:00 pm (for an evening shift of about 100 people)
- Food Services requirement:
    - Hot and cold food;
    - Confectionary items and hot and cold drinks;
    - Two choices of daily meals, including soup or dessert, and one daily meal;
    - Catering service in the building;
    - Supply of vending machines;
    - Waste recycling/composting.

4.3 Description of Services

The Senior Consultant must engage a sub-expert in food services to:

- Assess the project's space and equipment needs;
- Select the required equipment;
- Plan the facilities;
- Determine the electro-mechanical services required;
- Develop the documents required for the identified deliverables.

AS 5 BUILDING INFORMATION MODELLING (BIM) SPECIALIZED FIRM

5.1 General

The BIM/MDB specialized firm must be an independent firm of the Consultant. Within the context of the project, it must put in place a reference framework according to the BIM objectives defined in the PRELIMINARY BIM MANAGEMENT PLAN (BMP) (see Annex A.1), ensure its application, and perform quality control throughout the project development process in cooperation with the Department's Representative.

A general activity and deployment schedule must be prepared within 20 days of the awarding of the contract.

In addition, during this mandate, the firm will collaborate and support the Department's Representative by providing advice on PSPC's internal BIM approach as well as on the necessary tools, such as collaborative platforms, software and management tools for the implementation of the BIM/MDB approach at PSPC. Plan for three (3) specific three-hour meetings.

The firm must provide the necessary personnel to carry out this mandate. At a minimum, it must designate a senior BIM/MDB manager with the following responsibilities and tasks.

5.2 Building Information Modelling (BIM/MDB) Senior Manager (Additional Services AS 5)

The Senior BIM/MDB Manager is responsible for developing the BIM/MDB Management Plan (BMP) for the Project, coordinating the deployment of the BIM/MDB approach, and supporting the Project teams for its implementation.

The BIM/MDB manager must hold a university degree. He or she must have at least 10 years of recent experience in the field of consulting in the construction industry, including over the past five (5) years as senior BIM manager for projects involving the construction of institutional buildings.

Objective

- Ensure optimum deployment of the BIM/MDB approach;
- Ensure that the BIM/MDB approach adds value to the various implementation activities and supports the Integrated Design Process (IDP), and that its implementation enables the achievement of the Project objectives;
- Provide quality control to ensure that the work and deliverables of the Project teams comply with the BMP.

Roles and responsibilities

- Develop (produce and draft) a BMP, in accordance with the BIM/MDB objectives and the Project objectives, and supervise its overall implementation and updating;
- Produce a work plan [a BIM/MDB implementation plan (BIP)] that determines how the objectives of the BMP will be achieved;
- Review the BIP of the various stakeholders;
- Develop and define the various modelling strategies with each discipline's BIM/MDB managers;

- Coordinate the BIM/MDB component of the coordination meetings in accordance with the requirements of article B.1, Coordination Meetings, under Required Services (RS);
- Coordinate the six (6) meetings to write the BIM/MDB management plan (including the start-up meeting) in accordance with the requirements of article B.14, Building Information Modeling Management (BIM) Workshops, under Required Services (RS);
- Coordinate the twenty (20) BIM/MDB coordination and management meetings in accordance with article B.15, Building Information Modeling (BIM) Coordination Workshops, under Required Service (RS);
- Coordinate the work of the BIM/MDB managers of each discipline;
- Supervise and validate compliance of the models with the BMP;
- Supervise the choice of BIM/MDB tools and ensure the interoperability of all data created and software used by design professionals;
- Monitor the availability and capacity of BIM/MDB resources required to achieve the Project objectives;
- Submit, weekly, the most recent version of the virtual model on the hosting site provided by the Construction Manager;
- Coordinate and monitor the achievement of objectives;
- Act as a main point of contact for BIM/MDB-related issues.

Fees:

The BIM specialized firm will be required to provide hourly rates for the Senior BIM/MDB Manager as well as for each resource assigned to the project.

5.3 BIM Management Plan (BMP)

The purpose of these provisions is to establish rules and terms and conditions for the development, use, transmission and exchange of digital data for the project, including for the creation and management of digital data, the production of digital models, and coordination throughout the BIM process.

The parties agree to integrate these rules and terms into their relationships with other stakeholders involved in the project's BIM approach who may make use of this digital data. Before transmitting or allowing access to digital data, a party to the BIM Agreement may require another party involved in the BIM approach to provide reasonable and tangible evidence that it has incorporated these rules and terms into any contractual agreement with a subcontractor or third party involved in the project.

The Consultant is required to deliver a model with a level of development that will be defined in the information exchange matrix and an appropriate level of information with the objective of reducing change requests during the delivery phase. The working methods of the various stakeholders are documented in the BMP (see Annex A.1). The

Consultant must then read it, understand it and improve it at the Project's BIM management workshops [refer to Section B.14 under Required Services (RS)]. These methods must be adjusted to the needs of the project so that the BMP provides real added-value to the work of the Consultants and the Construction Manager as well as to the project deliverables (including those in this contract).

During the period prior to the BIM agreement: If a party to the BIM agreement receives a digital model or model before the BIM agreement is signed, that party must use, transmit or rely on such digital data with caution. In this context, any use or transmission, in particular of such model or model, is carried out without liability to the communicating party, nor to its Consultants, subcontractors, agents and employees. Upon signing the BIM agreement, each of the signatories must take the appropriate steps to adjust the digital data created and processed in advance in accordance with the rules and procedures set out in the BIM agreement.

In the period after the BIM agreement: After the BIM Agreement has been signed, if a party to the BIM Agreement uses or relies on a digital model or model for any purpose other than the Authorized Uses identified in the BIM Agreement, such use is at the risk of the receiving party. A party to the BIM agreement may rely on a model or model only in accordance with the level of development (LOD) identified in the BIM agreement depending on the progress of the project, even if the content of a model or model element includes data that exceeds that LOD.

AS 6 INTEGRATED DESIGN PROCESS (IDP)

6.1 General

The IDP is a collaborative, multidisciplinary process intended to generate integrated, optimal, innovative and sustainable solutions with the highest possible efficiency. It must be implemented as part of this project and applied to steps RS 1 to RS 3.

The following paragraphs describe the process, duties and responsibilities of the various stakeholders involved in the IDP. For the sake of clarity, the full description of the services is provided in this section (AS 6). It is important to note that the services to be provided are to be distributed as follows:

- The services to be provided by the Senior Consultant, his/her staff, Sub-Consultants and specialized Consultants fall under the Required Services (RS) category.
- The services to be provided by the IDP Expert are covered by this section (AS 6).

Refer also to Section B.13 – Integrated Design Workshops (IDP) of the Required Services (RS) Section.

As described in section PD 5.2 of these Terms and Conditions, the IDP establishes a collaborative strategy that includes the following elements:

- Assess the design, construction and occupancy of the building over its complete life cycle;
- Gather the users and other stakeholders together early on in the Project to define a common way forward, establish performance priorities and clearly define functional, sustainable and economic goals and objectives;
- Assemble a multidisciplinary Consultant Team that includes or acquires the experience and skills required to address all design issues;
- Initially develop overall strategies for the design of the building's technical facilities and gradually refine the details that will allow optimal and integrated solutions;
- Organize and lead team workshops and partnership sessions to encourage discussion, options assessment and consensus-building in important decision-making.

Deliver the Project utilizing best practices in support of user's needs, respecting the approved cost, schedule, scope, quality requirements, and sustainability objectives.

Integrated project delivery includes, but is not limited to:

- A partnership and open communications between all members of the Project Team and stakeholders throughout the design and delivery processes of the Project;
- Meticulous quality assurance reviews during the design and construction phases and commissioning of facilities;
- A meticulous quality management plan in order to address and correct, in a timely and effective manner, all issues as they arise. The plan must address the technical aspects of the project. The performance of components and systems must be tested according to expected performance and life cycle analyses;
- A Consultant, with vast experience in major projects, who must be responsible for the production and delivery of all documents, and must ensure that there is a continuity of key personnel working in the integrated dedicated Team, for the entire duration of the project;
- Construction management based on a series of tenders and construction activities, under the direction of the Construction Manager.
- The use of best and professional practices in the management of budget, schedule, quality and scope at all stages of the project;
- The implementation of a continuous risk identification and management program based on effective methods. The program must ensure the safety of construction work and minimize claims;
- The continuous and comprehensive documentation of the project at all stages of project implementation

6.2 Integrated Design Workshops (IDP)

For this project, the Consultant will require the services of an expert in IDP to ensure the logistics and smooth running of the workshops. He/she will:

- Develop the overall IDP action plan and workshops, present them and have them adopted;
- Update the action plan;
- Write the detailed agenda and objectives for each workshop in collaboration with the Consultant and the Departmental Representative;
- Identify the required workshop participants and define their duties and responsibilities, in collaboration with the Consultant and the Departmental Representative;
- Identify the inputs (preparatory work) necessary for the smooth running of the workshops;
- Coordinate with each discipline's BIM manager to obtain the required models for the workshops;
- Organize, convene, facilitate and lead workshops;
- Ensure that the workshops achieve their intended objectives;
- Ensure that consensus and action items are known (for the report to be written by the Senior Consultant);

Without limitation, the following elements of the required services (RS) are the responsibility of the Consultant and his/her team:

- Actively participate in workshops;
- Develop a Communications Management Plan integrating the IDP;
- Provide the information and inputs necessary for the smooth running of the workshops (including BIM models);
- Produce and distribute a report following each workshop;
- Ensure a follow-up of the actions required between each workshop and the integration of the decisions taken at the workshops.

AS 7 WIND AND SNOW STUDY (optional service)

7.1 General

Should the Wind and Snow Study be necessary, the Consultant must obtain the expertise of a laboratory specializing in simulations and studies of the effects of wind and snow to ensure, among other things, that exhaust gases are not captured in the building's air intakes and that snow accumulation is not amplified in critical areas by the geometry and orientation of the future construction.

This study should include the production of several three-dimensional simulations that will be required during the IDP as it will be an important input in the choice of the final location of the building on the site.

7.2 Description of Services

The study should cover the following points, but is not limited to, the following:

- Check for wind-induced snow accumulation around the building, as well as in pedestrian and vehicular traffic. Make recommendations to avoid problems such as obstructions in front of building entrances and exits, and windows.
- Check for possible snow accumulation on roofs to avoid problems with overloading, blocked air supply and exhaust, obstruction of skylights, formation of ice cubes, patches of ice during ice storms, etc. Make appropriate recommendations for these aspects.
- Verify the effect of wind on the location of air supply and exhaust systems, determine the optimal height of exhaust to ensure that effluent dispersion in the atmosphere complies with applicable laws, regulations and standards.
- Wind impact of the building on pedestrians and surrounding structures

The study must include and explain the following:

- A methodological approach
- A wind conditions analysis
- Proposed modelling to address desired elements
- The wind impact of the project
- Snow accumulation
- A conclusion with recommendations
- Relevant annexes containing tables, drawings, plans, simulations and other data to support the study

SA8 CODE STUDY (optional service)

8.1 Description of services

Should the Code Study be necessary, The Consultant and his Sub-Consultants, in their required services (RS), must ensure that their design is in accordance to building regulations. They must take into account the comments and recommendations issued at each stage by the firm specialized in
code and fire-protection and integrate the analysis in their design documents.

