



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada**
Room 100,
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6
Bid Fax: (204) 983-0338

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

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

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

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

Comments - Commentaires

Title - Sujet ITC Project	
Solicitation No. - N° de l'invitation M7594-181000/A	Date 2018-10-01
Client Reference No. - N° de référence du client M7594-181000	
GETS Reference No. - N° de référence de SEAG PW-\$PWZ-102-10637	
File No. - N° de dossier PWZ-8-41097 (102)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-11-15	Time Zone Fuseau horaire Central Standard Time CST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Wiebe, Dallas	Buyer Id - Id de l'acheteur pwz102
Telephone No. - N° de téléphone (204) 899-5257 ()	FAX No. - N° de FAX (204) 983-7796
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: ROYAL CANADIAN MOUNTED POLICE 4TH FL. 73 LEIKIN DR. M1 OTTAWA Ontario K1A0R2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Western
Region
Room 100,
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

REQUEST FOR PROPOSAL (RFP)

CONSTRUCTION MANAGEMENT SERVICES

Integrated Training Centre Project

RCMP Academy - Regina, Saskatchewan

IMPORTANT NOTICE TO BIDDERS

PROMPT PAYMENT IN THE CONSTRUCTION INDUSTRY

Prompt Payment Principles

Public Services and Procurement Canada advocates that construction-related payments should follow these three principles:

- **Promptness:** The department will review and process invoices promptly. If disputes arise, Public Services and Procurement Canada will pay for items not in dispute, while working to resolve the disputed amount quickly and fairly
- **Transparency:** The department will make construction payment information such as payment dates, company names, contract and project numbers, publicly available; likewise, contractors are expected to share this information with their lower tiers
- **Shared responsibility:** Payers and payees are responsible for fulfilling their contract terms including their obligations to make and receive payment, and to adhere to industry best practices

For more information: <http://www.tpsgc-pwgsc.gc.ca/biens-property/divulgation-disclosure/psdic-ppci-eng.html>

THIS DOCUMENT CONTAINS AN INDUSTRIAL SECURITY REQUIREMENT

For further instructions please consult "Special Instruction to Bidders", SI13, "Industrial Security Related Requirements" and "Supplementary Conditions" SC01 "Industrial Security Related Requirements".

PWGSC UPDATE ON ASBESTOS USE

Effective April 1, 2016, all Public Works and Government Services Canada (PWGSC) contracts for new construction and major rehabilitation will prohibit the use of asbestos-containing materials. Further information can be found at <http://www.tpsgc-pwgsc.gc.ca/comm/vedette-features/2016-04-19-00-eng.html>

ADDITION OF TERMINOLOGY

Take note of the additional paragraph included in clause R2810D identified in SC03

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GI01 INTEGRITY PROVISIONS - BID (2016-04-04)

1. The *Ineligibility and Suspension Policy* (the “Policy”) in effect on the date the bid solicitation is issued, and all related Directives in effect on that date, are incorporated by reference into, and form a binding part of the bid solicitation. The Bidder must comply with the Policy and Directives, which can be found at [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html). <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>
2. Under the Policy, charges and convictions of certain offences against a Bidder, its affiliates or first tier subcontractors, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Bidder is ineligible to enter, or is suspended from entering into a contract with Canada. The list of ineligible and suspended Suppliers is contained in PWGSC’s Integrity Database. The Policy describes how enquiries can be made regarding the ineligibility or suspension of Suppliers.
3. In addition to all other information required in the bid solicitation, the Bidder must provide the following:
 - a. by the time stated in the Policy, all information required by the Policy described under the heading “Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement”; and
 - b. with its bid, a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy. The list of foreign criminal charges and convictions must be submitted using an Integrity Declaration Form, which can be found at [Declaration form for procurement](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm). <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm>
4. Subject to subsection 5, by submitting a bid in response to this bid solicitation, the Bidder certifies that:
 - a. it has read and understands the *Ineligibility and Suspension Policy*; <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>
 - b. it understands that certain domestic and foreign criminal charges and convictions, and other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
 - c. it is aware that Canada may request additional information, certifications, and validations from the Bidder or a third party for purposes of making a determination of ineligibility or suspension;
 - d. it has provided with its bid a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy;
 - e. none of the domestic criminal offences, and other circumstances, described in the Policy that will or may result in a determination of ineligibility or suspension, apply to it, its affiliates and its proposed first tier subcontractors; and

- f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
5. Where a Bidder is unable to provide any of the certifications required by subsection 4, it must submit with its bid a completed Integrity Declaration Form, which can be found at *Declaration form for procurement*. <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.htm>
6. Canada will declare non-compliant any bid in respect of which the information requested is incomplete or inaccurate, or in respect of which the information contained in a certification or declaration is found by Canada to be false or misleading in any respect. If Canada establishes after award of the Contract that the Bidder provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Bidder to be ineligible for award of a contract for providing a false or misleading certification or declaration.

GI02 COMPLETION OF BID (2014-03-01)

1. The bid shall be
 - a. submitted on the Bid and Acceptance Form provided through the Government Electronic Tendering Service (GETS) or on a clear and legible reproduced copy of such Bid and Acceptance Form that must be identical in content and format to the Bid and Acceptance Form provided through GETS;
 - b. based on the Bid Documents listed in the Special Instructions to Bidders;
 - c. correctly completed in all respects;
 - d. signed by a duly authorized representative of the Bidder; and
 - e. accompanied by
 - i. bid security as specified in GI05; and
 - ii. any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.
2. Subject to paragraph 6) of GI06, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid may be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Bid and Acceptance Form by the Bidder shall be initialed by the person or persons signing the bid. Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.
3. Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.
4. Canada will make available Notices of Proposed Procurement (NPP), bid solicitations and related documents for download through the Government Electronic Tendering Service (GETS). Canada is not responsible and will not assume any liabilities whatsoever for the information found on websites of third parties. In the event an NPP, bid solicitation or related documentation would be amended, Canada will not be sending notifications. Canada will post all amendments, including significant enquiries received and their replies, using GETS. It is the sole responsibility of the Bidder to regularly consult GETS for the most up-to-date information. Canada will not be liable for any oversight on the Bidder's part nor for notification services offered by a third party.

GI03 IDENTITY OR LEGAL CAPACITY OF THE BIDDER (2015-02-25)

1. In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of
 - a. such signing authority; and
 - b. the legal capacity under which it carries on business;

prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership. This also applies to Bidders submitting a bid as a joint venture.

GI04 APPLICABLE TAXES (2015-02-25)

1. "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

GI05 BID SECURITY REQUIREMENTS (2014-06-26)

1. The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is \$2,000,000.
2. A bid bond (form *PWGSC-TPSGC 504* <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/504-eng.html>) shall be in an approved form, properly completed, with original signatures and sealed by the approved bonding company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L, Acceptable Bonding Companies.
3. A security deposit shall be an original, properly completed, signed where required and be either
 - a. bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - b. bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
4. For the purposes of subparagraph 3. a.
 - a. a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - b. if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4. c, either by letter or by a stamped certification on the bill of exchange, bank draft or money; an
 - c. An approved financial institution is
 - i. a corporation or institution that is a member of the Canadian Payments Association as defined in the *Canadian Payments Act*; <http://laws.justice.gc.ca/eng/acts/C-21/>
 - ii. a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - iii. a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;

- iv. a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the *Income Tax Act*; <http://laws-lois.justice.gc.ca/eng/acts/I-3.3/index.html> or
 - v. Canada Post Corporation.
5. Bonds referred to in subparagraph 3. b. shall be provided on the basis of their market value current at the date of solicitation closing, and shall be
 - a. payable to bearer;
 - b. accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - c. registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.
6. As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.
7. An irrevocable standby letter of credit referred to in paragraph 6. shall
 - a. be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - i. is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;
 - ii. is to accept and pay bills of exchange drawn by the Receiver General for Canada;
 - iii. authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - iv. authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
 - b. state the face amount which may be drawn against it;
 - c. state its expiry date
 - d. provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;
 - e. provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - f. provide that it is subject to the International Chamber of Commerce (ICC) *Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision*, ICC Publication No. 600, Pursuant to the ICCUCP, a credit is irrevocable even if there is no indication to that effect; and
 - g. be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
8. Bid security shall lapse or be returned as soon as practical following

- a. the solicitation closing date, for those Bidders submitting non-compliant bids; and
 - b. the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and
 - c. the award of contract, for those Bidders submitting the second and third ranked bids; and
 - d. the receipt of contract security, for the successful Bidder; or
 - e. the cancellation of the solicitation, for all Bidders.
9. Notwithstanding the provisions of paragraph 8. and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

GI06 REJECTION OF BID (2014-09-25)

1. Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.
2. Without limiting the generality of paragraph 1., Canada may reject a bid if any of the following circumstances is present:
 - a. the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - b. the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - c. the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;
 - d. evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
 - e. evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;
 - f. with respect to current or prior transactions with Canada
 - i. Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
 - ii. Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
3. In assessing the Bidder's performance on other contracts pursuant to subparagraph 2. f. ii., Canada may consider, but not be limited to, such matters as:
 - a. the quality of workmanship in performing the Work;
 - b. the timeliness of completion of the Work;

- c. the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
 - d. the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
4. Without limiting the generality of paragraphs 1. , 2. and 3., Canada may reject any bid based on an unfavourable assessment of the
 - a. adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
 - b. Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - c. Bidder's performance on other contracts.
5. Where Canada intends to reject a bid pursuant to a provision of paragraphs 1. , 2. , 3. or 4., other than subparagraph 2. a., the contracting Authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before making a final decision on the bid rejection.
6. Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

GI07 BID COSTS (2015-02-25)

1. No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

GI08 PROCUREMENT BUSINESS NUMBER (2015-02-25)

1. Bidders are required to have a Procurement Business Number (PBN) before Contract award. Bidders may register for a PBN in the Supplier Registration Information system on Web site: <https://buyandsell.gc.ca/for-businesses/selling-to-the-government-of-canada/register-as-a-supplier> . For non-Internet registration, Bidders may contact the nearest Supplier Registration Agent.

GI09 COMPLIANCE WITH APPLICABLE LAWS (2013-04-25)

1. By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
2. For the purpose of validating the certification in paragraph 1., a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the request.
3. Failure to comply with the requirements of paragraph 2. shall result in disqualification of the bid.

GI10 PERFORMANCE EVALUATION (2010-01-11)

1. Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by Canada. The evaluation shall be based on the quality of workmanship; timeliness of completion of the work; project management, contract management and management of health and safety. Should the

Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges on future work may be suspended indefinitely.

2. The form *PWGSC-TPSGC 2913*, <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/2913-eng.html> SELECT - Contractor Performance Evaluation Report Form, is used to record the performance.

GI11 CONFLICT OF INTEREST—UNFAIR ADVANTAGE (2011-05-16)

1. In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:
 - a. if the Bidder, any of its subcontractors, any of their respective employees or former employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;
 - b. if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.
2. The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.
3. Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

GI12 CODE OF CONDUCT FOR PROCUREMENT—BID (2016-04-04)

1. The *Code of Conduct for Procurement* <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html> provides that Bidders must respond to bid solicitations in an honest, fair and comprehensive manner, accurately reflect their capacity to satisfy the requirements set out in the bid solicitation and resulting contract, submit bids and enter into contracts only if they will fulfill all obligations of the Contract. By submitting a bid, the Bidder is certifying that it is complying with the *Code of Conduct for Procurement*. Failure to comply with the *Code of Conduct for Procurement* may render the bid non-responsive.

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SI01 INTRODUCTION

1. Public Works and Government Services Canada (PWGSC) intends to retain a Contractor to provide Construction Management Services for the project as set out in this Request for Proposal (RFP).
2. Bidders responding to this RFP are requested to submit a full and complete submission, refer to SI05. The submission may cover not only the qualifications, experience and organization of the Bidder, but also the detailed approach to the work and the pricing and terms offered.

SI02 BID DOCUMENTS

1. The following are the Bid Documents:
 - a) Request for Proposal (RFP) ;
 - b) General Instructions - Construction Services - Bid Security Requirements (GI);
 - c) Special Instructions to Bidders (SI);
 - d) Contract Documents (CD);
 - e) Supplementary Conditions (SC);
 - f) Submission Requirements and Evaluation (SRE);
 - g) Bid and Acceptance Form (BA);
 - h) Terms of Reference;
 - i) Basis of Payment;
 - j) All related Annexes and Appendices and any amendment issued prior to solicitation closing.
2. Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI03 ENQUIRIES DURING THE SOLICITATION PERIOD

1. Enquiries regarding this RFP must be submitted in writing to the Contracting Authority identified in the Solicitation Documents at e-mail address dallas.wiebe@pwgsc-tpsgc.gc.ca as early as possible within the solicitation period. Enquiries should be received no later than five (5) working days prior to the date set for closing of the solicitation to allow sufficient time to provide a response. Enquiries received after that time may result in an answer NOT being provided.
2. To ensure consistency and quality of the information provided to Bidders, the Contracting Authority will examine the content of the enquiry and will decide whether or not to issue an amendment.
3. All enquiries and other communications related to this RFP sent throughout the solicitation period must be directed ONLY to the Contracting Authority named in paragraph 1. above. Failure to comply with this requirement may result in the bid being declared non-compliant.

SI04 OPTIONAL SITE VISIT

Not Applicable

SI05 SUBMISSION OF BID

1. The bid should be submitted following a "two-envelope" procedure of which is to include a technical and financial bid. Both envelopes should be enclosed and sealed together in a third envelope, the "Bid Envelope". All envelopes are to be provided by the Bidder.
2. The Bid Envelope should be addressed and submitted to the office designated on the Front Page of the Request for Proposal. The bid must be received on or before the date and time set for solicitation closing. The Bidder should ensure that the following information is clearly printed or typed on the face of the envelope:
 - a. Solicitation Number;
 - b. Name of Bidder;
 - c. Bidder's return address; and
 - d. Closing Date and Time.
3. The Technical Bid, and any associated document(s), should be enclosed and sealed in an envelope with the following information clearly printed or typed on the face of the envelope:
 - a. Envelope 1 - Technical Bid;
 - b. Solicitation Number;
 - c. Name of Bidder.
4. The Bid and Acceptance Form (BA), Bid Security and associated document(s), the Financial Bid, should be enclosed and sealed in an envelope with the following information clearly printed or typed on the face of the envelope:
 - a. Envelope 2 - Financial Bid;
 - b. Solicitation Number; and
 - c. Name of Bidder.
5. Timely and correct delivery of bids is the sole responsibility of the Bidder.
6. Unless otherwise specified in the Special Instructions to Bidders.
 - a. the bid will be in Canadian currency;
 - b. the requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-compliant.

SI06 REVISION OF BID

A bid submitted may be amended by letter or facsimile provided the revision is received at the office designated for the receipt of the bids, on or before the date and time set for the receipt of bids. The facsimile number for receipt of revisions is (204) 983-0338. The revision must be on the Bidder's letterhead or bear a signature that identifies the Bidder, and must clearly identify the change(s) to be applied to the original bid. The revision must also include the information identified in SI05 - Submission of Bid.

SI07 OVERVIEW OF OPENING OF BIDS / BID SELECTION AND EVALUATION PROCEDURES

The following is an overview of the opening of the bids and the selection and evaluation procedures.

1. There will be no Public opening.

2. Bid Opening, Selection and Evaluation Procedure;
 - a. Envelope 1 "Technical Bid" will be opened first and will be reviewed and/or evaluated against the mandatory requirements set out elsewhere in the RFP. Technical Bids meeting all the minimum requirements are further considered. Failure to meet any or all of the mandatory requirement(s) will render the bid non-compliant. Non-compliant bids will be given no further consideration and the Financial Bid envelope will be returned to the bidder unopened.
 - b. Envelope 2 - "Financial Bid" will be opened after the Technical Bid has been deemed compliant. The Financial Bid will be evaluated against the mandatory requirements set out elsewhere in the RFP, failure to comply with any or all of the mandatory requirement(s) will render the bid non-compliant and no other consideration will be given to the bid. The compliant bid carrying the lowest price per point as set out elsewhere in the RFP will be recommended for contract award.
3. PWGSC normally expects to advise in writing unsuccessful Bidders within one week after PWGSC has entered into a contractual arrangement with the successful Bidder.
4. Bid results may be obtained from the Contracting Authority named on the cover page of the RFP following completion of the bid evaluation.

SI08 BID VALIDITY PERIOD

1. Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders will have the option to either accept or reject the proposed extension.
2. If the extension referred to in paragraph 1. above is accepted, in writing, by all those who submitted bids, then Canada will continue immediately with the evaluation of the bids and its approvals processes.
3. If the extension referred to in paragraph 1. above is not accepted in writing by all those who submitted bids then Canada will, at its sole discretion, either
 - a. continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
 - b. cancel the solicitation.
4. The provisions expressed herein do not in any manner limit Canada's rights in law or under GI06 Rejection of Bid.

SI09 DEBRIEFINGS

1. After contract award, bidders may request a debriefing on their results of the bid solicitation process. Bidders should make the request to the Contracting Authority within fifteen (15) working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

SI10 JOINT VENTURE

1. A joint venture is an association of two or more parties who combine their money, property, knowledge, expertise or other resources in a single joint Working enterprise, sometimes referred as a consortium, in order to submit together a bid. Bidders who submit a bid, as a joint venture must indicate clearly that it is a joint venture and provide the following information:
 - a. the name of each member of the joint venture;
 - b. the Procurement Business Number of the joint venture;
 - c. the name of the representative of the joint venture, i.e. the member chosen by the other members to act on their behalf, if applicable;

- d. the name of the joint venture, if applicable.
2. If the information is not clearly provided in the bid, the Bidder must provide the information on request from the Contracting Authority.
3. The bid must be signed by all the members of the joint venture unless one member has been appointed to act on behalf of all members of the joint venture. The Contracting Authority may, at any time, require each member of the joint venture to confirm that the representative has been appointed with full authority to act as its representative for the purposes of the bid solicitation and any resulting contract.
4. All of the members of the joint venture are jointly and severally responsible for the obligations entered into by the Bidder in accordance with the Contract Documents.

SI11 DEFINITION OF BIDDERS

1. "Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform the works. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors

SI12 RIGHTS OF CANADA

1. Canada reserves the right to:
 - a. Reject any or all bids received in response to the bid solicitation;
 - b. Enter into negotiations with bidders on any or all aspects of their bids;
 - c. Accept any bid in whole or in part without negotiations;
 - d. Cancel the bid solicitation at any time;
 - e. Reissue the bid solicitation;
 - f. If no compliant bids are received and the requirement is not substantially modified, reissue the bid solicitation by inviting only the bidders who bid to resubmit bids within a period designated by Canada; and
 - g. Negotiate with the sole compliant Bidder to ensure best value to Canada.

SI13 INDUSTRIAL SECURITY RELATED REQUIREMENTS

1. **At bid closing, the Bidder must hold a valid Security Clearance** as indicated in section SC01 of the Supplementary Conditions. Failure to comply with this requirement will render the Bid non-compliant and no further consideration will be given to the Bid.
2. The successful Bidder's personnel, as well as any subcontractor and its personnel, who are required to perform any part of the work pursuant to the subsequent contract must meet the mandatory security requirement as indicated in section SC01 of the Supplementary Conditions. **Individuals who do not have the required level of security will not be allowed on site.** It is the responsibility of the successful Bidder to ensure that the security requirements are met throughout the performance of the contract. Canada will not be held liable or accountable for any delays or additional costs associated with the successful Bidder's non-compliance with the mandatory security requirement.
3. For additional information on security requirements, bidders should consult the "Security Requirements for PWGSC Bid Solicitations - Instructions for Bidders" on the Standard Procurement Documents Web site Industrial Security Program <http://www.tpsgc-pwgsc.gc.ca/esc-src/index-eng.html>

SI14 WEB SITES

1. The following is a list to some of the Web sites in the solicitation documents:
 - Buy and Sell: <https://www.achatsetventes-buyandsell.gc.ca>
 - Canadian economic sanctions: <http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

- Contractor Performance Evaluation Report (Form PWGSC-TPSGC 2913): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913.pdf>
- Bid Bond (form PWGSC-TPSGC 504): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/504.pdf>
- Performance Bond (form PWGSC-TPSGC 505): http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/505_eng.pdf
- Labour and Material Payment Bond (form PWGSC-TPSGC 506): <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/506.pdf>
- Standard Acquisition Clauses and Conditions (SACC) Manual: <http://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>
- PWGSC, Industrial Security Services: <http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>
- PWGSC, Code of Conduct and Certifications: <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>
- Construction and Consultant Services Contract Administration Forms Real Property Contracting: <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>
- Declaration Form: <http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>
- Trade agreements; <https://buyandsell.gc.ca/policy-and-guidelines/Policy-and-Legal-Framework/Trade-Agreements>

CONTRACT DOCUMENTS (CD)

1. The following are the contract documents:
 - a. Contract Page when signed by Canada;
 - b. Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - c. Request for Proposal all Annexes, Appendices and Amendments thereto;
 - d. Terms of Reference;
 - e. Basis of Payment;
 - f. General Conditions and clauses:

GC1 General Provisions - Construction Services	R2810D (2017-11-28);
GC2 Administration of the Contract - Construction Services	R2820D (2016-01-28);
GC3 Execution and Control of the Work	R2830D (2018-06-21);
GC4 Protective Measures	R2840D (2008-05-12);
GC5 Terms of Payment	R2850D (2016-01-28);
GC6 Delays and Changes in the Work	R2860D (2016-01-28);
GC7 Default, Suspension or Termination of Contract	R2870D (2018-06-21);
GC8 Dispute Resolution - >5M – Construction Services	R2882D (2016-01-28);
GC9 Contract Security	R2890D (2018-06-21);
GC10 Insurance	R2900D (2008-05-12);
 - g. Supplementary Conditions (SC)
 - h. Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - i. Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and acceptance of the bid; and
 - j. Any amendment or variation of the contract documents that is made in accordance with the General Conditions; and
 - k. The Contractor's bid. (Technical Bid and Financial Bid)
2. The documents identified by title, number and date above are incorporated by reference and 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/5/R>
3. The language of the contract documents is the language of the Bid and Acceptance Form submitted.

SUPPLEMENTARY CONDITIONS (SC)

- SC01 Industrial Security Related Requirements
 - SC02 Insurance Terms
 - SC03 Changes to Contract Documents
 - SC04 Determination of Construction Cost
 - SC05 Determination of Price for Subcontract Changes
 - SC06 Replacement of Specific Individuals
-

SC01 INDUSTRIAL SECURITY RELATED REQUIREMENTS

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

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 Canadian Industrial Security Directorate (CISD), **Public Works and Government Services Canada (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 CISD/**PWGSC**.
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 CISD/**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 D;
 - (b) Industrial Security Manual (Latest Edition).

SC02 INSURANCE TERMS

1. Insurance Contracts
 - a. The Contractor must, at the Contractor's expense, obtain and maintain insurance contracts in accordance with the requirements of the Certificate of Insurance and the Basis of Payment. Coverage must be placed with an Insurer licensed to carry out business in Canada.
 - b. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract. The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.
2. Period of Insurance
 - a. The policies required in the Certificate of Insurance must be in force from the date of contract award and be maintained throughout the duration of the Contract.
 - b. The Contractor must be responsible to provide and maintain coverage for Products/Completed Operations hazards on its Commercial General Liability insurance policy, for a period of six (6) years beyond the date of the Certificate of Substantial Performance.
 - c. The Contractor must be responsible to provide and maintain coverage for Completed Operations hazards on its Wrap-Up General Liability policy, for a period of six (6) years beyond the date of the Certificate of Substantial Performance.
3. Proof of Insurance
 - a. Before commencement of the Work, and no later than thirty (30) days after contract award, the Contractor must deposit with Canada a Certificate of Insurance on the form attached herein.

- b. Upon request by Canada, the Contractor must provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Certificate of Insurance.
4. Insurance Proceeds
In the event of a claim, the Contractor must, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.
5. Deductible
The payment of monies up to the deductible amount made in satisfaction of a claim must be borne by the Contractor.