The Consultant must adjoin the services of a firm specialized in code analysis and fire-protection to render the following services:

8.1.1 Architectural concept analysis report :

The specialist will proceed to the analysis of the architectural concept selected at the end of the RS2 stage and produce a report incorporating the regulatory requirements to be met and the list of non-conformities identified during his analysis. The report will cover, without been limited to, the following topics:

- Applicable Regulation.
- Alternate solutions to foresee (if required).
- Construction Requirements.
- Openings through Floor Assemblies (if required).
- Spatial Separation and Exposure Protection.
- Means of Egress.
- Vertical Transportation.
- Fire Safety measures.
- Provisions for Firefighting.
- Fire alarm and detection systems.
- Accessibility.
- Plumbing facilities.

The specialist will update the report at the end of stages RS3, RS4 and RS6 (as built).

8.1.2 Design documents verification:

The specialist will proceed at stages RS3, RS4 and RS6, to analyze design documents and will write in a report, the list of nonconformities identified during his analysis. His examination at stage SR4 will be limited to the construction packages with fire safety issues such as :

- Fire Protection.
- Fire Alarm and Detection.
- Exit Signs.
- Access Control and Security Hardware.
- Others.

8.1.3 Final inspection:

The specialist will proceed to a final inspection in order to verify the compliance of elements related to the code study, design and operation criteria. He will resume in a report the list of non-conformities noted during his inspection. To this end, he will validate on site the conformity of elements such as:

- Integrity of Fire Resistant Compartments.
- Access Control and Security Hardware components.
- Fire alarm components and location.
- Location of sprinklers and Fire Safety components.
- Others.

ANNEXES

A.1 PRELIMINARY BIM MANAGEMENT PLAN (BMP)

The following BMP is provided for information purposes only. The Senior BIM Manager is responsible for improving it in whole or in part.

1. Preface

Project Context

Public Services and Procurement Canada (PWGSC) is constructing a new Government of Canada building to be occupied by the Canada Revenue Agency (CRA), Employment and Social Development Canada (ESDC) and Health Canada (HC). The project also includes the rental of a temporary parking lot, the deconstruction of the National Verification and Collections Centre (NVCC) and the construction of a new parking lot. This major project, which will take 60 months to complete, will be carried out with a view to sustainable development and compliance with the Federal Sustainable Development Strategy (FSDS).

Primary Objective

Implement an innovative strategy to increase performance in reducing changes during the project.

Implementation

The implementation of the BIM strategy must be included in the tender documents in order to achieve the main objective. A preliminary BIM Management Plan (BMP) must be drawn up to outline the organization’s visions for the BIM.

2. Context of the BMP

The BMP is the result of the collaboration of all BIM stakeholders in the Project for deployment and implementation. The BMP serves as a roadmap for all parties involved in the development of BIM models for a Project delivered according to the BIM (“Building Information Model”) process, for the duration of the Project.

It includes the methods required to create the various BIM models, the level of development (LOD) required and the content required in these models, the responsibility of each of the parties relative to the models, and the timeframe for delivering the models.

It also defines collaboration standards and techniques, as well as communication strategies and contact points for all Consultants in the Project Team. All stakeholders concerned by the BIM should refer to the BMP to ensure that they comply with all BIM requirements of the Project.

3. Modification and Acceptance Process

This document is intended to be evolving at the same pace as progress is made in implementing the Project and in parallel with the teams working on the Project. However, any changes to this document must be made through the Senior BIM Manager. All requests for changes must be made in writing to the Senior BIM Manager. They must be reviewed and approved by all parties involved in the Project.

All changes to the BMP must be explicitly notified and approved by all Project stakeholders. If, for any reason, requests for changes to this plan should have any impact on the progress and schedule of the Project, these requests must first be reviewed and approved by PWGSC. Notification must be made for all changes to the BMP at the beginning of the document in the grid named “Monitoring of changes to the BMP.”

4. Definitions

Attestation of reliability: Certification by a communicating party of the reliability of a deliverable with respect to authorized uses.

BIM: BIM is a digital representation of the physical and functional characteristics of a facility. A BIM is a shared-knowledge resource for information about a facility forming a reliable basis for decisions during its life cycle. [Definition taken from the National Building Information Modeling Standard (NBIMS)].

Interference detection: Interference detection is an automated analysis performed on federated models that identifies interference between different elements or modelled systems.

Digital data: Any information including, but not limited to, communications, drawings, models, databases, analyses, specifications or other BIM deliverables described in the BMP, as created or hosted for the project in digital form.

Confidential digital data: Digital data containing confidential or business information clearly identified as such and owned exclusively by the communicating party.

BIM Agreement: The agreement signed by the Departmental Representative and some stakeholders involved in the BIM approach, including architectural and engineering service providers, regarding the BMP.

BIM Discipline Manager: The BIM specialist of each of the professionals involved in the BIM approach within the framework of a project and responsible for the application of the BIM by their respective teams in accordance with the rules and terms of the BIM agreement.

Senior BIM Manager: The person responsible for the planning and implementation of a collaborative BIM by all project stakeholders.

Project stakeholder: Any person or team involved in the delivery of the project.

Stakeholder concerned by the BIM approach: Any project stakeholder who creates, consults, analyses or uses the data grouped within the various BIM deliverables.

LOD (Level of Development): Level at which the geometry of an element of a model and the information attached to it are developed according to the progress of the project or according to the needs of the users of the model. The LOD defines the level of reliability that project team members can rely on when using an element of a model.

Design model: Any 3D digital model produced by design professionals during the entire life cycle of the Project.

Federated model: A digital BIM model that gathers, in dead links, all the BIM models produced by the design and construction teams. This model is produced and updated by the BIM experts team (BET) on key dates defined in the coordination schedule. This model will be used for interference detection, design monitoring, visualization and centralization of information for reference.

Integrated model: A digital BIM model that brings together, with a living or dead link, all the BIM models produced by the design and construction teams. This model is created and used by professionals for their internal coordination.

Construction model: During the construction phase, the Construction Manager is responsible for producing construction models from the design models produced by the design professionals.

Federated construction model: A digital BIM model that gathers, in dead links, all the BIM models produced by the construction teams. This model is produced and updated by the Construction Manager. This model will be used for interference detection, construction monitoring, visualization and centralization of information for reference.

Party to the BIM agreement: As the case may be, one or all of the signatories to the BIM agreement.

Communicating party: A party responsible for creating and sharing digital data.

Recipient Party: A stakeholder involved in the BIM approach who receives and processes digital data shared by a communicating party.

BIM Management Plan (BMP): The document that facilitates the planning of the BIM project implementation process by outlining how the BIM will be implemented as part of a project to support the achievement of project objectives. The BMP is developed jointly by all stakeholders involved in the BIM approach. And once adopted and signed by all stakeholders involved in the BIM approach, it becomes the BIM Agreement.

BIM Implementation Plan (BIP): BIM managers in each of the disciplines (architecture, structural, civil, mechanical, electrical and construction) will be responsible for producing a BIP that will include all the modelling elements and principles preferred by their discipline within their respective mandates.

Authorized uses: The uses authorized by a communicating party of the digital data for which it is responsible.

Confidential digital data: Digital data containing confidential information or business information clearly identified as such.

Level of detail (LOD): The LOD defines the level of geometric precision relative to an object in the digital model.

Information Exchange Matrix (IEM): The Senior BIM Manager is responsible for setting up an IEM matrix. This indicates the level of detail and information required to achieve the Project objectives defined in the BMP.

Shared parameters: All parameters created and shared by one or more disciplines. They can be used in several models or families. The creation of shared parameters makes it possible to structure the information contained in the models.

Collaboration platform: A virtual workspace for centralizing all information and activities related to a project or organization. The collaborative platform provides, among other things, efficient document management that is accessible to all stakeholders in a project or organization.

Coordination platform: A virtual workspace for centralizing all information and activities related to the coordination of the project or an organization. The coordination platform provides, among other things, an efficient and accessible "*issue"* management of interferences by all stakeholders in a project or organization.

5. Project Delivery Method

The Project Delivery Method is part of a Construction Management Delivery method. Consequently, the BMP approach must take into account the aspects related to this mode

of implementation and be properly planned and managed in order to support the achievement of the project objectives.

6. Project Schedule and Phases

The highlights of project schedule are defined as follows:

- Project Identification Stage Closure: September 2019
- Tenders and contract awards (Consultants and Construction Managers): August 2019 to February 2020
- Analyses, concepts, preliminary plans: March 2020 to November 2020
- Plans and specifications (in batches): November 2020 to July 2023
- New building work (in batches): January 2022 to November 2024
- Relocation: November 2024 to January 2025
- Demolition of existing building: January 2025 to July 2025
- Parking: July 2025 to February 2026

7. BIM objectives and requirements

As part of the implementation of BIM in the Project, PWGSC wishes to achieve various objectives, which are set out in Table 1 – BIM Objectives and Uses.

Table 1 – BIM Objectives and Uses

	BIM objectives	BIM uses	Deliverables	Performance indicators	Timeline Period
1	Project documentation	2D documentation 2D detailing 3D design	All the required drawings at each stage of the project	All the drawings are produced directly from the various BIM models	All stages and according to the timeline for official renderings
2	Functional requirements of the client departments are met	• Integration and validation of program data / client needs • Design review	Comparison report of design areas vs. program areas	The design models are an accurate representation of the functional requirements of the client departments indicated in the FTP	All stages and according to the timeline for official renderings
3	Technical requirements of the client	• Integration and validation of technicial requirements	Comparison report of requirements vs. design	The design models are an accurate or improved	All stages and according to the timeline

	departments are met	• Design review		representation of the technical requirements of the client indicated in the FTP	for official renderings
4	Accurate modeling of existing conditions	Modeling of existing conditions	• Surveys of existing conditions • Geo-referencing	Reduction in the number and value of change orders (COs) under way due to existing conditions	Start-up Planning
5	Development of an optimized implementation hypothesis	Design review Lighting analysis Sunlight, wind and snow analysis Work planning	• Site analysis • Design review	The selected hypothesis is optimized taking into account the functionality of the project and harmonization with the built environment	Start-up Planning
6	Interdisciplinary and intra-disciplinary coordination	• Visualization • Design review • Design review • 3D coordination Visual coordination Interference detection	• BIM models in native format of all disciplines • BIM models in Navisworks format of all disciplines • Interference detection report	No major or critical interference that could have an impact during the construction phase of the project is identified	All stages starting from the preliminary stage and according to the timeline for official renderings
7	Estimate and cost analysis	Taking quantities (5D) and cost estmate	Quantitative analysis of building components and systems from BIM models, according to their state of maturity and LOD matrix	At each stage of the project, the various professional refer to BIM models to ensure that the project is on budget;	All stages and according to the timeline for official renderings

8	Understanding of design intentions	• 3D design • Visualization • Design review	BIM models in native format of all disciplines; BIM models in Navisworks format of all disciplines	A federated BIM model is obtained that allows for review of design intentions and informed decision making	All stages
9	Sustainable development	Energy efficiency Lighting analysis Sunlight analysis	List of deliverables required to achieve energy performance and target certification	Achieved when the target criteria are met	All stages
10	Constructability of the concept	4D timeline Work planning Model for tenders	• Design review • 3D coordination • Schedule planning • Cost tracking • Quantity statements • Simulation of the stages of progress of the project in 4D	Compliance with and optimization of the costs of the budget envelope and schedule	All stages
11	Design model in the call for tenders	Model for tenders	Model for tenders	A complete and coordinated model that allows contractors to bid on and carry out the work based on the design models	Constructio n
12	Documents are retrievable by the client for	Update of the models and stock library	3D models, stock library of the model with	Models are retrievable for quality	All stages Close-out

	quality control and operation		the updated data	control and operation	

8. BIM Uses

The BIM uses set out in Table 1 represent a minimal usage level to be applied in order to meet the BIM requirements stipulated by the Client. The various stakeholders are free and encouraged to propose other BIM uses in order to benefit the project.