SC03 CHANGES TO CONTRACT DOCUMENTS

1. R2810D (2017-11-28) General Condition (GC) 1 - General Provisions - Construction Services is amended as follows:
 - a. Subsection GC1.1.2 Terminology is amended as follows:
Delete the term "Contractor" from GC1.1.2 in its entirety and replace with the following:

"Contractor" and "Construction Manager"
means the person contracting with Canada to provide or furnish all labour, Material and Plant and Construction Management Services for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.
 - b. Subsection GC1.2.2 Order of precedence is amended as follows:
 - i. Delete sub-paragraph 1. f. drawings and specifications in its entirety and replace with the following:
f. Terms of Reference & Basis of Payment.
 - ii. Delete sub-paragraph 2. in its entirety.
2. R2830D (2018-06-21) General Condition (GC) 3 - Execution and Control of the Work is amended as follows:

Delete Section GC3.7- Construction by Other Contractors or Workers in its entirety and replace with the following:
GC3.7 - Separate Contracts with other Contractors
 1. *Canada reserves the right to award separate contracts for work. Where in the opinion of Canada, it is necessary for Canada to award separate contracts to other contractors, the Contractor will:*
 - a. *coordinate and cooperate with the work of other contractors;*
 - b. *coordinate and schedule the Work with the work of other contractors and connect as specified or shown;*
 - c. *participate with other contractors and the Departmental Representative in reviewing their construction schedules when directed to do so;*
 - d. *coordinate and perform the Work with care and diligence so as to ensure that Canada and other contractors will be in a position to proceed according to schedule with the delivery, installation and testing of their work; and*
 - e. *allow other contractors or workers, together with their plant, equipment and Material, access to the Site and the opportunity to use their plant and equipment.*
 2. *When separate contracts are awarded for other parts of the Project, Canada will:*
 - a. *Ensure that insurance coverage is provided to the same requirements to the extent applicable. Such insurance will be coordinated with the insurance coverage of the Contractor as it affects the Work; and*
 - b. *Take all precautions reasonably possible to avoid labour or other disputes.*
 - c. *Ensure the separate contractors are required to adhere to the Contractor's Health & Safety policies and procedures when performing work at the location of the project under the Contractor's control as Constructor on the project.*
 3. *The Contractor will give the Departmental Representative prompt written notice of any defect in, or any conflict occasioned by, the work of other contractors and prior to proceeding with any Work that is affected by or depends upon for its proper execution such work of other contractors. In the absence of such written*

report, the Contractor will have no claim against Canada by reason of the conflict or defective work of the other contractors.

4. *Notwithstanding the foregoing, it is understood and agreed that the Contractor will be the "constructor" for the Project within the meaning of the applicable Health and Safety legislation, and will perform or have performed, in addition to any other obligations it may have pursuant to the application legislation, all of the obligations of a "constructor" set out in the legislation for the Work. It is further understood and agreed that Canada appoints and the Contractor agrees to be appointed as the constructor to fully control, coordinate, oversee and be responsible for all other contractors.*
5. *If the Contractor has caused damage, delay, impact, or interference to the work of other contractors, the Contractor agrees upon due notice to settle with the other contractors in accordance with GC5.8 item 6. of R2850D - General Condition (GC) 5 - Terms of Payment. If one or more of the other contractors makes a claim against Canada on account of damage, delay, impact, or interference alleged to have been so sustained, Canada will notify the Contractor and may require the Contractor to defend the action at the Contractor's expense and not as a Cost of the Work and without an adjustment in the Contract Fee. The Contractor will satisfy a final order or judgment against Canada and pay the costs incurred by Canada arising from such action and not as a Cost of the Work and without an adjustment in the Contract Fee.*
3. R2850D (2016-01-28) General Condition (GC) 5 Terms of Payment > 100K - Construction Services is amended as follows:
 - a. Section GC5.4 Progress Payment is amended as follow:
Add the following sub-section to CG5.4 Progress Payments
 6. *The portion of the Work done under the Fixed Fee will be invoiced in equal monthly installments over the duration of the Contract.*
 - b. R2850D - Section GC5.5 Substantial Performance of the Work is amended as follows:
Add the following sub-section to CG5.5 Substantial Performance
 5. *If, at any time before the issuance of a Certificate of Completion, Canada determines that a Work Package has reached Substantial Performance as described in subparagraph 1. b. of GC 1.1.4, "Substantial Performance", paragraphs 1. through 4. of GC 5.5 may be applied with respect to the specific Work Package.*
4. R2860D (2016-01-28) General Condition (GC) 6 - Delays and Changes in the Work – Construction Services is amended as follows:

Section GC6.4 Determination of Price is amended as follows:

Delete Section GC6.4 Determination of Price in its entirety and replace with the following:

GC6.4 Determination of Price

1. *Any adjustment to the Estimated Construction Costs resulting from a change in the Work pursuant to GC6.1 will represent all reasonable and proper costs including delay incurred by or savings accruing to the Contractor in respect of the labour, Plant and Material that are payable as Construction Costs.*
2. *If the final cost of the Construction Work, excluding the Contractor' fees, is not within 75 and 125 percent of the total Estimated Construction Cost either party to the Contract may request to negotiate a change in the Contractor' Percentage Fee for the Work outside of these thresholds if:*
 - a. *there is a demonstrable difference between the cost to the Contractor of performing the Work for the Estimated Construction Cost and the cost to the Contractor of performing the Work for the actual Construction Cost;*
3. *For the purposes of the negotiation referred to in paragraph 2.*
 - a. *The onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation.*

b. *If the actual Construction cost is less than 75 percent of the Estimated Construction, in no event will the total amount paid as the Contractor' Percentage Fee, amended as a result of a reduction in the cost of the Work, exceed the amount that would have been payable to the Contractor had the price of the Work actually accounted for 75 percent of the Estimated Construction Cost.*

4. *The amount of the Contract will be the final sum of the Fixed Monthly Fees, the actual Construction Cost, the Percentage Fee and any adjustments that are made in accordance with the Contract.*

SC04 DETERMINATION OF CONSTRUCTION COST

1. The Construction Cost, as defined in that **BASIS OF PAYMENT Annex B**, initially will be determined based on the Estimated Construction Cost specified in the Request for Proposal. The Estimated Construction Cost will be adjusted periodically throughout the term of the contract to reflect the actual Construction Cost.
2. Any adjustment to the amount of a subcontract will require Canada's approval in writing. The Contractor will not be entitled to any additional fees other than the Percentage Fee.
3. Any request for adjusting the amount of a subcontract must be substantiated with a cost estimate breakdown identifying, as a minimum, all Labour, Material, and Plant costs and the amount of the allowance for the subcontractor's undertaking of the work within the stipulated amount. The Contractor will ensure that all prices included in the breakdown are fair and reasonable and in conformance with the following:
 - a. Labour rates will be established in accordance with applicable trade union agreements. Non-union labour rates will be established in accordance with industry standards. All labour rates will require approval by Canada in writing.
 - b. The costs of all Material and Plant must represent the actual amount paid to suppliers and said costs are to include all applicable discounts.
 - c. Allowances for the subcontractor's profit, supervision, co-ordination, administration, overhead and the risk of undertaking the work will be negotiated by the Contractor for each change, and will represent a reasonable amount for the nature and complexity of each change. However, in no circumstance will the subcontractor's allowance exceed 15%.
4. The price of any portion of the Work that is not subcontracted or paid for as a Fixed Fee will be equal to the actual cost of that portion of the Work plus the applicable Contractor's Percentage Fee.

SC05 DETERMINATION OF PRICE FOR SUBCONTRACT CHANGES

1. Price Determination Prior to Undertaking Changes
 - a. If a Lump Sum Arrangement applies to the Contract between the Contractor and the Subcontractor or a part thereof, the price of any Subcontractor's change will be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed on in writing by the Contractor and Canada plus an allowance in accordance with SC04 3. c.
 - b. If a Unit Price Arrangement applies to the Contract between the Contractor and the Subcontractor or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
 - c. A price per unit referred to paragraph b., will be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed on by the Contractor and Canada, plus an allowance determined in accordance with SC04 3. c.
 - d. To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor will submit the Subcontractor's cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, any subcontract amount, and the amount of the allowance.

- e. If no agreement is reached as contemplated in paragraph 1. the price will be determined in accordance with paragraph 3. "Price Determination Following Completion of Changes".

2. Allowable Costs under paragraph 1. "Price Determination Prior to Undertaking Changes".

a. General

- i. The Contractor will submit a summary of the subcontractor's cost estimate breakdown for each contemplated change, in accordance with paragraph 1. d. "Price Determination Prior to Undertaking Changes". The breakdown will itemize all labour, Material, Plant and equipment costs estimated by the Contractor's subcontractor, and the amount of the subcontractor allowance;
- ii. It is the responsibility of the Contractor to ensure that all prices included in the Contractor's breakdown to Canada of their subcontractors cost, are fair and reasonable in view of the terms expressed herein;
- iii. The labour hours required for the contemplated change will be based on the estimated number of hours to perform the work;
- iv. Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and Canada;
- v. Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates;
- vi. Allowances referred to in paragraph 2. d.- "Allowance to the Subcontractor" below are not to be included in the hourly labour rates;
- vii. Credit for work deleted will only be for the work directly associated with the change;
- viii. When a change deletes work which has not yet been performed, Canada is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted;
- ix. Allowances referred to in paragraph 2. d. "Allowance to the Subcontractor" below will not be applied to any credit amounts for deleted work;
- x. In those cases where the change involves additions and deletions to the work, the allowances referred to in paragraph 2. d. "Allowance to the Subcontractor" below will apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The allowance will only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions;
- xi. If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor will identify and include the resulting cost in the breakdown.

b. Hourly Labour Rates

- i. The hourly labour rates listed in the Contractor's Subcontractor breakdown will be determined in accordance with the collective agreements that are applicable at the site of the work and will include:
 - (a) the base rate of pay;
 - (b) vacation pay;
 - (c) benefits which includes:
 - Welfare contributions;
 - Pension contributions;
 - Union dues;
 - Training and industry funds contributions; and
 - Other applicable benefits, if any that can be substantiated by the Contractor
 - (d) statutory and legislated requirements, assessed and payable under statutory authority, which includes:

- Employment Insurance contributions;
 - Canada Pension Plan or Quebec Pension Plan contributions;
 - Worker's Compensation Board or " Commission des normes, de l'équité, de la santé et de la sécurité du travail " premiums;
 - Public Liability and Property Damage insurance premiums; and
 - Health tax premiums.
- ii. In the case of non-union labour, all rates claimed will be in accordance with industry standards and the Contractor's and its Subcontractor will provide satisfactory proof of the rates actually paid
- c. Material, Plant and Equipment Costs
- i. The costs of all purchases and rentals will be based on the actual amount paid to the suppliers by the Contractor or its Subcontractor and said costs are to include all applicable Discounts.
- d. Allowance to the Subcontractor
- i. The allowances provided will be considered as full compensation for:
- (a) supervision, coordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount; and
 - (b) miscellaneous additional costs related to
 - The purchase or rental of material, plant and equipment;
 - The purchase of small tools and supplies;
 - Safety and protection measures; and
 - Permits, bonds, insurance, engineering, as built drawings, commissioning, and site office.
3. Price Determination Following Completion of Changes
- a. If it is not possible to predetermine, or if there is failure to agree on the price of a change in the Work, the price of the change will be equal to the aggregate of:
- i. all reasonable and proper amounts actually expended or legally payable by the Contractor in for labour, Plant and Material that fall within one of the classes of expenditure described in paragraph b. that are directly attributable to the performance of the Contract;
 - ii. an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is determined in accordance with SC04 3. c.; and
 - iii. interest on the amounts determined under subparagraphs a. i. and a. ii. of paragraph 3. calculated in accordance with GC5.11, "Interest on Settled Claims";
- b. The cost of labour, Plant and Material referred to in subparagraph a. i. and a. ii. of paragraph 3 will be limited to the following categories of expenditure:
- i. payments to Subcontractors and Suppliers;
 - ii. wages, salaries bonuses and, if applicable, travel and lodging expenses of employees of the Subcontractors located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Subcontractor generally employed at the head office or at a general office of the Subcontractor provided they are actually and properly engaged on the Work under the Contract;
 - iii. assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and Applicable Taxes collection costs;

- iv. rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Subcontractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
- v. payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
- vi. payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
- vii. payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
- viii. any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

4. Price Determination - Variations in Tendered Quantities

- a. Except as provided in subparagraphs b., c., d. and e., if it appears that the final quantity of labour, Plant and Material under a price per unit item will exceed or be less than the estimated tendered quantity, the Contractor's Subcontractor will perform the Work or supply the Plant and Material required to complete the item and payment will be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- b. If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor will, on request, provide Canada with:
 - i. detailed records of the actual cost to the Subcontractor performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and
 - ii. the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.
- c. If agreement is not reached as contemplated in subparagraph b., the price per unit will be determined in accordance with paragraph 3. "Price Determination Following Completion of Changes"
- d. If it appears that the final quantity of labour, Plant and Material under a price per unit item will be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if:
 - i. there is a demonstrable difference between the unit cost to the Contractor's Subcontractor of performing or supplying the estimated tendered quantity and the unit cost of the Subcontractor for performing or supplying the final quantity; and
 - ii. the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- e. For the purposes of the negotiation referred to in subparagraph d.
 - i. the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - ii. in no event will the total price for an item that has been amended as a result of a reduction in quantity under subparagraph d., exceed the amount that would have been payable to the Contractor's Subcontractor had 85 percent of the tendered quantity actually been performed or supplied.