For each of the uses described above, all stakeholders must agree on a joint process to implement the uses in question. Developed as a flow chart and designed to provide visual support in order to make it easier to understand the process, each of these flow charts will provide a detailed description of the implementation, the necessary information, information-sharing methods, the responsible parties and the various deliverables.

8.1 Further information on BIM uses

8.1.1 2D documentation

Process whereby the various 2D drawings used to document a work are produced directly and solely from various BIM models produced. 2D documents generally include plans, elevations, sections, details, various tables and legends.

8.1.2 2D detailing

Process whereby 2D details used to document complex works and assemblies are produced directly and solely from various BIM models produced. 3D details generally include hybrid 3D information and 2D annotations.

8.1.3 Design

Process whereby 3D modeling software and analysis software are used to develop BIM models that are rich in information, based on stipulated design criteria. The use of this process and the various tools make it possible to develop a given concept and to analyse and audit it through iterations. It also makes it possible to communicate design intentions and use the information in order to extract data regarding quantities, costs, timelines, etc.

8.1.4 Visualisation

Process whereby 3D models are generated or improved to communicate the visual, spatial or functional qualities of the project or portion of the project thanks to perspectives, renderings, overviews, etc.

8.1.5 Program data integration and validation / Client needs

Process whereby the models are used to ensure the developed concept’s compliance with the program’s expressed needs. BIM models will be bidirectionally linked with the program database for integration by the senior consultant. Information from various BIM

models for the spaces will be exported as a database (Access or Excel) and submitted to the Department's representative.

This process is also used to produce detailed colour plans of the standardized spaces by space categories and sub-categories.

8.1.6 Design review / Design

Process that uses the various BIM models to validate compliance with the stipulated design criteria and allow the various stakeholders to provide their feedback on the many design aspects. These aspects may include aesthetic aspects, validation of constructability, FTP compliance, etc.

8.1.7 3D coordination

Process whereby the various BIM models are used to coordinate the work of the various disciplines involved in the project. This may be carried out visually by navigating in the various models or by automating some tasks during coordination meetings.

8.1.8 Interference detection

Process that involves using the BIM models of the various disciplines involved in order to detect interference between the work of these disciplines.

8.1.9 Taking quantities / Cost estimate

Process that involves directly extracting the various quantities from the BIM models, based on their state of development according to the LOD information-sharing matrix, in order to ensure that all phases of the project are on budget.

According to the estimation approach required by the client (Uniformat II), the information extracted from the models may be areas, materials, construction systems, equipment, etc. Other than budget validation, the estimate may also be used to compare various design alternatives.

8.1.10 Energy efficiency

Process whereby the various models are used to calculate the project's environmental impact. In the instant case, the calculations are completed to achieve the energy performance required to obtain LEED certification.

8.1.11 Lighting analysis

Process whereby the model is used to simulate the levels of natural and/or artificial light in order to analyse the performance of the building or part of the building.

8.1.12 Sunlight analysis

Process whereby the model is used to carry out studies of sunlight/shade on the building and/or site.

8.1.13 4D timeline

Process whereby the model is used to simulate the construction work.

8.1.14 Work planning

Process whereby the model is used to sequence the construction work, including site preparation, temporary work, moves and any other activity related to site operations that impacts the timeline.

8.1.15 Model for tenders

Process whereby the model is used to produce 2D tendering documents. The model is also sent as a reference during tenders. Contractors may use it to enhance their understanding when submitting their bids.

8.1.16 Updating the models

The design models are updated during the work to include change orders and the contractors' annotated plans.

The construction models are an accurate representation of actual conditions after the work.

9. Duties and Responsibilities

Senior BIM Manager

The Senior BIM Manager is responsible for the development of the BMP for the Project, coordinates the deployment of the BIM approach, and acts in support of the Project teams for its implementation.

Purpose

- Ensure optimal deployment of the BIM approach;
- Ensure that the BIM approach adds value to the various implementation activities, supports the Continuous Design Process (CDP) and that its implementation enables the achievement of the Project objectives;
- Provides quality control to ensure that the work and deliverables of the Project teams comply with the BMP.

Duties and Responsibilities

- Develop (produce and draft) a BMP, in accordance with the BIM objectives and the objectives of the Project, and supervise its overall implementation and updating;
- Develop and define the various modelling strategies with each discipline's BIM managers;
- Coordinate the BIM component of coordination meetings;
- Coordinate the BIM kick-off meeting;
- Coordinate the BIM managers' meetings and draft the minutes of the meetings;
- Coordinate the work of the BIM managers in each discipline;
- Supervise and validate the conformity of the models with the PGB;
- Supervise the choice of BIM tools and ensure the interoperability of all data created and software used by design professionals;
- Monitor the availability and capacity of BIM resources required to achieve the Project objectives;
- Coordinate and monitor the achievement of objectives;
- Act as a main point of contact for BIM issues.

Intermediate BIM Manager

The Intermediate BIM Manager consolidates the discipline models and creates the federated models required for the various analyses. He/she provides support for the Senior BIM Manager and Project Teams for the implementation of the BIM approach.

Purpose

- Ensure optimal integration of the BIM approach into the Project in line with the BIM objectives and uses defined by all Project stakeholders;
- Ensure the sharing, quality control and compliance of the models with the BMP.

Duties and Responsibilities

- At the request of the Senior BIM Manager, attend BIM manager meetings, and start-up and coordination meetings;
- Monitor the sharing of models and the procedure for the transfer and exchange of information between the Project teams;
- Create and provide the federated models required by BIM stakeholders for the various analyses;
- Create and maintain an up-to-date grid of all planned models and ensure their distribution to all professionals;
- Provide the required assistance to project stakeholders concerned by the BIM approach according to their expressed needs (in support of and complementary to the activities of the Senior BIM Manager).

BIM Specialist

The BIM specialist supports the coordination work and communication between the various project stakeholders. He/she is responsible for performing interference detection analyses and monitoring with the Project teams.

Purpose

- Ensure optimal coordination between the Project's stakeholders and adequate support for integrated design based on the use of federated models;
- Ensure that the implementation of the BIM approach enables the achievement of the BIM objectives and that the work of the Project teams is in accordance with the BMP.

Duties and Responsibilities

- Coordinate the implementation of BIM uses (resources required, change management);
- Coordinate the Master model in order to geo-reference locations, as well as underground (partial) and above-ground services;
- Identify the software that will be used to execute the mandate in collaboration with the Senior Manager and the Professional teams;
- Ensure that the choice of software makes it possible to achieve the BIM objectives of the Project;
- Assemble the list of software (including software versions and updates) provided by the discipline managers;
- Coordinate the work and information-sharing between the various Project teams;
- Coordinate and monitor the modelling strategy for the various BIM analyses and uses;

- Draw up the schedule for interference detection reviews and analyses;
- Coordinate the resolution of detected interferences between professionals and ensure follow-up;

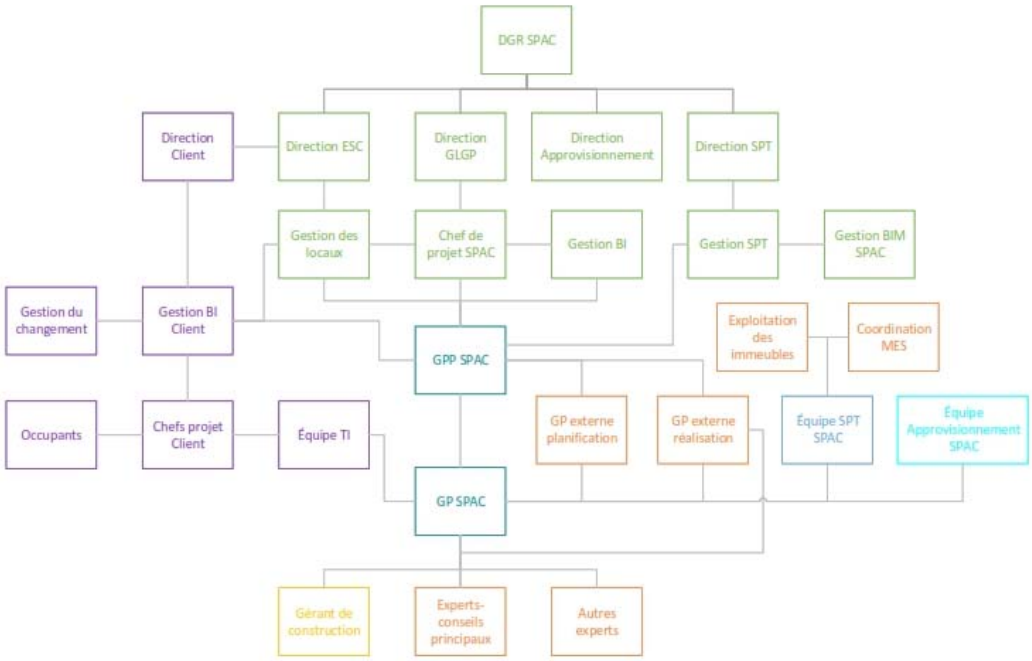
BIM Discipline Manager

The BIM Discipline Manager will coordinate the execution of the BIM by their respective teams.

Responsibilities

- Act as the main point of contact for his/her discipline for the execution of the BIM;
- Ensure internal quality control of the models and information before sharing them with other Project stakeholders;
- Ensure that the work of own team is in accordance with the BMP and that the models of own discipline adhere to the guiding principles of the Project;
- Participate in BIM manager meetings and coordination meetings;
- Participate in the development of the BMP according to the guiding principles of the Project and supervise its implementation within own team;
- Ensure that own team has the BIM capabilities to comply with the requirements listed in the BMP and upgrade each if necessary;
- Provide technical support to own team in order to meet the objectives and requirements of the BMP;
- Identify the software that will be used by own team (including software versions and updated) and provide the list to the BET;
- Participate in the development of the modelling strategy and supervise its implementation in own team;
- Supervise and coordinate the work of own team regarding the BIM approach;
- Act as the person responsible for the models in own discipline;
- Ensure the sharing of own team's models and the recovery of models from other disciplines to produce the federated model;
- Coordinate the team's models with models from other disciplines.
- Ensure that the modelling is in accordance with the BMP;
- Provide the models to the BET for conformity/quality analyses;
- Supervise and coordinate the updating of the models based on comments generated in the model reviews and interference detection;
- Supervise the updating of the models during the construction phase according to change orders and actual conditions following the work;
- Adhere to the schedule for own team's deliverables;
- Develop a list of planned models for own discipline and submit it to the BET;
- Ensure that the models for own discipline are in accordance with the Level of Development (LOD) Matrix and that the required information is modelled at the required time.
- Enter data and maintain an up-to-date table of functional and area requirements and their characteristics;
- Produce plans by space and the ratio by SILU space category and net/gross ratios.
- This section will be expanded upon by the BIM/MDB manager at a later date.

10. Project Organization Chart



11. Deliverables

Paper deliverables

At each stage of the Project, when plans are officially issued, the various professionals must produce the number of hard copies determined by the Project Manager according to the instructions that are proof of contract documents.

Native Revit format (or equivalent)

At each stage of the Project, when the plans are officially issued, all the models in .rvt format (including federated models) will be retrieved and delivered and archived.

Navisworks format

At each stage of the Project, at the end of the interference detection process, all models in .nwc and .nwf format (including federated models) will be retrieved and delivered and archived.

PDF format

At each stage of the Project, when drawings are officially issued, the various professionals must produce deliverables in.pdf format. Each drawing sheet will be done independently, except for the submission filing, where the filings will have to be attached by discipline.

.dwg format

At each stage of the Project, when drawings are officially issued, the various professionals must produce deliverables (plans, sections and elevations) in .dwg format.

.ifc format

The .ifc format is a standardized file format (ISO 16,739 standard) used by the building industry to exchange and share information between software applications. At the submission stage, professionals will be required to produce a model in .ifc format for a clear understanding of the Project.

Other formats

At each stage of the Project, when drawings are officially issued, the BIM manager of the architectural team must ensure that the database of functional requirements, areas and net/gross ratios, including tables in Excel format, is filed.

This section will be expanded upon by the BIM/MDB manager at a later date.

12. Timeline for BIM deliverables

This section will be expanded upon by the BIM/MDB manager at a later date.

13. Data Sharing and Intellectual Property Rights

General principle of BIM data access rights

BIM will be the primary collaboration and communications medium for the Project Team. Unless otherwise specifically agreed, the Consultant Team will use the Model to convey design and the CM; associated trades will use the Model to help interpret the design, and construct the Work. BIM provides an opportunity to streamline, optimize, and, in some cases, omit processes in the delivery chain. To achieve this, the Consultant Team and CM must understand the Project comprehensively and have the digital tools and requisite skills necessary to enable all members of the Project Team through BIM. The author of a model element retains copyright to the model element unless otherwise stated. The author of a model element must grant to the Project Team a non-exclusive license to use the Model element and associated content within the scope established by the authorized uses and Model Elements Table as defined in the BIM PxP for the design and construction of the Project and for Canada's operations following the issuance of the Certificate of Substantial Performance. Project Team members may, at their own risk, adapt or make changes to the model or model element(s) for their own use. Notwithstanding the copyright over model elements, PWGSC has, without exception, the ownership of and the right to use all models, files, and facility/operations and maintenance data developed for the Project. Further, PWGSC must have access to these assets at any time during the implementation of the Project.

Advantages:

- Easy access to data;
- Obtain information in real time;
- Better interdisciplinary coordination;
- Enables fast and efficient communication;
- Saves time by working with the latest data;
- Have a single source of information; avoid multiple creation of the same data; and avoid duplication and duplication of information;

Risks

- Work on data that is not validated;
- Assumption that the data is good;
- Losing data or changing data by mistake;
- Resumption of work due to lack of communication and strategy with other disciplines;

Mitigation measures

- Each item of data must have an owner according to the governance model;
- Maintain a record of shared data, including ownership and authorized use;
- Develop collaborative processes;
- Validation, when using data, that they will not be modified in a short period of time;
- Weekly publication process;
- Systems must allow data recovery;
- Systems must provide a history of data.

This section will be expanded upon by the BIM/MDB manager at a later date.

14. 3D coordination and interference detection

3D Coordination

The 3D coordination process must be a continuous process during all phases of the Project. It consists, among other things, in validating design intentions, carrying out general coordination between the various disciplines, carrying out spatial coordination between the main systems and modelled elements, etc., using federated models. Design professionals, project managers and BIM discipline managers must be involved on an ongoing basis in this process.

Interference detection

The Senior BIM manager is responsible for creating the federated model in order to perform interference detection analysis, between all disciplines, using the Navisworks Manage software, according to the deliverable schedule. BIM discipline managers are responsible for conducting the intra-disciplinary interference detection analysis, and subsequently collaborate for interdisciplinary coordination according to their methodology described in their work plan. The Senior BIM Manager will review each interference found and determine with the BIM discipline managers the level of impact. Only interference with a real impact will then be considered. BIM discipline managers will be responsible for transmitting interference to their Project Managers, updating the status of conflicts and communicating them to all stakeholders involved. An interference detection report illustrating the major conflicts and their resolution status issued by the Senior BIM manager will be forwarded to the Departmental Representative.

This section will be expanded upon by the BIM/MDB manager at a later date.

15. Level of development of the models

The level of development of the models described below corresponds to the minimum level of development to be achieved in order to meet the requirements of the various BIM uses described in this document. A “Level of Development Matrix” of the models will be created and updated throughout the Project and will take into account each BIM use to be achieved, in each phase of the Project. Everything is based on the classification format of the Uniformat II standard. The various levels of development listed below are based on the document “LOD Spec 2016 Part I”:

http://www.energymep.it/wordpress/wp-content/uploads/LOD_Spec_2016_Part_I_2016-10-19.pdf

Level 100 (program): The model element can be graphically represented by a symbol or a generic representation, but does not meet the requirements of the LOD200. A preliminary model specifies the size, shape, functional spaces, quantities, materials, systems.

Level 200 (design): The model element is graphically represented as a system, object or generic assembly with approximate quantity, size, shape, location and orientation. Non-graphical information can also be attached to the model element. A design model includes sufficiently precise and coordinated modelled elements for cost estimation and compliance control.

Level 300 (plan): The model element is graphically represented as a specific system, object or assembly with quantity, size, shape, location and orientation. Non-graphical

information can also be attached to the model element. A pre-construction model specifies the construction requirements and specific construction elements. This model is suitable for the production of tender documents.

Level 350: The model's elements are graphically represented as a specific system, object or assembly in terms of quantity, size, shape, location, orientation and interfaces. They interact with other building systems. Non-graphical information can also be attached to the model element.

This section will be expanded upon by the BIM/MDB manager at a later date.

16. IT Requirements

This section will be expanded upon by the BIM/MDB manager at a later date.

Public Services and Procurement Canada
Services publics et Approvisionnement Canada

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Documentation and Deliverables Manual

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Revisions

Version	Date	Description
0.1	August 14, 2017	Draft version for consultation.
1.0	January 12, 2018	Original Issuance

1 General

1.1 Effective Date

January 12, 2018

1.2 Authority

This manual is issued by the authority of the Director General, Technical Services, Real Property Branch (RPB), Public Works and Government Services Canada (PWGSC).

1.3 Purpose

This document provides architectural and engineering (A&E) consultants with the requirements for producing deliverables for PWGSC projects in order to ensure a well-documented design process, and facilitate review by PWGSC staff.

1.4 Scope

This document shall apply to design-bid-build projects undertaken by PWGSC on its own behalf as well as for other government departments (OGDs). It is applicable to all regions of PWGSC and can be supplemented with regional addendum.

1.5 Harmonization with Terms of Reference

This document shall be used in conjunction with the project's Project Brief / Terms of Reference (TOR). In case of a conflict between documents, the requirements of the TOR prevail over those of this document.

1.6 Departmental Name Change

In the fall of 2015, Public Works and Government Services Canada (PWGSC) was renamed Public Services and Procurement Canada (PSPC).

This name change is occurring in a phased approach, and for most documents PSPC should be used. However, all contract documents shall use the legal name Public Works and Government Services Canada (PWGSC) until the name has been changed in legislation.

1.7 Terminology

This document utilizes the following terminology:

- "shall" is used to express a requirement, a provision the Consultant is obligated to meet; "should" is used to express a recommendation; and
- "may" is used to express an option or that which is permissible within the limits of this document.

1.8 Definitions

Addenda: Changes to the construction documents or tendering procedures, issued during the tendering process.

Construction Documents: The drawings and specifications (including addenda).

Drawings: The graphic means of showing work to be done, as they depict shape, dimension, location, quantity of materials and relationship between building components.

Reports: Written account given of a particular matter after thorough investigation or consideration prepared by the Consultant.

Specifications: Written descriptions of materials and construction processes in relation to quality, colour, pattern, performance and characteristics of materials, installation and quality of work requirements.

2 Construction Documents

2.1 General

This section provides direction to Consultant firms on the preparation of construction documents (namely specifications and drawings) to be submitted to PWGSC for real property projects across Canada.

Specifications, drawings, and addenda shall be complete and clear so that contractors can prepare bids without guesswork.

2.1.1 Principles of PWGSC Contract Documents

Contact documents shall be prepared based on common public procurement principles. PWGSC does not use Canadian Construction Documents Committee (CCDC) documents.

PWGSC is responsible for preparing and issuing the construction contract and the terms and conditions as well as all other related bidding and contractual documents. For detailed information, the standard acquisition clauses and conditions commonly used by PWGSC in the contracting process are available on the buyandsell.gc.ca website.

2.1.2 Translation

When bilingual documents are required in the Terms of Reference, all documentation including drawings, specifications, reports as well as all bidder questions shall be in both official languages.

Ensure that English and French documents are equal in all respects. There can be no statements where one version takes precedence over the other.

2.1.3 Construction Documents Definitions

Unless otherwise indicated in the Project Brief / Terms of Reference, construction document submissions (33%, 50 or 66%, 99%, and 100% / final) shall meet the definitions outlined below. Further discipline based requirements may be included in the TOR.

- 33%: shall demonstrate general intent of design and compliance and alignment with relevant standards. Summary specification required, but not a full specification.
- 50% or 66%: shall show full system, all components, requirements, and lack only minor details on drawings. Specifications shall be well advanced and contain major work and material requirements and lack only minor details.
- 99%: shall be for final review by PWGSC, lacking no detail and complete with a project specific specification.
- 100% (or final): shall address comments by PWGSC as required, signed and sealed by the responsible design professional in compliance with various provincial jurisdiction requirements, ready for tender.

2.1.4 Quality Assurance

It is the sole responsibility of the Consultant firms to undertake their own quality control process and to review, correct, and coordinate their documents (between disciplines). The Consultant shall also ensure the constructability of their design.

2.1.5 Quality Assurance Deliverables

For every construction document submission (33 %, 50 % or 66 %, 99 % and 100 %), the Consultant shall provide:

- a completed and signed Checklist for the Submission of Construction Documents (see Appendix A); and
- an index as per Appendix B.

2.1.6 Terminology & Quantities

The Consultant shall use the term “Departmental Representative” instead of Engineer, PWGSC, Owner, Consultant or Architect. “Departmental Representative” means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor.

Notations such as “verify on site,” “as instructed,” “to match existing,” “example,” “equal to,” “equivalent to,” and “to be determined on site by Departmental Representative” shall not be indicated in specifications nor in drawings, as such wording promotes inaccurate and inflated bids.

Construction documents shall permit bidders to bid accurately. If a precise quantity is impossible to identify (e.g. cracks to be repaired), then provide an estimated quantity for bidding purposes (to be used in conjunction with unit prices). Ensure that the terminology used throughout construction documents is consistent and does not contradict applicable codes and standards.

2.1.7 Units of Measure

All units of measure within drawings and specifications shall be based on the International System of Units (SI).

2.2 Drawings

2.2.1 General

Drawings shall be prepared in accordance with the *PWGSC National CADD Standard* and the Canadian Standards Association CSA B78.5-93: *Computer-Aided Design Drafting (Buildings)*. Drawing shall also meet the following criteria:

- dimensions shall be in metric only (no dual dimensioning);
- no trade names present on any drawings; and
- no specification-type notes are on any drawing.