SC06 REPLACEMENT OF SPECIFIC INDIVIDUALS

1. If specific individuals are identified in the Contract to perform the Work, the Contractor must provide the services of those individuals unless the Contractor is unable to do so for reasons beyond its control.
2. If the Contractor is unable to provide the services of any specific individual identified in the Contract, it must provide a replacement with the same level of qualifications and experience as the individual who is being replaced. The replacement must meet the criteria used in the selection of the Contractor and be acceptable to Canada. The Contractor must, as soon as possible, give notice to the Contracting Authority of the reason for replacing the individual and provide:
 - a. the name, qualifications and experience of the proposed replacement; and
 - b. proof that the proposed replacement has the required security clearance granted by Canada, if applicable.
3. The Contractor must not, in any event, allow performance of the Work by unauthorized replacement persons. The Departmental Representative may order that a replacement stop performing the Work. In such a case, the Contractor must immediately comply with the order and secure a further replacement in accordance with paragraph 2. The fact that the Departmental Representative does not order that a replacement stop performing the Work does not relieve the Contractor from its responsibility to meet the requirements of the Contract.

SUBMISSION REQUIREMENTS AND EVALUATION (SRE)

- SRE 1 General Information
- SRE 2 Technical Bid Submission Requirements and Evaluation
- SRE 3 Financial Bid Evaluation
- SRE 4 Basis of Selection

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

- 1.1.1 An 'Overview of the bid opening and selection procedure' can be found in the Special Instructions to Bidders (SI)

1.2 Submission of Bids

- 1.2.1 Bids are to be submitted in accordance with Special Instructions to Bidders (SI)
- 1.2.2 Submit one (1) signed original and four (4) copies of the Technical Bid (envelope one).
- 1.2.3 Submit one (1) signed original of the Financial Bid (envelope two).

1.3 Format of Bids

1.3.1 Technical Bid

In their Technical Bid, Bidders should demonstrate their understanding of the requirements contained herein and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, clear and concise manner for carrying out the work.

The Technical Bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the solicitation is not sufficient. In order to facilitate the evaluation of the Bid, Canada requests that the bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their Bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

The following Bid format information should be implemented when preparing the Bid:

- Paper size should be - 216mm x 279mm (8.5" x 11")
- Smallest font size should be 11 point Times or equal
- Margins should be 12 mm left, right, top, and bottom
- Double-sided submissions are preferred
- One (1) 'page' means one side of a 216mm x 279mm (8.5" x 11") sheet of paper; 279mm x 432 mm (11" x 17") fold-out sheets for spreadsheets, organization charts etc. will be counted as two Pages.

The order of the Technical Bid should follow the order established in the Submission Requirements Section of the RFP. The maximum number of pages, including text, graphics and resumes (limit 2 pages each) to be submitted is 40. The following are not part of this page limitation:

- Covering Letter
- Front Page of the RFP
- Financial Bid
- Health and Safety documentation
- Sample Project reports. Refer to SRE (2.1)

The consequence of exceeding the maximum 40 page limitation is that all pages that extend beyond the 40 page limitation will be removed from the technical Bid submission and will not be evaluated by the PSPC Evaluation Committee for evaluation.

1.3.2 Financial Bid

Bidders must submit their Financial Bid in accordance with the RFP

1.4 Evaluation of Bids

1.4.1 To be declared complaint, a Bid must:

- comply with all the requirements of the Request for Proposal;

- meet all mandatory evaluation criteria;
- Financial Bid form must be fully completed and accompanied by the required bid security.

1.4.2. Bids not meeting 1.4.1 will be declared non-complaint. Complaint Bids will be evaluated and assigned a score against the criteria described in SRE 2.

1.5 Mandatory Requirement

Failure to meet any one of the mandatory requirements will render the proposal as non-responsive and no further evaluation will be carried out.

1.5.1 Mandatory Requirement 1: Bidder's Construction Management Team

1.5.1.1 The Bidder must propose a Construction Management Team with demonstrated experience delivering the requirements similar to the requirements in the Terms of Reference including, but not limited to, the following:

Bidder's Construction Management Team, at a minimum, must consist of a Construction Manager, Project Manager, Cost Estimator, Scheduler, Site Superintendent, a Commissioning Process Manager and a Site Safety Officer.

1.5.1.2 The Bidder must be licensed, or eligible to be licensed, or otherwise authorized to provide the necessary services to the full extent that may be required by law in the province of Saskatchewan.

****** Proof of licensing and/or authorizations must be provided prior to the award of a contract. If proof is not provided upon request by the Contracting Authority the bid will be deemed non-responsive.

1.5.1.3 The Bidder must provide the following information:

- (a) Name of Construction Management Team members' firm(s);
- (b) Key personnel to be assigned to the project;
- (c) In the case of a joint venture identify the existing or proposed legal form of the joint venture (refer to SI10 Joint Venture).

1.5.2 Mandatory Requirement 2: Experience Bidder's Construction Management Team

1.5.2.1 In accordance with Mandatory Requirement 1, the Construction Management Team, at a minimum, must consist of a Construction Manager, Project Manager/Scheduler, Cost Estimator, Site Superintendent, a Commissioning Process Manager, and a Site Safety Officer. Please provide resumes for each of the above noted Construction Management Team member's which demonstrate the experience identified below.

1.5.2.2 Limit resumes to 2 pages each.

1.5.2.3 If experience claimed was not obtained working for the Bidder, specify the name of firm.

1.5.2.4 For the purpose of this mandatory requirement, similar size and complexity is defined as:

- i. a law enforcement, government or institutional building 2500 square meters or greater; and
- ii. The value of construction was at minimum \$15,000,000.00.

(a) Construction Manager resume must:

- i. Demonstrate the Construction Manager has a minimum of 10 years of experience within the last 15 years in the construction industry, and 5 years of experience within the last 10 years in management positions as a Construction Manager of projects similar in size and complexity (as defined above) to the requirements in Annex A.
- ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as P. Eng., Architect, Gold Seal, Occupational Health and Safety Certifications, etc.

(b) Project Manager / Scheduler resume must:

- i. Demonstrate the Project Manager has a minimum of 10 years of experience within the last 15 years in the construction industry, and 5 years of experience within the last 10 years, managing projects and 3 years of experience within the last 5 years developing and managing schedules using scheduling software such as CMP, PERT, MS Project, etc., of similar size and complexity (as defined above) to the requirements in Annex A.
 - ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as P. Eng., Architect, PMP, etc.
- (c) Cost Estimator resume must:
- i. Demonstrate the Cost Estimator has a minimum of 10 years of experience within the last 15 years in the construction industry, and 3 years of experience within the last 5 years producing construction estimates on projects of similar size and complexity (as defined above) to the requirements in Annex A.
 - ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as P. Eng., Architect, Quantity Surveyor (PQS), Gold Seal, etc.
- (d) Site Superintendent resume must:
- i. Demonstrate the Site Superintendent has a minimum of 10 years of experience within the last 15 years in the construction industry, and 5 years of experience within the last 10 years as Site Superintendent on projects of similar size and complexity (as defined above) to the requirements in Annex A.
 - ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as P. Eng., Architect, Gold Seal, Occupational Health and Safety Certifications, etc.
- (e) Commissioning Process Manager resume must:
- i. Demonstrate the Commissioning Process Manager has a minimum of 10 years of experience within the last 15 years in the construction industry, and 3 years of experience within the last 5 years as a Commissioning Process Manager on projects of similar size and complexity (as defined above) to the requirements in Annex A.
 - ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as P. Eng., Architect, Gold Seal, Occupational Health and Safety Certifications, etc.
- (f) Site Safety Officer resume must:
- i. Demonstrate the Site Safety Officer has a minimum of 10 years of experience within the last 15 years in the construction industry, and 3 years of experience within the last 5 years as a Site Safety Officer on projects of similar size and complexity (as defined above) to the requirements in Annex A.
 - ii. If applicable, provide academic qualifications and certifications including professional designations and degrees such as Gold Seal, CIH, JHSC Certification, etc.

SRE 2 TECHNICAL BID SUBMISSION REQUIREMENTS AND EVALUATION

2.1 TECHNICAL CRITERION 1 - Experience of the Bidder: (Maximum Points: 20 points)

Describe the accomplishments and achievements of the Bidder for work related to the identified project. Information to be supplied:

Description of a maximum of two (2) projects, where a Substantial Completion was issued within the last 10 years. Projects must be similar to the size and complexity of the Project described in Annex A – Terms of Reference. Include:

A brief project description and intent including total construction value and contracts managed as well as start and Substantial Completion date. Clearly indicate how the project is comparable to the subject Project of this Request for Proposal;

How budget was controlled and managed (i.e. contract price & final construction cost with explanation to address variances);

How schedule was controlled and managed (i.e. initial schedule and revised schedule with explanation to address variances);

How scope, quality and risks were managed to achieve client's expectations. Provide specific examples that are relevant to this project, if possible;

Names of key personnel responsible for delivery; outline their roles and responsibilities; and

Client references including name, address, phone and fax or e-mail of client contact at the working level - (PSPC reserves the right to verify and consider the satisfaction of the referenced clients)

The Contractor must ensure that all references provided are currently available and can be contacted by the PSPC Evaluation Team within five (5) working days of bid closing.

2.2 TECHNICAL CRITERION 2 - Experience of Key Personnel of the Bidder: (Maximum Points: 30)

Describe the accomplishments/achievements, relevant experience/expertise, roles/responsibilities/degree of involvement, years with the firm of all key personnel and their backups. The key personnel should include, at a minimum, the Construction Manager, Project Manager/Scheduler, Cost Estimator, Site Superintendent, a Commissioning Process Manager and a Site Safety Officer.

Information to be supplied for each member of the key personnel:

Describe the experience and performance of the Construction Management Team members, identified in 1.5.2, regardless of their past association with the current Bidder. Information is to be provided for each team member identified 1.5.2. This is the opportunity to emphasize the strengths of the individuals on the team, to recognize their past responsibilities, commitments and achievements. The descriptions should include the role, responsibilities and degree of involvement of the individual in past projects (especially those identified as reference projects in response to 2.1).

2.3 TECHNICAL CRITERION 3 - Understanding of the Project - (Maximum Points: 10)

The Bidder should demonstrate an understanding of the goals, the constraints, the challenges and the issues of the Project that will shape the end product.

The Bidder should describe the following in response to this requirement:

- (a) A description of the main project goals, including the Client User's functional and technical requirements.
- (b) A description of the Bidder's Construction Management philosophy and methodology to meet the intent of the project and the RCMP's expectations.
- (c) A description of the Bidder's approach to deal with significant issues, risks, benefits, challenges and constraints during the project.
- (d) Project schedule and cost: Bidder to review the schedule and cost information and describe the risk management elements that may affect the project.

2.4 TECHNICAL CRITERION 4 - Management of Services: (Maximum Points: 20)

The Bidder should demonstrate capability to manage the services and meet Project challenges and to ensure consistent control and communication efficiency. The Bidder should also demonstrate how the team will be organized and managed. The Bidder should describe the following in response to this requirement:

- (a) Provide your Construction Management Team's organizational chart with all proposed personnel as required to deliver the project in the most cost and time efficient manner. The organizational chart should identify and show:
 - i. Proposed team member names and backup as well as their proposed positions for both pre-construction and construction stages of the work.
 - ii. Contractual and reporting relationships with the RCMP, the A&E Consultant, the Client, and major external stakeholders.
- (b) Provide a description of the Team's organizational chart including:
 - i. Reporting relationships within the firm, with the RCMP, the A&E Consultant and other stakeholders.

- ii. Internal and external communication strategies, including meetings, communication tools, reporting tools and format.
- iii. How advice will be provided during the design and tender and construction phases.
- iv. Schedule, cost, scope, quality and risk management control and methodology to be applied throughout the delivery of the project.
- v. Tendering methodology.
- vi. Commissioning methodology.
- vii. Health and Safety philosophy, policy, process and procedural documentation and how it is aligned with the requirements of the project.