2.2.2 Information to be Included

Drawings should show the quantities of the elements, the configuration of the project, the dimensions, and details of how the work is constructed. There should be no references to future work or information that will be changed by future addenda. The scope of work should be clearly detailed, and elements not in the Contract should be eliminated or kept to an absolute minimum.

2.2.3 Title Blocks and Revision Notes

PWGSC title block shall be used for drawings and sketches (including addenda).

The percent of drawing completion should be included in the revision notes. Revision notes shall be inputted during design development, but cleared for 100% complete drawing (ready for tender).

2.2.4 Drawing Numbers

Drawings should be numbered in sets according to the type of drawing and the discipline involved as indicated in the following table. The requirements of the *PWGSC National CADD Standard* supersede these requirements, where warranted.

Discipline	Drawing
Demolition	D01, D02, etc.
Architecture	A01, A02, etc.
Civil	C01, C02, etc.
Landscaping	L01, L02, etc.
Mechanical	M01, M02, etc.
Electrical	E01, E02, etc.
Structural	S01, S02, etc.
Interior Design	ID01, ID02, etc.

2.2.5 Presentation Requirements

Present the drawings in sets, providing the applicable demolition, site plan, civil, landscaping, architecture, structural, mechanical, and electrical drawings in that order. All drawings should be of uniform standard size.

2.2.6 Legends

Provide a legend of symbols, abbreviations, references, etc., on the front sheet of each set of drawings, or in the case of large sets of drawings, provided the legend immediately after the title sheet and index sheets.

2.2.7 Schedules and Tables

Where schedules or tables occupy entire sheets, locate them at the back of each set of drawings for convenient reference.

2.2.8 North Arrow

Include a north arrow on all plans. Orient all plans in the same direction for easy cross-referencing. Wherever possible, lay out plans so that the north point is at the top of the sheet.

2.2.9 Drawing Symbols

Follow generally accepted drawing conventions, understandable by the construction trades and in accordance with PWGSC publications.

2.2.10 As-Built Drawings

As-built drawings are official record drawings and shall represent as constructed conditions including location and size of equipment, devices, plumbing lines, mechanical and electrical equipment, structural elements etc. As-built drawings shall be updated in CAD, handwritten notes are not acceptable.

2.2.11 Submission Format

Unless otherwise stated in the Terms of Reference, drawing submissions shall be in electronic and hard copy format.

2.2.11.1 Drawing Hard Copy Deliverable Format

Drawing submitted in hard copy shall be:

- printed to scale with black lines on white paper;
- bound with staple or other means into sets, where presentations exceed 50 sheets, the drawings for each discipline may be bound separately for convenience and ease of handling; and
- of a paper size as agreed to with the Departmental Representative.

2.2.11.2 Drawing Electronic Copy Deliverable Format

Drawing submitted electronically shall be provided:

- without password protection or printing restrictions;
- in two formats:
  - PDF/E-1 (in compliance with ISO 24517-1);
  - .dwg format; and
- in accordance with Appendix D.

2.3 Building Information Modelling (BIM)

PWGSC is committed to using non-proprietary or "OpenBIM" standards. As such, the Consultant is not required to use any specific proprietary software format. For the sake of legacy information quality, the Consultant shall use the international standards of interoperability for BIM (IFC) in all cases where models are submitted. Consultants shall to work with software that is compliant to this standard.

Where used, BIM shall not replace the submission requirements outlined by this document. Rather, consultants shall submit models in addition requirements outlined herein.

Where BIM is used, models and modelled information shall be submitted in the following two formats:

- .native (whichever format is native to the Modelling software used by the Consultant);
- .ifc (Industry Foundation Classification – IFC4 – ISO 16739:2013); and

All Modelled Information, and Model Information Exchanges shall conform to:

- Project-specific requirements, such as they are laid out in the Project Execution Plan, Project Documentation and Model Element Table; and
- The project-identified BIM Standards & Guidelines.

Models for electronic submissions shall be organized as per Appendix D.

2.4 Specifications

2.4.1 National Master Specification

Specifications prepared for PWGSC shall follow the most current version of the *National Master Specification* (NMS) format offered by the National Research Council.

The Consultant has overriding responsibility for the content of construction project specifications. For each specification, he or she shall edit, amend, and supplement the NMS template as deemed necessary to produce an appropriate project specification free of conflict and ambiguity. The Consultant should refer to the latest *NMS User's G*uide and *NMS Development Guide* issued by the National Research Council for further guidance on using the NMS.

2.4.2 Index

Specifications shall include an index which list all specification sections, including numbers of pages, as well as the division and section names in the format shown in Appendix B.

2.4.3 Specification Organization

Narrow scope sections describing single units of work should be used for complex work. Broad scope sections may be used for less complex work. The Consultant shall use consistently for the entire specification either the NMS 1/3 page format, the NMS 2/3-page format or the Construction Specifications Canada (CSC) full-page format.

Start each section on a new right hand page and show the PWGSC project number, NMS section title, NMS section number, page number, and specification date on each page. The project title, and Consultant's name are not to be indicated.

2.4.4 Standards

Code and standard references in the NMS may not be up to date, the Consultant shall ensure that the project specification use the current applicable edition of all references quoted.

2.4.5 Specifying Materials

Specifications should make use of generic names in referencing construction materials. The Consultant should refer to the latest version of the *NMS Development Guide* issued by the National Research Council for further details. The term "Acceptable Manufacturers" shall not be used, as this restricts competition and does not ensure the actual material or product will be acceptable.

2.4.5.1 Alternate Products and Materials

Alternative materials to those specified may be considered during the solicitation period; however, the onus will be on the Consultant to review and evaluate all requests for approval of alternative materials.

2.4.5.2 Sole Sourcing

Sole sourcing of materials and/or work is only allowed in exceptional and justifiable circumstances. Prior to including sole source materials and/or work, the Consultant shall contact the Departmental Representative to obtain approval for the sole sourcing. Consultants shall provide proper justification for all individual sole source requirements.

Sole sourcing for materials and work may be required when performing work on existing proprietary systems, such as fire alarm systems, building automation systems (BAS) etc.

Wording for the sole source of work should be in Part 1 as follows:

Designated Contractor

.1 Retain the services of [_____] to do the work of this section.

Wording for the sole source of building automation system should be in Part 1 as follows:

Designated Contractor

.1 Retain the services of [_____] or its authorized representative to complete the work of all building automation system sections.

Wording for the sole source of building automation system should be in Part 2 as follows:

Materials

.1 There is an existing [_____] system presently installed in the building. All materials must be selected to ensure compatibility with the existing [_____] system.

Wording for the sole source of materials (i.e. fire alarm systems) should be in Part 2 as follows:

Acceptable Materials

.1 The only acceptable materials are [_____].

2.4.6 Measurement for Payment

The measurement for payment shall be provided in lump sum or unit prices.

2.4.6.1 Unit Prices

Unit prices should only be used in instances where the quantity can only be roughly estimated (e.g. earth work). The approval of the Departmental Representative shall be sought in advance of their use. In each applicable NMS section where unit prices are used, add new or replace paragraph title "Measurement for Payment" with "Unit Prices." and use the following wording:

> [The work for this section] or [define the specific work if required, e.g. rock excavation] will be paid based on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form.

Provide a unit price table, sample shown below, to designate the work to which a unit price arrangement applies. The table shall include:

- the price per unit and the estimated total price for each item listed;
- a complete description of each type of work covered; and
- items as described in the referenced specification section.

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit GST/HST extra	Estimated Total Price GST / HST extra
					TOTAL ESTIMATED AMOUNT	

2.4.7 Cash Allowances

Construction documents shall be complete and contain all of the requirements for the contractual work. Cash allowances are to be used only under exceptional circumstances (i.e. utility companies, municipalities), where no other method of specifying pricing is appropriate.

To include cash allowances, obtain approval from the Departmental Representative in advance, and use Section 01 21 00 – Allowances of the NMS to specify the criteria.

2.4.8 Warranties

The 12-month warranty period specified in PWGSC's standard acquisition clauses and conditions with regard to the contract should typically be retained as is. Extended warranties should only be used where experience has shown that serious defects are likely to appear after expiry of the standard one-year warranty period. When necessary to extend beyond the 12 month warranty period,

use the following wording in Part 1 of the applicable technical sections, under the heading “Extended Warranty”:

> For the work of this Section [_____], the 12 month warranty period is extended to [_____] months.

Where the extended warranty is intended to apply to a particular part of a specification section, modify the previous text as follows:

> For [_____], the 12 month warranty period is extended to [_____] months.

2.4.9 Miscellaneous Requirements

Paragraphs noted as “Scope of Work” shall not be included. Within Part 1 – General of specifications, the paragraphs “Summary” and “Section Includes” shall not be utilized.

2.4.10 Specification Coordination

All sections of the specifications shall be coordinated, including the “Related Sections” portion of specifications and appendices. References to non-existent sections shall not be present within the specifications.

2.4.11 Regional Guide

The Consultant should contact the Departmental Representative to obtain the region’s requirements for Division 01 (General Requirements) or other short-form specifications as appropriate.

2.4.12 Health and Safety

All project specifications are required to include Section 01 35 29 – Health and Safety Requirements. Confirm with the Departmental Representative to determine if there are any instructions to meet regional requirements.

2.4.13 Subsurface Investigation Reports

If required, subsurface investigation report(s) shall be included after Section 31, and the following paragraph added to Section 31:

> Subsurface Investigation Report(s)
>
> .1 Subsurface investigation report(s) are included in the specification following this section.
>
> If the Departmental Representative determines that it is not practical to include the subsurface investigation report(s), alternate instructions will be provided.
>
> Where tender documents are to be issued in both official languages, the subsurface investigation report(s) shall be issued in both languages.
>
> In addition to providing the subsurface investigation report(s), the foundation information required by the current *National Building Code of Canada* (Division C, Part 2, 2.2.4.6) shall be included on foundation drawings.

2.4.14 Prequalification and Pre-Award Submissions

Do not include in the specifications any mandatory contractor and/or subcontractor prequalification or pre-award submission requirements that could become a contract award condition. If a

prequalification process or a pre-award submission is required, contact the Departmental Representative.

There should be no references to certificates, transcripts, samples, the license numbers of a trade or subcontractor, or any other documentation or item being included with the bid.

2.4.15 Contracting Issues

Specifications describe the workmanship and quality of the work and shall not contain any contracting issues. Division 00 of the NMS is not used by PWGSC, except for the Seals page 00 01 07 and the Table of Contents 00 01 10. In specifications, remove all references to the following:

- general instructions to bidders;
- general conditions;
- Canadian Construction Documents Committee (CCDC) documents;
- priority of documents;
- security clauses and clearances;
- terms of payment or holdback;
- the tendering process;
- bonding requirements;
- insurance requirements;
- alternative and separate pricing;
- site visits (mandatory or optional); and
- the release of lien and deficiency holdbacks.

2.4.16 Specification Submission Format

Unless otherwise stated in the Terms of Reference, specification submissions shall be in electronic and hard copy format.

2.4.16.1 Specification Hard Copy Deliverable Format

Specifications submitted in hard copy shall be printed on both sides of 216 mm x 280 mm white bond paper.

2.4.16.2 Specification Electronic Copy Deliverable Format

Specifications submitted electronically shall be:

- provided in PDF/A (in compliance with ISO 19005) format, without password protection and printing restrictions; and
- in accordance with Appendix D.