2.5 TECHNICAL CRITERION 5 - Management of Services and Work (Maximum Points: 20)

The Bidder should describe how it proposes to perform the Services and deliver the Work while meeting the project constraints.

Information to be supplied:

(a) Cost Management

i. Construction Manager's Costs

1. A description of procedures to be put in place to manage the cost of the services to be provided throughout the delivery of the project.

ii. Project Costs

1. A description of cost control and methodology to be applied throughout the delivery of the project.
2. Describe the estimating process the Bidder will use to document the cost of each trade bid package.

(b) Time Management (Schedule)

- i. A description of the schedule control and methodology to be applied throughout the delivery of the project.

(c) Quality Management

- i. A description of the quality control and quality assurance methodology to be applied throughout the delivery of the project to ensure deliverables meet expectations.

(d) Scope Management (Change Management)

- i. A description of the scope change control methodology to be applied throughout the delivery of the project.

(e) Risk Management

- i. A description of how the Bidder will support and contribute to the design and construction phases with respect to risk management.

(f) Communications Management

- i. Provide a description of the internal and external communication strategies, including meetings, communication tools, reporting tools and format.
- ii. Describe the reporting relationships within the Bidders organization, the RCMP, and the Client.

(g) Resource Management

i. Project Team

1. Detail how the Bidder will maintain the key team personnel available to the project for the duration of the work.

ii. Site Health and Safety

1. Provide a description of the Health and Safety philosophy, policies, process and procedural documentation and how it is aligned with the requirements of the project.
2. Provide a narrative describing how the Bidder will implement a Site Specific Health & Safety Plan for this project.

(h) Procurement Management

i. Trade contracts (tendering strategy)

1. Provide a description of the proposed tendering methodology including a discussion as to how the Bidder would ensure cost effective contracts through competitive tendering.
2. Detail how the Bidder will ensure that qualified subcontractors will be available to tender and undertake the necessary work in compliance with design requirements.

(i) Long Delivery Items

- i. Provide a description of the mechanism to identify and acquire any long term or limited delivery components necessary for the work.

(j) Work Plan:

- i. Provide a breakdown of work tasks and deliverables. Include a narrative describing the Work Plan. In the narrative, indicate how the Bidder would address any adjustments to the Work Plan for changes in site conditions or other project impacts.
- ii. Provide an initial construction schedule in 'bar chart' format with commentary based on Annex A - Terms of Reference, the information disclosed in the RFP and additional reasonable assumptions that anticipates the various issues that may be faced by the Bidder in undertaking the Work. The schedule shall outline activities, sequencing and interdependence of construction activities and work packages backed up with a narrative report describing:
 1. A description as to how the Bidder will coordinate with the A&E Consultant and contribute to the process of aligning the design to meet both cost and schedule constraints.
 2. A cost estimating strategy describing the process the Bidder will employ to determine construction costs at each stage of the work as the design progresses. Detail the estimating process the Bidder will use to document the cost of each bid package prior to tender, and explain how costs will be compared to market conditions.
 3. A description as to how the Bidder will perform design and construction document reviews and communicate assumptions, risks and constructability review comments to the A&E Consultant Team and the RCMP at both ongoing basis and at set review intervals.
 4. A description of how advisory services will be provided during the design stages.
 5. A description of the proposed commissioning methodology.

SRE 3

SRE 2 - Technical Bid Submission Requirements and Evaluation Matrix	
Criterion	Maximum Points
2.1 Technical Criterion 1 - Experience of the Bidder (20 Points)	
Project 1	10
Project 2	10
Total	20
2.2 Technical Criterion 2 - Experience of Key Personnel of Bidder (30 Points)	
Construction Manager	5
Project Manager/ Scheduler	5
Cost Estimator	5
Site Superintendent	5
Commissioning Process Manager	5
Site Safety Officer	5
Total	30
2.3 Technical Criterion 3 - Understanding of the Project (10 Points)	
Total	10
2.4 Technical Criterion 4 - Management Services (20 Points)	
Total	20
2.5 Technical Criterion 5 - Management of Services and Work (20 Points)	
Total	20
Maximum Score	100

FINANCIAL EVALUATION

The Financial Bid submitted by the Bidder will be divided by the Technical Score to establish the Price per Point of the Bid.

SRE 4 BASIS OF SELECTION

Total maximum points for the sum of RS 2.1 through RS 2.5 (Technical Criteria) is 100 points; a minimum score of 60 (or the equivalent of 60% of total score) points must be achieved to proceed to the opening of the Financial Bid; a score of 59 points or less

will be considered non-compliant. The Bidder whose compliant Bid achieves the lowest overall Price per Point is the first entity that the Evaluation Board will recommend be approached to finalize the details of a Contract for the provision of the required Services and Work. In the case of a tie, the Bidder submitting the lowest Total Proposed Amount will be selected. For a breakdown of the evaluation and grading of each technical criterion please refer to the table below.

Example:

	Bidder 1	Bidder 2	Bidder 3	Bidder 4
Technical Score	65/100	75/100	55/100	85/100
Minimum Score	60	60	60	60
Pass/Fail	Pass	Pass	Fail	Pass
Price	\$55,000.00	\$49,000.00	-	\$45,000.00
Price / Point	\$846.15	\$653.33	-	\$529.41
Ranking	3	2	Disqualified	1

SRE - FORM 1 - CLIENT REFERENCE FORM FOR REPRESENTATIVE PROJECT

Client Letter of Reference

This hereby confirms that the following contractor _____, executed the work for the following project _____, as the constructor.

Project Details:

Project Location: _____

Initial Contract Value (excluding taxes)

Final Contract Value (excluding taxes)

Original Planned Completion Date

Actual Certificate of Completion Date

Certification

I hereby certify the information provided in this client reference form to be true and factual.

Client Name: _____ Client Title: _____

Client Signature _____ Date: _____

BID AND ACCEPTANCE FORM (BA) (2 pages)

BA01 IDENTIFICATION: Construction Management Services
Integrated Training Centre Project
RCMP Academy, Regina, Saskatchewan

BA02 BUSINESS NAME AND ADDRESS OF BIDDER:

Name: _____

Address: _____

Telephone: _____ Fax: _____

Procurement Business Number: _____

E-Mail address: _____

Industrial Security Program Organisation Number (ISP ORG#) _____

BA03 THE OFFER

1. The Bidder offers Canada to perform and complete the Work for the above named project in accordance with the Request for Proposal for the **TOTAL BID AMOUNT** of:

\$ _____ excluding Applicable Taxes.
(To be expressed in numbers only)

*(The **TOTAL BID AMOUNT** represents the sum of items 1. (a) + (b) + (c) and (d) below)*

(a) Fixed Monthly Fee (Item 1. a. of Annex B - Basis of Payment) of:

Phase 1 \$ _____	X 14 months	= \$ _____
Phase 2 \$ _____	X 14 months	= \$ _____
Phase 3 \$ _____	X 14 months	= \$ _____
Total Fixed Fee \$ _____	X 42 months	= \$ _____

(b) Percentage Fee (Item 1 b. of Annex "B" - Basis of Payment) of the Estimated Construction Cost.
\$ _____ % X \$ 30,000,000.00 = \$ _____

(c) Estimated Construction Cost: (Item 2 of Annex B - Basis of Payment) = **\$30,000,000.00**

Estimated Value of Each Phase:

Phase 1: \$5,500,000
Phase 2: \$8,500,000
Phase 3: \$16,000,000

(d) Cost of Bonding and Insurance (Item 3. i. of Annex B - Basis of Payment) \$ _____

2. Canada may reject the bid if any of the prices submitted, including the per diem rates supplied under, do not reasonably reflect the cost of performing the part of the work to which that price applies.

3. In conducting its evaluation of the bids, Canada may, but will have no obligation to, correct any error in the extended pricing of bids by using unit pricing and any error in quantities in bids to reflect the quantities stated in the bid solicitation; in the case of error in the extension of prices, the unit price will govern.

BA04 BID VALIDITY PERIOD

1. The Bid will not be withdrawn for a period of Sixty (60) days following the date of solicitation closing.

BA05 ACCEPTANCE AND CONTRACT

1. Upon acceptance of the Contractor's Bid by Canada, a binding Contract will be formed between Canada and the Contractor. The contract value will be determined in accordance with amounts bid for items BA 03 (a) + (b) + (c) and (d) (All Applicable Taxes excluded).

BA06 CONSTRUCTION TIME

1. The full scope of work is to be completed within sixteen (42) months from contract award.

BA07 BID SECURITY

1. The Bidder will enclose bid security with its BID in accordance with GI05 Bid Security Requirements.

BA08 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (Type or print)

Signature

Date

APPENDIX 1 INTEGRITY PROVISIONS - LIST OF NAMES

In accordance GI01 INTEGRITY PROVISIONS - BID provide a complete list of each individual who are currently Directors and or Owner of the Bidder.

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently Directors of the Bidder. Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the Owner(s).

<u>Board of Directors / Owner (Use format - first name last name)</u>		
<u>First Name</u>	<u>Last Name</u>	<u>Position (if applicable)</u>

APPENDIX 2 – HEALTH AND SAFETY REQUIREMENTS

MANDATORY HEALTH AND SAFETY - for Work in the Province of Saskatchewan

1.) SPECIAL INSTRUCTIONS TO BIDDERS (SI):

WCB AND SAFETY PROGRAM

1. The recommended Bidder shall provide to the Contracting Authority, prior to Contract award:
 - 1.1 a Workers Compensation Board Statement of Injury Cost Supplement - *Saskatchewan*, or equivalent documentation from another jurisdiction;
 - 1.2 a Workers Compensation Board letter of good standing, also listing covered Directors, Principals, Proprietor(s) or Partners who will be or who are anticipated to be present on the work site(s), or equivalent documentation from another jurisdiction; and
 - 1.3 a Certificate of Recognition (COR) or Registered Safety Plan (RSP). A health and safety policy and program, as required by other provincial/territorial Occupational Health and Safety Acts, will be acceptable in lieu of a COR or RSP.
2. The recommended Bidder shall deliver all of the above documents to the Contracting Authority on or before the date stated (usually 3-5 days after notification) by the Contracting Authority. Failure to comply with the request may result in the bid being declared non-compliant.

2.) SUPPLEMENTARY CONDITIONS (SC):

Workplace Safety and Health

1. EMPLOYER/CONTRACTOR

- 1.1 The Contractor shall, for the purposes of the Workplace Safety and Health Act and Regulations, Saskatchewan, and for the duration of the Work:
 - 1.1.1 act as the Employer, where there is only one employer on the work site, in accordance with the Authority Having Jurisdiction;
 - 1.1.2 assume the role of Contractor, where there are two or more employers involved in work at the same time and space at the work site, in accordance with the Authority Having Jurisdiction; and
 - 1.1.3 agree, in the event of two or more Contractors working at the same time and space at the work site, without limiting the General Conditions, to Canada's order * to:
 - 1.1.3.1 assume, as the Contractor, the responsibility for Canada's other Contractor(s); or
 - 1.1.3.2 accept that Canada's other Contractor is Contractor and conform to that Contractor's Site Specific Health and Safety Plan.

* "order" definition: *after contract award, Contractor is ordered by a Change Order*

2. SUBMITTALS

2.1 The Contractor shall provide to Canada:

- 2.1.1 prior to the pre-construction meeting, a transmittal and copy of a completed Notice of Project form PWGSC - TPSGC 458 (form will be provided to the proposed contractor prior to award), as sent to the Authority Having Jurisdiction (AHJ); and
- 2.1.2 prior to commencement of work and without limiting the terms of the General Conditions:
 - 2.1.2.1 copies of all other necessary permits, notifications and related documents as called for in the scope of work/specifications and/or by the AHJ; and
 - 2.1.2.2 a site specific Health and Safety Plan as requested.

NOTE: Please do not include any forms that include personal 3rd party information such as the names of the contractor's employees and their related claims information.

3. LABOUR AUTHORITY CONTACT:

The contact below represents the Labour Authority in the jurisdiction (AHJ). They are not representatives of the Workers Compensation.

Do not contact the people referenced below for issues pertaining to WCB or WCB Clearances. Those queries must be directed specifically to the WCB, and where the WCB has both a Labour and Compensation component, WCB issues must be directed to the Compensation/Employer Services sections.

<u>SASKATCHEWAN South</u>	<u>SASKATCHEWAN North</u>
Saskatchewan Labour Occupational Health and Safety Division 6th Floor, 1870 Albert Street Regina, SK, S3P 3V7 Attention: Chief Safety Southern Region Telephone:(306) 787-4481 Facsimile: (306) 787-2208	Saskatchewan Labour Occupational Health and Safety Division 122 - 3rd Avenue North Saskatoon, SK, S7K 2H6 Attention: Chief Safety Northern Region Telephone: (306) 933-5050 Facsimile: (306) 933-7337

ANNEX A
TERMS OF REFERENCE

Integrated Training Centre Project

Construction Management Services
Project Brief and Required Services

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Construction Management
Integrated Training Centre Project

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1. PROJECT DESCRIPTION

1.1. General

1.1.1. Purpose

1. The Terms of Reference (TOR) has been developed to engage the services of a Construction Manager (CM) to provide CM Advisory (CMa) and CM General Contractor (CMc), Semi-at-Risk services for the Integrated Training Centre Project. The TOR will give the CM a clear understanding of the project scope, procedures and performance requirements.
2. The TOR, supported by Definitions, General Procedures & Standards (GP&S) and Division 01 - General Requirements documents address project scope, procedures, performance requirements, services and deliverables for the Construction Management of the Integrated Training Centre Project.

1.1.2. Project Information

Project Information	
Project Title:	Integrated Training Centre Project
Project Location:	RCMP Academy Regina, Saskatchewan
User Department:	Royal Canadian Mounted Police
Departmental Representative:	Royal Canadian Mounted Police

1.2. Background Information

1.2.1. Overview

1. The services of a construction manager are required to provide construction management services from design, throughout construction to project close-out of a new special purpose Integrated Training Centre (ITC) Project in Regina, Saskatchewan for the RCMP.
2. The ITC project consists of design, new construction and renovations to the existing Firearms Complex at the RCMP Academy in Regina, SK. The newly constructed ITC will be comprised of approximately 8,000 m2 of usable space. The project will be delivered in three (3) Phases. Phase 1 – Design of all 3 phases and construction of Phase 1, construction of Phase 2 and construction of Phase 3. The period of this contract will run through a 3 phases. Approval must be sought before work can commence on Phase 2 or Phase 3. Appendix A identifies the initial Phasing Plan. The phasing plan is only preliminary and for reference information only.
3. The design services are managed through a separate contract.

1.2.2. User Department

1. The User Department, referred to throughout the Project Brief, is:
 - a. The Royal Canadian Mounted Police (RCMP)
2. RCMP Mission
The RCMP is Canada's national police service. Proud of our traditions and confident in meeting future challenges, we commit to preserve the peace, uphold the law and provide quality service in partnership with our communities.

3. The ITC project objective is to provide expanded simulation training space along with dynamic/tactical training space to meet the ever increasing demands of the RCMP Cadet Training Program. The project will be delivered in 3 phases which will be comprised of new and renovated space.

Initial overview of project phasing:

- a. Phase 1 will include development of a functional program for the full project scope, design of all three phases, a phasing plan and construction of phase one. Phase one is proposed to comprise of renovated existing classrooms that will accommodate up to three instructors and 32 cadets; expansion of the existing ammunitions magazine, renovation and expansion of the existing instructors' offices; renovation and expansion of the employee locker/change rooms; renovated and expanded operational support spaces; new staff room/kitchenette; new driving simulation suite; renovated and expanded judgement simulation rooms; renovated space to accommodate target preparation and storage. Also included in the scope of this phase will be the provision of a large entrance/troop orientation space along with coat/bag/firearm storage; new/expanded washroom facilities; service rooms; and site development to accommodate road reconfiguration and access to the facility.
- b. Phase 2 of the project will include the re-purposing of the former 100m firearms range. Specific scope items will include total hazardous material abatement to make ready for redevelopment; three (3) synthetic ranges with specialized equipment placement along with support spaces for this operation; a judgement simulation suite that will include 8 driving simulators; and building support spaces that may be required due to total occupancy of the facility, which may include building service spaces, washrooms, etc.
- c. Proposed Phase 3 of the project will include new dynamic, tactical training space with moveable walls for variations to scenario training; a classroom; debriefing rooms, flexible synthetic training space; training and building support and service spaces; and site development that would include some outdoor training space, landscaping, grading and building access.

1.2.3. The Site

1. The main characteristics of the site:
 - a. The new 100m range facility is currently being constructed adjacent and adjoined to the existing RCMP Firearms Complex in Regina, Saskatchewan.
 - b. The existing Firearms Complex consists of two operational 25m ranges (one partially dynamic and one fully dynamic), one 100m static firearms range, weapons and ammunition storage, testing and repair, offices, classrooms, service and support spaces.
 - c. The site surrounding the existing range is considered very flat and is intersected by roadways/pathways that provide access/service to the adjoining driver training tracks.

1.2.4. Project Constraints and Challenges

1. The Construction Manager will be required to become familiar with the project site and surrounding buildings and activities.
2. The Construction Manager is required to obtain RCMP security clearances for all his/her firm's personnel, contractors, sub-contractors or other personnel whom may require access to the project site for any reasons, such as, site reviews, site design meetings, etc.
3. All site visits must be arranged through the Departmental Representative.
4. The work will be carried out during normal working hours, when the Firearms Complex is fully occupied and operational. The work must be planned to ensure that disruption to the daily operation of the facilities is kept to a minimum.
 - a. Any construction activities that will affect the operations of the facility and/or onsite representatives of the User Department must be pre-approved by the Departmental Representative before proceeding.
 - b. The CM may be required to construct temporary facilities to accommodate operational program to ensure disruption to training. eg.) Modular trailers for office space and classrooms.
5. The Construction Manager will be required to observe RCMP security procedures at the site and as laid out in the Security Plan.
6. Competitive pricing must be sought for all work packages, where possible, to meet the project's budget. Diligent and transparent cost estimating and cost control is required.
7. The Construction Manager's key personnel must be available to respond to emergencies within a 30-60 minutes, followed by a formal response within 4 hours.
8. Integration of complex range equipment and requirements, user furnishings and equipment requirements.
9. The ITC project will be running in parallel to the 100m Range project. The ITC will consist of a series of Phases to construct additions to the existing Firearms Training Complex. The ITC project team will have to engage in coordination with the 100m Range project team to ensure that both projects work together to provide the best possible solutions to meet both functional requirements.
10. Acoustic design that achieves acceptable thresholds for Occupant Safety with respect to exposure to noise and prevention of noise transfer from on functional area to the next.
11. The design will incorporate principles to achieve equivalency to LEED Gold standards. (Note: a formal submission for Certification will not be sought)
12. Delivering the construction portion of the ITC within the approved funding for each phase.
13. Approval must be sought before work and spending can commence on Phase 2 or Phase 3.
14. Aggressive project schedules for both design and construction to achieve a project completion within (42 months).

1.3. Project Delivery Approach

1.3.1. Project Delivery Objectives and Requisite

1. Provide Construction Management services, CMa and CMc Required Services, throughout the project life cycle.
 - a. Deliver the project according to the Project Milestones, within approved scope, quality, budget and construction cost estimates and schedules.

- b. All Services and duties listed and allocated to the CM throughout the Required Services sections are not exhaustive and do not preclude alternative or supplementary approaches as may be suggested by the CM for consideration by the Departmental Representative and vice versa.
- 2. Prepare and update Project Procedure Manual (PPM) throughout project life cycle.
 - a. Obtain Departmental Representative sign-off.
- 3. As part of PPM, plan Quality into the project from a design, product, process and documentation perspective;
 - a. Demonstrate continuous leadership.
 - b. Establish a practice of Quality Management (QM) program by preparing and updating a Quality Management Plan (QMP).
- 4. Prevent unnecessary re-work, waste, cost, time and administration by establishing continuous Risk Management Program/Plan (RMP);
 - a. Provide contingency plans to mitigate potential delays arising from logistic and weather related challenges.

1.3.2. Required Services Approach

- 1. Subsequent simplified diagrams depict a conventional combined CMa and CMc Services condition with respect to level of effort and roles.
- 2. Level of effort associated with the CMa and CMc Required Services vary with the project delivery life cycle; simplified in diagram below.



Figure 1 Level of Effort

- 3. Roles of CMa and CMc switch and remain interrelated, dependent on the overall project delivery life cycle and construction tender packages; simplified in diagram below.
 - a. Role switch-over typically occur when the CM implements Work by Own Force and upon initiating or participating in a tender with subsequent contract award by either CM or RCMP.

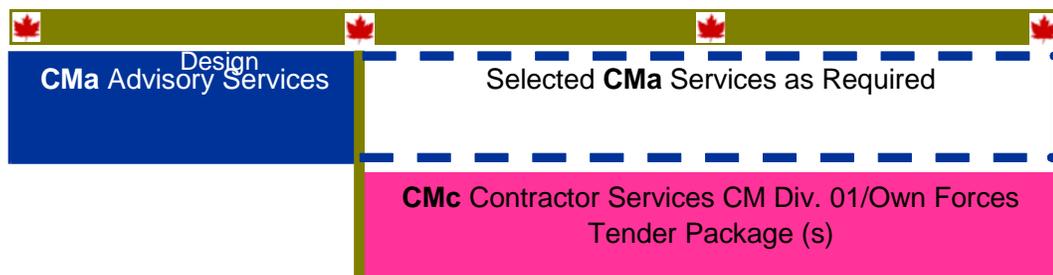


Figure 2 CMa and CMc Roles

- b. CMA and CMc roles remain interrelated during construction - Implementation and Delivery Close-Out phases, to address select CMA services such as:
 - i. Preparation of tender package documentation;
 - ii. Recommended listing of Sub-Contractors;
 - iii. On-going Management and Reporting related to;
 - 1. Cost estimating and budgeting;
 - 2. Master and detail schedules updates.
 - 3. Quality management;
 - iv. Risk and mitigation input.

1.3.3. Design Phase

1. The Crown has selected an Architectural prime consultant (referred herein as the Consultant Team) to complete the design and preparation of construction documentation for the various tender packages required for the Design Phase of the project.
2. Design Consultant team will:
 - a. Work with the CM to develop the design and ensure that all information is made available to the CM;
 - b. Provide Architectural, Engineering and related services;
 - c. Provide cross discipline coordination;
 - d. Provide advice on CM activities related, but not limited to;
 - i. Construction estimates schedules,
 - ii. Design approach and documentation,
 - iii. Design sequence and co-ordination with tender packages,
 - iv. Market forecasts/surveys regarding material, labour contingency projections,
 - v. Material delivery & construction schedules,
 - vi. Constructability,
 - vii. Biddability,
 - viii. Suitability and availability of materials and components, and
 - ix. Sustainable design, construction, and operation principles and practices.
3. As Construction Manager Advisory (CMA) provide:
 - a. Advisory and support services to the Departmental Representative and Design Consultant team;
 - b. Cost estimates; and
 - c. Quality Assurance (QA) reviews.

1.3.4. Construction/Implementation Phase

1. As Construction Manager - General Contractor (CMc):
 - a. Provide the Crown with;
 - i. A construction plan, and
 - ii. Flexibility to implement and coordinate the tender packages, phases and expedite the Work schedule completion.
2. Oversee the construction tender packages on the building site and provide coordination, quality assurance and efficiency;
3. In consultation with the Design Consultant team and Departmental Representative, confirm the number of tender packages required for the project;
 - a. Design Consultant team will prepare;
 - i. Distinct and separate tender packages in a timely manner and ensure full co-ordination of the work of all disciplines; and

- ii. Tender package specifications including Division 01, General Requirements.

1.3.5. Work/Tender Packages

1. The project will be delivered using multiple work and tender packages.
2. The consultant will coordinate with the CM in the development of the tender packages.
3. The CM will manage the construction tenders and establish contracts with subcontractors for the construction work (Subcontracts under the CM contract will be directly between the CM and the subcontractors).

1.4. Summary of Personnel and Qualifications

1.4.1. General

1. The CM team must include at a minimum a Construction Manager, Project Manager, Cost Estimator, Scheduler, Site Superintendent, a Commissioning Process Manager and a Site Safety Officer.
2. The CM is permitted to expand their CM Team to include additional personnel as required in order to successfully deliver the project.
3. Expertise and relevant experience requirements for this project are as follows:
4. CMa (Advisory) services:
 - a. Advisory and Support Services;
 - b. Risk Management services,
 - c. Schedule Management services,
 - d. Waste Management services,
 - e. Cost Estimating services,
 - f. Commissioning Process services.
5. CMc (General Contractor) Services;
 - a. Construction Project Management services,
 - b. Construction Site Superintendent services,
 - c. Commissioning Process Management services,
 - d. Construction Quality Management services.