2.5 Addenda

2.5.1 Format

Prepare addenda using the format shown in Appendix C. No signature-type information is to appear.

Every page of the addendum (including attachments) shall be numbered consecutively. All pages shall have the PWGSC project number and the appropriate addendum number. Sketches shall appear in the PWGSC format, signed and sealed.

No Consultant information (name, address, phone #, Consultant project #, etc.) should appear in addenda or their attachments (except on sketches).

2.5.2 Content

Each item should refer to an existing paragraph of the specification or note/detail on the drawings. The clarification style is not acceptable.

Where there are many or major changes to a section or drawing, consider deleting the entire section or drawing and replacing it with a new version.

3 Cost Estimates

3.1 Cost Estimates Submission Formats

3.1.1 Format

Construction cost estimates for projects shall be prepared in the elemental analysis format, which is in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors (CIQS) for all PWGSC regions excluding Quebec. Within Quebec region the cost estimates shall be prepared in the Uniformat II format.

3.1.2 Contents

All cost estimates shall contain the following:

- introduction narrative complete with an outline description of the cost estimate basis;
- description of information obtained and used in the cost estimate including the date received;
- listing of notable inclusions;
- listing of notable exclusions;
- listing of items/issues carrying significant risk;
- summary of the itemized cost estimate;
- itemized breakdown of cost estimate by elemental analysis for Class B, C, and D; and
- itemized breakdown of costs estimate in both elemental analysis and National Master Specification division format for Class A, including measured quantities, unit rate pricings and amounts for each item of work.

Allowances, if deemed necessary by Consultant, shall contain the following:

- design allowance to cover unforeseen items during design phase;
- escalation allowance for changes in market conditions between the date of the cost estimate and the date tender is called;
- construction allowance to cover unforeseen items during construction; and
- the basis of calculations of the above allowances.

3.2 Classes of Cost Estimates for Construction Projects

PWGSC applies a detailed, four-level classification using the terms Class A, B, C and D. Apply these estimate classifications at the project stages as defined in the TOR. For projects required to be submitted to Treasury Board (TB) for approval: an indicative estimate shall be at least a Class D and a Substantive Estimate shall be at least a Class B.

3.2.1 Class D (Indicative) Estimate

Based upon a comprehensive statement of requirements, an outline of potential solutions and/or functional program, this estimate is to provide an indication of the final project cost that will enable ranking to be made for all the options being considered. This cost estimate shall be prepared in elemental analysis format. The level of accuracy of a Class D cost estimate shall be such that no more than a 20% design allowance is required.

3.2.2 Class C Estimate

Based on schematic/conceptual design and/or comprehensive list of project requirements, this estimate shall be adequately detailed and shall be sufficient for making the correct investment decision. This cost estimate shall be based on measured quantities of all items of work and prepared

in elemental analysis format. The level of accuracy of a Class C cost estimate shall be such that no more than a 15% design allowance is required.

3.2.3 Class B (Substantive) Estimate

Based on design development drawings and outline specifications, which include the preliminary design of all major systems and subsystems, as well as the results of all site/installation investigations, this estimate shall provide for the establishment of realistic cost objectives and be sufficient to obtain effective project approval.

This cost estimate shall be based on measured quantities of all items of work and prepared in elemental analysis format. The level of accuracy of a Class B cost estimate shall be such that no more than a 10% design allowance is required.

3.2.4 Class A (Pre-Tender) Estimate

Based on completed construction drawings and specifications prepared prior to calling competitive tenders, this estimate shall be sufficient to allow a detailed reconciliation and/or negotiation with any contractor's tender submission. This cost estimate shall be based on fully measured quantities of all items of work and prepared in both elemental analysis and Trade division format as per MasterFormat™. The level of accuracy of a Class A cost estimate shall be such that no more than a 5% design allowance is required.

4 Project Schedules

4.1 Schedule Format

Project schedules shall be submitted in the .mpp file extension (compatible with MS Project). The schedule shall include:

- major and minor milestones;
- activities representing discrete elements of work assigned to one person which:
    - are named using verb-noun combination (i.e. Review Design Development Report);
    - contain realistic durations in days;
- project logic linking activities with appropriate relationships finish-start (FS), finish-finish (FF), start-start (SS); and
- Identification of the critical path activities.

4.2 Progress Report

The progress report shall detail the progress of each activity up to the date of the report. It shall also include any logic changes made, both historic and planned; projections of progress and completion; as well as the actual start and finish dates of all activities being monitored.

The contents of each progress report will vary depending on the requirements at each project phase. A progress report should include:

- an executive summary;
- a narrative report;
- a variance report;
- a criticality report;
- an exception report (as required);
- the master schedule with cash flow projections; and
- the detailed project schedule (network diagram or bar charts).

4.2.1 Executive Summary

The executive summary should provide a synopsis of narrative, variance, criticality and exception report, and is not to exceed one page.

4.2.2 Narrative Report

The project narrative shall detail the work performed to date, comparing work progress to planned, and presenting current forecasts. This report should summarize the progress to date, explaining current and possible deviations and delays and the required actions to resolve delays and problems with respect to the Detailed Schedule, and Critical Paths.

4.2.3 Variance Report

The variance report, with supporting schedule documentation, should detail the work performed to date and compare work progress to work planned. It should summarize the progress to date and explain all causes of deviations and delays and the required actions to resolve delays and problems with respect to the detailed schedule and critical paths. The variance report shall be presented in the following format:

Paper size:	Letter
Paper format:	Portrait
Title format:	Project Title, Report Type, Print Date, Data Date, Revision Block
Body text:	Narratives for each report to match other reports
Columns:	Activity ID, Activity Name, Planned Finish, Revised Finish, Variance, Activity % Complete

4.2.4 Criticality Report

The criticality report identifies all activities and milestones with negative, zero, and up to five days' Total Float. It is used as a first sort for ready identification of the critical paths, or near-critical paths, through the entire project. The criticality report shall be presented in the following format:

Paper size:	Letter
Orientation:	Portrait
Title format:	Project Title, Report Type, Print Date, Data Date, Revision Block
Body text:	Narratives for each report to match other reports
Columns:	Activity ID, Activity Name, Duration, Start, Finish, Activity % Complete, Total Float

4.2.5 Exception Report

The exception report shall be provided when unforeseen or critical issues arise. The Consultant shall advise the Departmental Representative and submit the details and proposed solutions in the form of an exception report. The report shall include sufficient description and detail to clearly identify:

- scope changes, including identifying the nature, reason, and total impact of all identified and potential project scope changes affecting the project;
- delays and accelerations, including identifying the nature, reason, and total impact of all identified and potential duration variations; and
- options enabling a return to the project baseline, including Identifying the nature and potential effects of all proposed options for returning the project within the baselined duration.

The exception report shall be provided in the following format:

Paper size:	Letter
Orientation:	Portrait
Title format:	Project Title, Report Type, Print Date, Data Date, Revision
Body text:	Narrative to match other reports

Paper size:	Letter
Orientation:	Landscape
Title format:	Project Title, Report Type, Print Date, Data Date, Revision
Columns	Activity ID, Activity Name, Duration, Remaining Duration, Start, Finish, Total Float

4.2.6 Master Schedule

A master schedule including cash projection shall be provided in the following format:

Paper size:	11X17
Orientation:	Landscape
Columns”	Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish, Total Float
Footer format:	Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting:	Early Start, then Early Finish, then Activity ID based on the WBS.

4.2.7 Detailed Project Schedule

A detailed project schedule shall be provided along with a network diagram or bar charts in the following format:

Paper size:	11X17
Orientation:	Landscape
Columns:	Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish, Total Float
Footer format:	Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting:	Early Start, then Early Finish, then Activity ID based on the WBS.

Appendix A Checklist for the Submission of Construction Documents

Date:	
Project Title:	**Project Location:**
Project Number:	**Contract Number:**
Consultant's Name:	**PWGSC Departmental Representative**
Review Stage (stages may vary at discretion of project team): **33% ☐ 50% or 66% ☐ 99% ☐ 100% ☐**	

Drawings\Design			
Item	**Verified by**	**Explanations**	**Action By**
1 Index			
1a The index shows a complete listing of drawing titles and numbers.			
2 Title Blocks			
2a The title block is as per the *PWGSC National CADD Standard*.			
3 Units			
3a All units of measure are metric.			
4 Trade Names			
4a Trade names are not used.			
5 Specification Notes			
5a There are no specification-type notes.			
6 Terminology			
6a The term “Departmental Representative” is used instead of “Engineer,” “PWGSC,” “Owner,” “Consultant,” or “Architect.”			
6b Notations such as “verify on site,” “as instructed,” “to match existing,” “example,” “equal to,” “equivalent to,” and “to be determined on site by” are not used.			
7 Information to be included			
7a The project quantities, configurations, dimensions, and construction details are included.			
7b References to future work and elements not in the tender documents do not appear or are kept to an absolute minimum and clearly marked.			

Drawings\Design			
Item	**Verified by**	**Explanations**	**Action By**
8 Quality Assurance			
8a Coordination review of the design between various disciplines has been completed by the Consultant.			
8b Constructability review of design has been performed.			
9 Signing and Sealing			
9a Every final drawing bears the seal and signature of the responsible design professional in compliance with various provincial jurisdiction requirements.			

Specifications			
Item	**Verified by**	**Explanations**	**Action by**
1 National Master Specification			
1a The current edition of the National Master Specification (NMS) has been used.			
1b Sections have been included for all work identified on drawings and sections have been edited.			
2 Index			
2a The index shows a complete list of specifications sections with the correct number of pages.			
3 Organization			
3a Either the NMS 1/3- or 2/3-page format or the Construction Specifications Canada full-page format is used consistently for the entire specifications.			
3b Each section starts on a new page and the project number, section title, section number, page number and date is shown on each page.			
3c The Consultant's name is not indicated.			
4 Terminology			
4a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."			
4b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.			
5 Dimensions			
5a Dimensions are provided in metric only.			
6 Standards			
6a The current edition of all references quoted is used.			
7 Specifications Materials			
7a The method of specifying materials uses recognized standards. Actual brand names and model numbers are not specified.			
7b Materials are specified using standards and performance criteria.			

Specifications			
Item	**Verified by**	**Explanations**	**Action by**
7c Non-restrictive, non-trade name "prescription" or "performance" specifications are used throughout.			
7d The term "Acceptable Manufacturers" is not used.			
7e No sole sourcing has been used.			
7f If sole sourcing has been used, the correct wording has been used and a justification, estimate, and specification have been provided to the Departmental Representative for the sole-sourced products.			
8 **Measurement for Payment**			
8a Unit prices are used only for work that is difficult to estimate.			
9 Cash Allowances			
9a No cash allowances have been used or if they have, approval from the Departmental Representative has been received.			
10 Miscellaneous Requirements			
10a No paragraphs noted as "Scope of Work" are included.			
10b In Part 1 - General of any section, the paragraphs "Summary" and "Section Includes" are not used.			
11 Specification Coordination			
11a The list of related sections and appendices are coordinated.			
12 Health and Safety			
12a Section 01 35 29.06 – Health and Safety Requirements is included.			
13 **Subsurface Investigation Reports**			
13a Subsurface investigation reports are included after Section 31.			
14 Prequalifications			
14a There are no mandatory contractor and/or subcontractor prequalification requirements or references to certificates, transcripts, licence numbers of a trade or subcontractor, or other such documentation or item included in the bid.			