1.5. Project Schedule

1.5.1. General

1. The ITC Project is required to achieve final completion of Phase 1 by May 2020.
2. Deliver the project to be ready for occupancy in accordance with the project milestone target periods as identified below.

1.5.2. Integrated Training Centre Upgrade Milestone List

ITEM	STAGE	DURATION
1.0	Award of CM Contract	Milestone
2.0	33% Construction Documents 66% Construction Documents 99% Construction Documents Tender Ready Construction Documents	12 Months ~ complete June 2019.
3.0	Phase 1 CM Sequential Construction Tendering	3 Months
4.0	Contractor Security Clearances Complete	1-3 Months

5.0	Phase 1 Construction start	Milestone
6.0	Phase 1 Substantial Completion - base building	10 Months
7.0	Phase 1 BCC / FFE and Tenant installations/Commissioning	3 Months
8.0	Phase 1 Occupancy and start up	Milestone
9.0	Phase 2 Final Completion including FF&E installed and Commissioning	14 months
10.0	Phase 3 Final Completion including FF&E installed and Commissioning	14 months

1.6. Project Budget

1.6.1. Estimated Construction Costs

1. The total Estimated Construction Cost for the all Phases of the ITC project is \$30,000,000.

Phase 1 -	\$5.5 M
Phase 2 –	\$8.5 M
Phase 3 -	\$16.0 M
Total -	\$30M

 - a. The construction cost estimates do not include Administration costs; Project Management fees; Design Consultant fees; Risk Allowance or GST.
 - b. Estimated Construction Cost is in ‘Budget-Year (Current)’ dollars and it includes CM fees.
2. The Crown will not accept scope creep or cost escalation of selected Proponent’s proposal, except in the limited situations as stipulated in the terms of the contract.

1.7. Existing Documentation

1.7.1. Disclaimer

1. Reference information will be available in the language in which it is written.

1.7.2. Documents available to the Successful proponent in English only

1. Existing building drawings (AutoCAD – dwg and/or PDF formats).
2. Design submissions prepared by the Consultant Team.

1.8. Codes, Acts, Standards, Guidelines and Regulations

1.8.1. General

1. A listing of Codes, Acts, Standards and Guidelines applicable to this project are referenced in the Consultant’s TOR document.
2. The Authorities Having Jurisdiction (AHJ) on this project are:
 - a. The local AHJs;
 - b. Treasury Board of Canada, accessed through the Departmental Representative.
3. Identify, analyze and manage the construction of the project in accordance with the requirements of all AHJs and all applicable Codes, Acts, Standards and Guidelines and Legislation.

- a. The applicability of various Codes, Acts, Standards and Guidelines as may be listed in the Consultant's TOR document arise out of direct and indirect references in documents which apply to Federal buildings, such as the Canada Labour Code.
- b. At the CM project start-up meeting, the Departmental Representative will confirm required Codes, Acts, Standards and Regulations unique to Federal Government projects.
 - i. Baring copyrights, and if not available through public media or purchase, copies of applicable Code, Acts, Standards and Regulations will be provided by the Departmental Representative.

2. REQUIRED SERVICES - CMa

2.1. General Requirements

2.1.1. General

1. Provide CMa Services throughout the project life cycle and respective milestones.
 - a. See Figure 2, CMa and CMc Roles for interrelated Select CMa Service during construction.
2. Counsel RCMP and the Consultant Team by providing Advisory and Support services throughout the Design and Construction/Implementation Phases of the project to achieve a quality process and outcome to meet or exceed the project requirements and expectations.
3. In consultation with the Departmental Representative develop and maintain a partnership, lines of communication and reporting between all members of the project delivery team and stakeholders throughout the project life cycle.

2.1.2. Summary of Services

1. CMa, Advisory Support Services required for this project, include as follows:
 - a. Assist in overall project design development;
 - b. Scope Management Services;
 - c. Cost Management Services;
 - d. Schedule Management Services;
 - e. Risk Management Services;
 - f. Commissioning Process Planning; and
 - g. Quality Management Services.
2. CMc, Construction Support Services for this project, see Section 3, Required Services CMc.

2.2. Advisory Support Services

2.2.1. General

1. In mutual support of and in collaboration with the RCMP project team and the Design Consultant, develop, implement and update the CM Project Procedure Manual (PPM) including:
 - a. Quality Management Plan (QMP) to;
 - i. Achieve two (2) primary quality related management requirements:
 1. Management of the project or process appropriately.
 2. Management of the product or outcome.
 - ii. Implement interrelated quality processes throughout the Required Services delivery.
 - b. CMa and CMc (service category) Plans including;

- i. Respective Project Management Plans;
 - ii. Quality Control (QC) Methodologies and Tools – see Definitions; and
 - iii. Quality Control (QC) Process and Metrics Manual - see Definitions.
2. Provide, as part of the Work and without being limited to Scope and Activities listed below, all required Advisory Support Services to meet or exceed the Project requirements and expectations.
3. Notwithstanding the Design Consultant's requirement to submit minutes and reports, document and submit as Deliverables to the Departmental Representative commentaries, minutes and reports resulting from CM activities, associated approval/acceptance, supportive or leadership roles throughout the project life cycle.

2.2.2. Scope and Activities

1. Obtain Departmental Representative sign-off on all original and updated documentation.
2. Analyze and become familiar with all the Project background documents and reports.
3. Review site conditions, with respect to technical and implementation issues affecting this project.
 - a. Provide input to and review of the Design Consultant's overall project Issues and Resolutions Log.
4. Review and update the anticipated project tender package program.
5. Develop, maintain and update, in collaboration with Departmental Representative and Design Consultant, the Project Procedures Manual (PPM) and all documents triggered by the PPM.
6. Develop and update, in collaboration with Departmental Representative and Design Consultant, the CM QMP.
 - a. Explore and document QMP interrelated processes and plans associated with:
 - i. Quality Planning (QP);
 - ii. Quality Assurance (QA);
 - iii. Quality Control (QC).
 - b. Include in Quality Control Plan (QCP):
 - i. QC Methodologies and Tools;
 1. Refer to Definitions section for scope definition.
 - ii. QC Process and Metrics Manual;
 1. Refer to Definitions section for scope definition.
 - iii. Project Monitoring and Reporting.
 - c. Refer to Definitions document for further PPM detail.
7. Prepare Construction Schedules also including:
 - a. Procurement strategy;
 - b. Tender packages; and
 - c. Commissioning Plan.
8. Provide Project Monitoring and Reporting as identified in the General Procedures and Standards (GP&S) document – Project Monitoring and Reporting section.
 - a. Refer to GP&S; Project Monitoring and Reporting and Monthly/Quarterly Reporting sections for further detail.
9. Develop and update a list of recommended trade sub-contractors and tender packages.
10. Prepare elemental cost estimates for each tender package.
11. Prepare and update detailed Construction Cost Estimates and corresponding Project Budget.
12. Determine appropriate construction Tender Packages.

13. Participate in all Integrated Design Process (IDP) workshops and provide advice on:
 - a. Constructability of the design and details contained in the contract documents;
 - b. Scheduling the Work; and
 - c. Costing, pricing and bid suitability.
14. Assist in providing liaison and coordination with Government Authorities for various reviews and approvals.
15. Advise on construction related matters for the Departmental Representative and the Consultant Team.
16. Mitigate potential conflict and overlap, with respect to:
 - a. The design services performed by the Consultant Team; and
 - b. The Work to be performed by the various trade sub-contractors.
17. Develop procurement strategies and construction implementation phasing.
18. Determine the potential impact to the Project of applicable labour conditions and availability of materials.
19. Prepare a Commissioning Plan and Schedules for commissioning of all operating building components, systems and integrated systems at the appropriate phases of construction, so as to ensure coordinated, effective and efficient building operation (in conformance with the Commissioning Process);
20. Obtain and administer project guarantees, warranties and manufacturer's guarantees.
21. Provide advice on methods of construction as may be required from time to time by the Consultant Team.

2.2.3. Document Deliverables

1. Project Procedures Manual (PPM) including:
 - a. Quality Management Plan (QMP); and
 - b. CM Plans (CMA and CMc), including;
 - i. Respective Project Management Plans.
2. Quality Assurance reviews including:
 - a. Risk assessment input.
3. Tender Package program including:
 - a. Market conditions commentary;
 - b. Phasing opportunities;
 - c. Tender Package listing; and
 - d. Sub-Contractor listing.
4. Construction Schedule, including:
 - a. Procurement strategies and implementation plan.
5. Design and Construction Cost Estimate(s) and Budget.
6. Project Monitoring and Reporting:
 - a. Monthly and Quarterly Reports.
7. Commissioning Plan (Cx Plan).
8. Compiled Warranties and Guarantees.

2.3. Cost Management Services

2.3.1. General

1. The Departmental Representative manages all funding for the project, including budgeting, expenditures and progress payment approvals.
 - a. Refer to GP&S and Definitions documents for general information regarding project applicable Cost Management and Reporting Service requirements.

2. Review and provide comments on estimated costs provided by the consultant's quantity surveyor;
 - a. Reviews will be required at appropriate levels:
 - i. Preliminary Design, (Class D, +/- 20%);
 - ii. Schematic Design, (Class C, +/- 15%);
 - iii. Design Development, (Class B +/- 10%); and
 - iv. Tendering and the Construction/Implementation of each Tender Package, (Class A, +/- 5%).

2.3.2. Scope and Activities

1. Advise, make recommendations and submit documentation related to cost estimate planning associated with:
 - a. Construction feasibility, availability of materials and labour and time requirements for installation and construction;
 - b. Systems, assemblies, equipment, materials and specialty labour;
 - c. Alternate materials, construction techniques and installation methods;
 - d. Current pricing levels and trends in associated activities relating to the project;
 - e. Selection, availability and pricing of goods and services;
 - f. Insurance and bonding requirements;
 - g. Value Analysis/Engineering;
 - h. Life Cycle Costing; and
 - i. Construction Schedule acceleration opportunities.
2. Develop and submit for review, within 14 calendar days of award of contract a construction Master Cost Plan, made ready for Monthly and Quarterly Reporting.
 - a. Revise and refine the Master Cost Plan throughout the project life cycle:
 - i. Advise of deviations and seek and report on authorization as per the Departmental Representatives change process;
 - b. Monitor Project costs and expenditures against the Estimated Construction Cost limits and identify respective estimates variances;
 - i. Notify Departmental Representative of a cost estimate potential to exceed the Estimated Construction Cost limit.
 1. Provide recommendations for remedial action.
3. Track and log project costs and earned value/relative performance to project progress throughout the project life cycle.
4. Develop Budgets for each Tender work package.
 - a. Prepare tender package budgets as soon as major project requirements have been identified.
 - b. Update at various interim milestones, as agreed with the Departmental Representative.
 - c. Address all costs in Federal Fiscal Year (FY) format (April 01 to March 31 of the following year).

2.3.3. Deliverables

1. Cost estimate planning documentation.
2. Interim milestone cost estimates.
3. Project Cost/Earned Value Logs.
4. Master Cost Plan Reports.
5. Tender package estimates.

2.4. Schedule Management Services

2.4.1. General

1. Provide design and construction Schedule Management Services for the project.
 - a. Refer to GP&S and Definition documents for general information regarding project applicable Schedule Management Service requirements.

2.4.2. Scope and Activities

1. Develop and submit for review, within 14 calendar days of award of contract, a construction Master Schedule, made ready for Monthly and Quarterly Reporting.
 - a. Revise and refine the Master Schedule throughout the project life cycle:
 - i. Advise of deviations and seek and report on authorization as per the Departmental Representative's change process;
 - b. Monitor Project schedule against the Departmental Representative's estimated milestone deliverable dates and identify respective variances;
 - i. Notify the Departmental Representative of a potential for a deliverable to exceed a milestone date,
 - c. Submit to the Departmental Representative for review,
 - i. Recommendations for remedial action,
 - ii. Impact of delay, reasons for delay and proposed actions.
2. Advise, make recommendations and submit documentation related to:
 - a. Procurement strategies for equipment or materials to be pre-ordered to meet the Master Schedule; and
 - b. Means to avoid disruption to building occupants during construction.
3. In the event of schedule changes, indicate the impact and the reasons for such changes and submit proposed amendments to the Departmental Representative for review and acceptance.