Specifications			
Item	**Verified by**	**Explanations**	**Action by**
15 Contracting Issues			
15a Contracting issues do not appear in the specifications.			
15b Division 00 of the NMS is not used except 00 01 07 (Seals Page) and 00 01 10 (Table of Contents).			
16 Quality Assurance			
16a There are no specification clauses with square brackets "[ ]" or lines "__" indicating that the document is incomplete or missing information.			
17 Signing and Sealing			
17a Every final specification bears the seal and signature of the responsible design professional as required. Seals and signatures shall be shown in NMS section 00 01 07.			

I confirm that the drawings and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing, I am certifying that all items noted above have been addressed.

Consultant's Representative: _____

Firm name: _____

Signature: _____ Date: _____

Appendix B Drawings and Specifications Table of Contents Template

B.1 General

List all drawings by number and title.

For specifications, list all divisions, sections (by number and title), and the number of pages in each section.

B.2 Sample Table of Contents

Project No: _____ **Table of Contents** **Index**

Page 1 of ___

DRAWINGS:

C-1	Civil
L-1	Landscaping
A-1	Architecture
S-1	Structural
M-1	Mechanical
E-1	Electrical

SPECIFICATIONS:

DIVISION	SECTION	NO. OF PAGES
01	01 00 10 – General Instructions	……..xx
	01 14 25 – Designated Substances Report	……..xx
	01 35 30 – Health and Safety	……..xx
23	23 xx xx	
26	26 xx xx	

Appendix C Addenda Formatting Template

C.1 Instructions

To re-issue a drawing with an addendum:

- indicate the drawing number and title; and
- list the changes or indicate the revision number and date.

To re-issue a specification with an addendum:

- indicate the section number and title; and
- list all changes (i.e. deletions, additions, and replacements) by article or paragraph.

The addendum, drawings and specifications should be sent as separate files.

C.2 Sample Addendum

Date: _____

Addendum Number: _____

Project Number: _____

The following changes in the bid documents are effective immediately.
This addendum will form part of the construction documents.

DRAWINGS:

1 A1 Architecture
  .1

SPECIFICATIONS:

1 Section 01 00 10 – General Instructions
  .1 Delete article (xx) entirely.
  .2 Refer to paragraph (xx.x),
  delete the following: …
  and replace with the following: …

2 Section 23 05 00 – Common Work Results - Mechanical
  .1 Add new article (x) as follows:

Appendix D Directory Structure and Naming Convention Standards for Construction Tender Documents

D.1 Electronic Submissions

Electronic submittals of drawings, specification and models shall be in the following format unless otherwise specified in the Terms of Reference or instructed by the Departmental Representative:

- On media burned to read only memory (ROM) on either CD-ROM or DVD+R where:
  - CD-ROMs comply with ISO 9660:1988 standards;
  - DVD+Rs are 4.7 GB, single-sided, single-layer and comply with ISO/IEC 17344:2006 standards;
  - media is “closed” upon completion of burning; and
  - media is usable in such a way that files may be accessed and copied from it.

If BIM model size is greater than storage capacity of a DVD, refer to Terms of Reference or contact the Departmental Representative for transmission instructions.

Some projects may require the Consultant to upload files to an electronic system outlined in the Terms of Reference or as instructed by the Departmental Representative.

D.2 Directory Structure

D.2.1 1st Tier Subfolder

The 1st tier of the directory structure shall be “Project ######” where ###### represents each digit of the Project Number. The Project Number must always be used to name the 1st tier folder and it is always required. Free text can be added following the Project Number, to include such things as a brief description or the project title.

D.2.2 2nd Tier Subfolder

The 2nd tier of the directory structure shall consist of: “Bilingual - Bilingue”, “English” and “Français” folders. The folders of the 2nd tier cannot be given any other names since the Government Electronic Tendering System (GETS) uses these names for validation purposes. At least one of the “Bilingual - Bilingue”, “English” and “Français” folders is always required, and these must always have one of the applicable subfolders of the 3rd tier.

D.2.3 3rd Tier Subfolder

The 3rd tier of the directory structure shall consist of: “Drawings - Dessins”, “Drawings”, “Models”, “Specifications”, “Reports”, “Dessins”, “Modèles”, “Devis” and “Rapports”. The folders of the 3rd tier cannot be given any other names since GETS also uses these names for validation purposes. There must be always at least one of the applicable 3rd tier folder in each document.

D.2.4 4th Tier Subfolder - Drawings

The 4th-tier subfolders for Drawings should reflect the various disciplines of the set of drawings. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Drawings – Dessins”, “Drawings” and “Dessins” folders. The first subfolder must be always reserved for the Title Page and/or the List of Drawings unless the first drawing of the set is an actual numbered discipline drawing.

The 4th tier “Drawings” and “Dessins” folder shall follow the naming convention:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder Example: 03 – Mechanical

For the “Drawings - Dessins” folder:

= Y - Z

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the English title of the folder

Z = the French title of the folder

Example:

04 - Electrical – Électrique

The numbering of the 4th tier subfolders is for sorting purposes only and is not tied to a specific discipline. For example, “Architecture” could be numbered 05 for a project where there is four other disciplines before “Architecture” in the set of drawings or 01 in another project where it’s the first discipline appearing in the set.

The order of the drawings shall be the same as in the hard copy set. GETS will sort each drawing for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order;
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the drawing PDF files in the 01 sub-older will be printed in alphanumerical order before the drawings in the 02 sub- folder etc.);

Each drawing PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Drawing A001 will be printed before Drawing A002, Drawing M02 before Drawing M03, etc.).

D.2.5 4th-Tier Subfolders for Specifications

The “Specifications” and “Devis” folders must have 4th tier sufolders created to reflect the various elements of the specifications. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Specifications” and “Devis” folders.

The 4th tier subfolders for specifications must adhere to the following standard naming convention for the “Specifications” and “Devis” folders:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder

Example:

02 – Divisions

Numbering of the 4th tier subfolders is for sorting purposes only and is not tied to an element of the specifications.

It is essential to ensure that the order of the elements of the specifications on the CD-ROM be exactly the same as in the hard copy. GETS will sort each element of the specifications for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order.
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the specifications PDF files in the 01 subfolder will be printed, in alphanumerical order before the PDF files in the 02 subfolder, etc.).
- Each specifications PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Division 01 will be printed before Division 02, 01 - Appendix A before 02 - Appendix B, etc.).

D.2.6 Directory Structure Example

The following is an example of the directory structure for the tender document, refer to previous sections for requirements, and use only sections applicable to the given project:

- Project ######
  - Bilingual – Bilingue
    - Drawings – Dessins
      - 01 - Drawing List – Liste des dessins
      - 02 – Demolition – Démolition
      - 03 – Architecture – Architectural
      - 04 – Civil – Civil
      - 05 – Landscaping - Aménagement paysager
      - 06 – Mechanical – Mécanique
      - 07 – Electrical – Électricité
      - 08 – Structural - Structural
      - 09 – Interior Design – Aménagement intérieur
  - English
    - Drawings
      - 01 - Drawing List
      - 02 – Demolition
      - 03 – Architecture
      - 04 – Civil
      - 05 – Landscaping
      - 06 – Mechanical
      - 07 – Electrical
      - 08 – Structural
      - 09 – Interior Design
      - …
    - Models
    - Specifications
      - 01 – Index
      - 02 – Divisions
      - 03 – Appendices
    - Reports
  - Français
    - Dessins
    - Modèles
    - Devis
    - Rapports

D.3 Naming Convention for PDF Files

Each drawing, specifications division or other document that are part of the tender documents must be converted in PDF format (without password protection) in accordance with the following standard naming convention and each PDF file must be located in the appropriate subfolder of the directory structure.

D.3.1 Drawing File Names

Each drawing must be a separate single page PDF file. The naming convention of each file shall be:

X### - Y

Where:

X = the letter or letters from the drawing title block (“A” for Architecture or “ID” for Interior Design for example) associated with the discipline

= the drawing number from the drawing title block (one to three digits)

Y = the drawing name from the drawing title block (for bilingual drawings, the name in both English and French is to appear).

Example:

A001 - First Floor Details

Each drawing that will be located in the appropriate discipline 4th tier subfolders must be named with the same letter (“A” for Architecture Drawings for example) and be numbered. The drawing number used to name the PDF file must match as much as possible the drawing number of the actual drawing (the exception being when leading zeros are required).

The following important points about drawings are to be noted:

- The drawing PDF files within each subfolder are sorted alphanumerically for both displaying and printing. If there are more than 9 drawings in a particular discipline the numbering must use at least two numerical digits (i.e. A01 instead of A1) in order to avoid displaying drawing A10 between A1 and A2. The same rule applies when there are more than 99 drawings per discipline i.e. three digits instead of two must be used for the numbering (for example M003 instead of M03);
- If drawing PDF files are included in the “Bilingual - Bilingue” folder, these cannot be included as well in the “English” and/or “Français” folders;
- If drawings not associated with a particular discipline are not numbered (title page or list of drawings for example), these will be sorted alphabetically. While this does not represent a problem if there is only one drawing in the subfolder, it could disrupt the order when there are two or more drawings. If the alphabetical order of the drawings name does not represent the order on the hard copy set, the drawings are to be named as per the following standard convention when converted in PDF format to ensure proper display and printing order.

D.3.2 Specifications

Each specifications division must be a separate PDF file and all pages contained in each PDF file must have the same physical size (height, width). The drawings and specifications index must also be a separate PDF file. If there are other documents that are part of the Specifications (e.g. Appendix or other) these are to be separate PDF files as well.

D.3.3 Documents Other Than Specifications Divisions

Because PDF files within the Specifications subfolders are sorted alphanumerically (in ascending order) for both on screen display and printing order, all files that appear in folders other than the “Divisions” subfolder must be named using a number:

- Y

Where:

= Two digit number ranging from 01 to 99 with leading zeros required

Y = Name of the document

Example:

01 – Drawings and Specifications Index

D.3.4 Specifications Divisions

The specifications divisions must be named as follows:

Division ## - Y

Where:

Division ## = the actual word “Division” followed by a space and a two digit number ranging from 01 to 99 (with leading zeros required)

Y = name of the Specifications Division as per CSC/CSI MasterFormat™

Example:

Division 05 – Metals

The Numbering of the Divisions cannot be altered from CSC/CSI MasterFormat™ even if some Divisions are not used in a given project. For example, Division 05 will always remain Division 05 even if Division 04 is not used for a given project.

D.4 Media Label

The CD-ROM or DVD+R shall be labeled with the following information:

Project Number / Numéro de projet

Project Title / Titre du projet

Documents for Tender / Documents pour appel d’offres

Disk X of/de X

Example:

Project 123456 / Projet 123456

Repair Alexandra Bridge / Réparation du pont Alexandra

Documents for Tender / Documents pour appel d’offres

Disk 1 of/de 1

Services publics et Approvisionnement Canada | Public Services and Procurement Canada

Canada

Respect • Integrité • Excellence • Leadership

Au service du GOUVERNEMENT, au service des CANADIENS.

Doing Business with PWGSC

Quebec Region ADDENDUM

www.pspc-spac.gc.ca

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Revisions

Version	Date	Description
0.1	May 2, 2018	Draft version for consultation
1.0	June 1st, 2018	Original issuance

A1 General

A1.1 Effective Date of Addendum

June 1st, 2018.

A.1.2 Authority

This addendum is issued by the authority of the Director, Professional and Technical Services, Quebec Region Centre of Expertise, Public Works and Government Services Canada (PWGSC).

A.1.3 Purpose of Addendum

The purpose of this addendum is to make changes to the « Doing Business with PWGSC – Documentation and Deliverables Manual » document on the requirements for the production of deliverables on PWGSC projects in the Quebec Region (excluding the National Capital Region). This addendum is part of the Contract documents.

A.1.4 Scope

This addendum shall apply to design-bid-build projects undertaken by PWGSC on its own behalf as well as for other for other government departments in the Quebec Region (excluding the National Capital Region). It **supplements** the « Doing Business with PWGSC – Documentation and Deliverables Manual » document as provided for in Section 1.4 of said document. The terms and conditions of said document are applicable to this addendum. Yet in case of contradiction between documents, the requirements of the « Doing Business with PWGSC – Quebec Region Addendum » document take precedence.

The Consultant shall check with the Departmental Representative that these documents are up-to-date. The most recent updated version is the one that applies to the project.

A2 Modifications

A2.1 Article 2.2.1_General

Replace the PWGSC National CADD Standard with the PWGSC Quebec Region CADD Standard (Computer Aided Design and Drafting) Supplement. The Supplement can be downloaded along with the Quebec Region templates and drawing formats.

A2.2 Article 2.2.4_Drawing Numbers

Replace table with the following one. For the Quebec Region, the different drawing types and disciplines involved must be numbered as shown in the table.

Discipline	Drawing
Architectural	A01, A02, etc.
Civil	C01, C02, etc.
Landscaping	AP01, AP02, etc.
Structural	S01, S02, etc.
Mechanical	M01, M02, etc.
Industrial mechanical process	MP01, MP02, etc.
Electrical	E01, E02, etc.
Electronic security, intrusion detection, access control and video-surveillance	SS01, SS02, etc.
Information technology (e.g. : telecom and data)	TI01, TI02, etc.
Food Services	SA01, SA02, etc.
Interior Design	I01, I02, etc.

A2.3 Article 2.2.6_Legends

Add: Only project-specific symbols shall be included in the legends.

A2.4 Article 2.3_Building Information Modelling (BIM)

Add: The template must export CADD drawings as an AutoCAD software-specific DWG file. These drawings must be reformatted to meet the PWGSC Quebec Region CADD (Computer Aided Design and Drafting) Supplement.

A2.5 Article 2.4.2_Index

Add: The Specifications package must include a single table of contents. Divisions and sections must be presented in ascending order. The table of contents must also list all drawing sheets by discipline.

A2.6 Article 2.4.11_Regional Guide

Add: In the Quebec Region, the NMS specifications section 01 11 00 - Summary of Work is not to be used. Instead, use section 01 11 01 – Work Related General Information. Obtain the document from the Departmental Representative.

A2.7 Article 2.4.12_Health and Safety

Add: In the Quebec Region, the NMS specifications section 01 35 29 - Health and Safety Requirements is not to be used. Instead, use 01 35 29.06 - Health and Safety Requirements (with annexes) specific to the Quebec region. Obtain the documents from the Departmental Representative.

A2.8 Article 2.4.16.1_ 2.4.16.1 Specification Hard Copy Deliverable Format

Add: Each section must start on the front of a sheet. The hard copy must consolidate all sections of all disciplines in ascending numerical order. When the specifications package needs to be divided into several volumes due to its size, the volume number shall be identified on the cover page as well as the total number of volumes (example: volume 2 of 3). For ease of reference, the Table of Contents (section 00 01 10) must be duplicated at the start of each volume.

A2.9 Article 3.1.1_Format

Add: Departmental Representatives in the Quebec Region apply a standardized three-tier front page summary for all their projects. The Consultant shall translate his estimates on said front page. The Consultant shall therefore obtain the relevant Excel file from the Departmental Representative at the start of the project.

A2.10 Appendix A_Checklist for the Submission of Construction Documents

For the Quebec Region, the present appendix cancels and replaces Appendix A shown in the « Doing Business with PWGSC – Documentation and Deliverables Manual » document.

Appendix A Checklist for the Submission of Construction Documents (Quebec Region)

Date:	
Project Title:	**Project Location :**
Project Number:	**Construction Contract Number:**
Consultant's Name:	**PWGSC Departmental Representative:**
Review Stage (stages may vary at discretion of project team): **33% ☐ 50% or 66% ☐ 99% ☐ 100% ☐**	

Drawings/Design		
Item	**Verified by:**	**Explanations**
1 Index		
1a The index shows a complete listing of drawing titles and numbers.		
2 Title Blocks		
2a Title blocks are as per the *PWGSC Quebec Region CADD Standard.*		
3 Units		
3a All units of measure are metric only.		
4 Trade Names		
4a Trade names are not used.		
5 Specification Notes		
5a There are no specification-type notes.		
6 Terminology		
6a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."		
6b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.		

Drawings/Design		
Item	**Verified by:**	**Explanations**
7 Information to be included		
7a The project quantities, configurations, dimensions, and construction details are included.		
7b References to future work and elements not in the tender documents do not appear or are kept to an absolute minimum and clearly marked.		
8 Quality Assurance		
8a Coordination review of the design between various disciplines has been completed by the Consultant.		
8b Constructability review of design has been performed.		
9 Signing and Sealing		
9a Every final drawing bears the seal and signature of the responsible design professional in compliance with various provincial jurisdiction requirements.		

Specifications		
Item	**Verified by:**	**Explanations**
1 National Master Specification		
1a The current edition of the National Master Specification (NMS) has been used.		
1b Sections have been included for all work identified on drawings and sections have been edited.		
2 Index		
2a The index shows a complete list of specifications sections with the correct number of pages, the proper titles and section names as well as the list of drawings for each discipline.		
3 Organization		
3a The same page format is used consistently for the entire specifications.		
3b Each section starts on a new page and the project number, section title, section number, page number and date is shown on each page.		
3c The Consultant's name and the project title are not indicated.		
4 Terminology		
4a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."		
4b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.		
5 Dimensions		
5a Dimensions are provided in metric only.		
6 Standards		
6a The current edition of all references quoted is used.		

Specifications		
Item	**Verified by:**	**Explanations**
7 Materials' Specifications		
7a The method of specifying materials uses recognized standards. Actual brand names and model numbers are not specified.		
7b Materials are specified using standards and performance criteria.		
7c Non-restrictive, non-trade name "prescription" or "performance" specifications are used throughout.		
7d The term "Acceptable Manufacturers" is not used.		
7e No sole sourcing has been specified.		
7f If sole sourcing has been specified, the correct wording has been used and a justification, estimate, and specification have been provided to the Departmental Representative for the sole-sourced products.		
8 Measurement for Payment		
8a Unit prices are used only for work that is difficult to estimate.		
9 Cash Allowances		
9a No cash allowances have been used or if they have, approval from the Departmental Representative has been received.		
10 Miscellaneous Requirements		
10a No paragraphs noted as "Scope of Work" are included.		
10b In Part 1 - General of any section, the paragraphs "Summary" and "Section Includes" are not used.		
10c Section 01 11 01 Work Related General Information is included.		
11 Specification Coordination		
11a The list of related sections and appendices are coordinated.		

Specifications		
Item	**Verified by:**	**Explanations**
12 Health and Safety		
12a Section 01 35 29.06 – Health and Safety Requirements (Quebec Region) is included.		
13 Subsurface Investigation		
13a Subsurface investigation reports are included after Section 31.		
14 Prequalification		
14a There are no mandatory contractor and/or subcontractor prequalification requirements or references to certificates, transcripts, licence numbers of a trade or subcontractor, or other such documentation or item included in the bid.		
15 Contracting Issues		
15a Contracting issues do not appear in the specifications.		
15b Division 00 of the NMS is not used except 00 01 07 (Seals Page) and 00 01 10 (Table of Contents).		
16 Quality Assurance		
16a There are no specification clauses with square brackets "[ ]" or lines " " indicating that the document is incomplete or missing information.		
17 Signing and Sealing		
17a Every final specification bears the seal and signature of the responsible design professional as required. Seals and signatures shall be shown in NMS section 00 01 07.		

I confirm that the drawings and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing, I am certifying that all items noted above have been addressed.

Consultant's Representative: _____

Firm name: _____

Signature: _____ Date: _____

A2.11 Appendix B_Drawings and Specifications Table of Contents Template

For the Quebec Region, the present appendix cancels and replaces Appendix B shown in the « Doing Business with PWGSC – Documentation and Deliverables Manual » document.

Appendix B Drawings and Specifications Table of Contents Template (Quebec Region)

B.1 General

For specifications, list all divisions, sections (by number and title) and the number of pages in each section.

List all drawings by number and title, and classify by discipline.

B.2 Example of Table of Contents

Project N°: **TABLE OF CONTENTS** **Section 00 01 10**
Date: **Page 1**

SPECIFICATIONS:

DIVISION	SECTION	NUMBER OF PAGES
01	01 11 01 – Work Related General Information	……..xx
	01 14 00 – Work Restrictions	……..xx
	01 35 29.06 – Health and Safety Requirements	……..xx
23	23 xx xx	
26	26 xx xx	

DRAWINGS:

Architectural

A00 Title page
A01 Demolition – Plan of 1st floor
A0x xx

Structural

S01 Legend
S02 xx

Mechanical

M01 Legend
M02 xx

[END OF DOCUMENT]

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
EE474-2000697
Security Classification / Classification de sécurité UNCLASSIFIED

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

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine	2. Branch or Directorate / Direction générale ou Direction
Public Works and Government Services Canada	Biens immobiliers

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

Contrat d'expert-conseils principaux (construction d'un nouvel édifice du gouvernement à Shawinigan et déconstruction de l'immeuble existant)

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	☑ No / Non	☐ Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	☑ No / Non	☐ Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	☐ No / Non	☑ Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	☑ No / Non	☐ Yes / Oui
6. c) Is this a commercial courier or delivery requirement with **no** overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale **sans** entreposage de nuit?	☑ No / Non	☐ Yes / Oui

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

Canada ☑	NATO / OTAN ☐	Foreign / Étranger ☐

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

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

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

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

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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? — ☑ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

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

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

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

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

☑ RELIABILITY STATUS COTE DE FIABILITÉ	☐ CONFIDENTIAL CONFIDENTIEL	☐ SECRET SECRET	☐ TOP SECRET TRÈS SECRET
☐ TOP SECRET– SIGINT TRÈS SECRET – SIGINT	☐ NATO CONFIDENTIAL NATO CONFIDENTIEL	☐ NATO SECRET NATO SECRET	☐ COSMIC TOP SECRET COSMIC TRÈS SECRET
☐ SITE ACCESS ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : _____

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

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

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

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

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

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

PRODUCTION

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

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

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

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

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

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

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

SUMMARY CHART / TABLEAU RÉCAPITULATIF

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

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

☑ No / Non ☐ Yes / Oui

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

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

☑ No / Non ☐ Yes / Oui

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

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PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
dassylva, chantal	gestionnaire de projets	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
418-649-2797	418-649-2788	chantal.dassylva@tpsgc-pwgsc.gc.ca	2019/07/16

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Maheux, Marc	SO	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
613-998-5021	613-949-2331	marc.maheux@tpsgc-pwgsc.gc.ca	

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes? ☐ No / Non ☐ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date

17. Contractir matière de sécurité

Name (print) -	Title - Titre	Signature

Anik Farrell - CSO
613-946-5194
anik.farrell@tpsgc-pwgsc.gc.ca

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date