2.4.3. Deliverables

1. Master Schedule planning documentation.
2. Master Schedule including:
 - a. Detail planning documentation and narrative.

2.5. Risk Management Services

2.5.1. General

1. The CMA, prepares and is responsible for the project specific Risk Management Plan which includes a Risk Register Profile and Response Plans.
 - a. Refer to GP&S and Definition documents for general information regarding project applicable Risk Management Service requirements.

2.5.2. Scope and Services

1. As part of collaborating on the planning of the Risk Management Program, Prepare, review, provide documented commentary and advise the Departmental Representative on the Risk Management Plan.
 - a. Track mitigation actions and results and compile a monthly report.
2. Advise on risks and recommend mitigation options.
3. Advise on issues of risk that integrate project planning with procurement planning and construction.

4. Identify and implement methodologies aimed at mitigating and minimizing the impact of construction activities on occupants and user department operations during construction.
5. Implement a claims avoidance program.

2.5.3. Deliverables

1. Risk Management planning documentation.
2. Monthly Risk Management Report.
3. Risk Management Program.

2.6. Quality Management Services

2.6.1. Scope and Services

1. Conduct Quality Assurance (QA) reviews during the design and construction, including participation in reviews of the systems, components, construction tools and techniques of the proposed design.
2. Ensure CM sub-contractors adhere to:
 - a. Industry standard practices while following the requirements of the construction documents; and
 - b. Professional conduct in all phases of the project, employing best practices for budget, schedule, quality, and scope management.
3. Participate in design meetings and workshops.
 - a. The Consultant Team shall facilitate the design meetings and workshops through the design process.
 - b. Attend design meetings and workshops to provide advice on various options being considered by the Consultant including:
 - i. Selection of materials, building systems and equipment;
 - ii. Constructability; and
 - iii. Coordination between all design disciplines.
4. Review and assist the Design Consultant with the development of construction drawings and specifications for each tender package at various stages acceptable to the Departmental Representative.
 - a. As part of QA activities, conduct design, documentation and technical QA reviews;
 - i. At Schematic Design, Design Development milestones; and
 - ii. At 99% stages of Construction Documentation associated with each Tender Package.
5. Track Quality Management (QM) actions and results and compile a monthly report.

2.6.2. Deliverables

1. Identification and definition of key activities and deliverables including;
 - a. Deliverable verification plan.
2. Monthly QM update and Report;
 - a. QM planned/actual actions and results.
3. QA Reviews.

2.7. Commissioning Services - General

2.7.1. General

1. Consider Commissioning a QA review activity, with deliverables, throughout the project life cycle;

- a. Derived from Interrelated Processes identified in the QMP, including Quality Planning, QA Planning and QC Planning - Tools and Methodologies.
2. Refer to Section 4 Roles and Responsibilities Matrix for further detail.
 - a. Prepare a Commissioning Process throughout the project lifecycle.
 - b. Ensure that all building systems work with one another to produce a functional and integrated facility.
 - c. Provide supporting documentation for review.
3. Carry out, unless noted otherwise, a total integrated building commissioning service on the basis of CSA Z320-11, Canadian Standards Association, Building Commissioning Standard and Check Sheets.
4. Provide a Commissioning Process Manager (CPM).

2.7.2. Scope and Services

1. Services are categorized into four milestones and associated deliverables;
 - a. Schematic Design (Section 2, CMA Required Services);
 - b. Design Development and Construction Documentation (Section 2, CMA Required Services);
 - c. Implementation/Construction (Section 2, CMA Required Services); and
 - d. Delivery Close-out (Occupancy, Operations and Acceptance).
2. Refer to Design and Construction milestones Sections 2 and 3 for any further respective Deliverables.
3. Confirm, in collaboration with, the Departmental Representative, Design Consultant and User Department commissioning requirements;
 - a. Document and submit commissioning relevant components of the Owner Project Requirements (OPR) document.
4. Throughout the project life cycle, with respective relevancy, increasing, detail accuracy, completion;
 - a. Assist the Design Consultant and Departmental Representative in determining the Basis of Design (BOD) fulfillment of the OPR objectives and criteria.
 - b. Collaborate with the Departmental Representative and the Design Consultant to assemble a Commissioning Team and establish and update;
 - i. Roles and responsibilities and scope.
 - ii. As part of the Cx Plan, the training plan, schedule, material content/outline, evaluation criteria, manual and deliverables listing.
 1. Deliverables - Electronic PDF to be hard copies and electronic, PDF – searchable optical character recognition (OCR), indexed and bookmarked.
 - iii. Partial Interim Acceptance Plan.
 - c. Prepare, implement and up-date;
 - i. Commissioning (Cx) Plan.
 1. Lead and assist Commissioning Team established in the Cx Plan.
 2. Submit to Departmental Representative for ongoing review.
 - ii. Cx Issues/Resolutions Log
 - iii. Cx Risk Assessment and Matrix - based on level of commissioning and project complexity and level of clarity.
 - iv. Cx Reporting format and content update;
 - v. Cx Manual;
 - vi. Training Plan; and
 - vii. Construction cost estimate and CX cost breakout.

2.7.3. Deliverables

1. Cx Plan.
2. Cx Issues/Resolutions Log.
3. Cx Risk Assessment.
4. Cx Reports.
5. Cx Manual.
6. Training and Evaluation Criteria Plans
7. Cx cost break out and breakdown.

2.8. Commissioning Services - Schematic Design Services

2.8.1. General

1. Design Consultant is responsible for the development of and throughout the project lifecycle the update of the;
 - a. Owner Project Requirements (OPR);
 - i. End state measureable and quantifiable goals including, commissioning benchmarks.
2. Design Consultant is responsible to lead the Basis of Design (BOD) throughout the project life cycle and verify fulfillment of OPR objectives and performance criteria.

2.8.2. Scope and Activities

1. Reviews and Workshops
 - a. Schematic Design
 - i. As part of Design Consultant stakeholders Workshops, organize and facilitate a commissioning focused Owner Project Requirements (OPR) session to;
 1. Review all preliminary design documents provided to the Design Consultants;
 - ii. Develop and deliver;
 1. Initial Cx portion of the OPR document;
 2. Initial Cx Team organization roles and responsibilities; and
 3. Initial Cx Report format/outline.
2. Participate in Design Consultant Schematic Design Report Workshop(s) to;
 - a. Review
 - i. Basis of Design (BOD) and Design documentation;
 - ii. Basis of Estimate (BOE) and Construction Cost Estimate breakdown including Cx cost breakout.
 - b. Update;
 - i. Commissioning Plan.
 - ii. OPR

2.8.3. Deliverables

1. BOD and OPR commissioning related contributions.
2. Cx Issues/Resolutions Log.
3. Cx requirements components of the OPR.
4. Schematic Design commentary.
 - a. Including Design Consultant's updated design documentation, BOD and BOE.
5. Cx Plan.
6. Cx Report.
7. Cx Risk Assessment and Matrix.

8. Construction cost estimate and Cx cost breakout.
9. Cx Team Organizational Chart and Roles and Responsibilities Matrix, including lines of communication.

2.9. Commissioning Services - Design Development and Construction Documentation Services

2.9.1. General

1. Notwithstanding required services for this Article, update Schematic Design Services Deliverables as may be required to reflect current level of accuracy and commitment.
 - a. As an iterative progressive service, assume the same scope and activities and roles and responsibilities as described in Schematic Design Services Article.

2.9.2. Scope and Activities

1. Prepare, update and make biddable, for review by the Departmental Representative and approval by the Design Consultant the following project related Specifications items;
 - a. Verification and Performance Testing procedures and sequence, forms and checklists;
 - i. CAN/CSA Z320 Checklists;
 1. Edit and create new project specific checklists as required.
 - b. Cx Plan to account for level of effort, scope, timelines and deliverables associated with the Cx Process.;
 - c. O&M and System Manual requirements; and
 - d. User Department training requirements and deliverables.
2. Reviews and Workshops
 - a. Facilitate Cx focused, all discipline, design and specification reviews at each iterative deliverable milestone during;
 - i. Design Development, and
 - ii. Construction Documents stages; 33%, 66%, 99% (Pre-Tender) and Tender.
 - b. Participate in regularly scheduled bi-weekly design meetings via teleconference, web conferencing or in person as required.
 - c. Participate in minimum of 3 on-site Integrated Design Workshops to be led by the Design Consultant.
 - i. Prepare and include in Workshops the Commissioning Team's Cx Plan.
 - d. Conduct QA reviews of Consultant's updated BOD and OPR documents.
 - e. Arrange and facilitate onsite Cx focused meetings to present review commentaries associated with each iterative deliverable milestone agreed upon with the Departmental Representative and Design Consultant for each of the design submission phases - Schematic Stage, Design Stage.
 - f. Review and assist the Design Consultant with the development of commissioning related specifications sections.
 - i. Complete National Master Specification (NMS) Cx related Specification Sections and/or Articles to support, at the minimum, the level of detail associated with the Design Consultant's progress submission.
 1. To reflect the CSA Z320 minimum standards and implementation guidelines, the NMS Commissioning specifications masters require significant edits and new Sections to be developed in collaboration with the CM Cx Process Manager (CPM) and Design Consultant.

- g. Facilitate integrated controls meetings with the Design Consultant team to ensure;
 - i. Sequences of operations are compatible, and
 - ii. Responsibilities for associated work are specified.
- h. Tender period.
 - i. Participate in developing addenda as may be required.
 - ii. Update and co-ordinate with the Design Consultant the Cx Plan and Specifications resulting from addenda.

2.9.3. Deliverables

1. Pre-Design and Schematic Design Services deliverables update.
2. Cx Specification Sections including;
 - a. Cx Plan;
 - b. Forms and Check Sheets associated with Static Verification, Start-Up and Function Performance testing.
3. Supporting commissioning addenda data.
4. QA Reviews.
5. Updated Training Plan.
6. Cx Issues/Resolution Log – updated.

2.10. CMa Tendering Services

2.10.1. General

1. Review tendering method with the Departmental Representative to select the most appropriate method to achieve value for money.
 - a. Provide the Departmental Representative with advance copies of CM trade subcontractors' contracts.
 - i. Include all Bidders' submission requirements and Bid Submission Forms.

2.10.2. Scope and Services

1. Develop the list of specific Phased Tender Packages with the Departmental Representative and the Design Consultant.
 - a. Provide a scope narrative for all Tender Packages.
 - i. Avoid gaps or conflicts between Tender Packages, the Work of the CM's Own Forces and between the work of all the CM's trades subcontractors.

2.10.3. Deliverables

1. Tender Package(s), complete with respective;
 - a. Narratives; and
 - b. Cost breakdown tables.
2. IDP and consultation CM Reports
3. Tender Package estimate(s).
4. Bid analysis and recommendations.
5. Detailed schedules.

3. REQUIRES SERVICES - CMc

3.1. General Requirements

3.1.1. General

1. In consultation with the Departmental Representative, develop and maintain a partnership, lines of communication and reporting between all members of the project delivery team and stakeholders throughout the project life cycle.
 - a. Update Project Procedures Manual (PPM)

3.1.2. Summary of Services

1. CMc, Construction Support Services for this project include as follows:
 - a. Cost Management Services;
 - b. Schedule Control Services;
 - c. Risk Control Services;
 - d. Quality Management Services;
 - e. Commissioning Services;
 - f. CM Tendering Services;
 - g. CM General Contractor Services; and
 - h. CM General Construction and Contract Administration Services.
 - i. CMA, Advisory Support Services for this project, see Section 2, Required Services CMA.

3.2. CMc General Contractor Services

3.2.1. General

1. Perform all the duties of a Construction/Implementation and Delivery Close-out General Contractor.
2. Manage the Work of the CM's Own Forces and trades subcontractors and ensure that the Work is carried out in accordance with the requirements of:
 - a. General Conditions (GCs) and Supplementary Conditions (SCs) of the Contract and as per Division 01, General Requirements document;
 - b. Tender Package specific Division 01, General Requirements; and
 - c. Terms of Reference (TOR) and supporting documents.
3. Prepare and up-date the Construction Management (CMc) Plan - construction milestone – see Definitions.

3.2.2. Scope and Services

1. For Work other than Work by Own Forces, tender for trade subcontractors and enter into sub-contract agreements compliant with industry recommended practices and RCMP contract administration practices.
 - a. Departmental Representative will provide a copy of the RCMP procurement and contract administration practices.
2. Provide and maintain full-time staff at the project site to:
 - a. Coordinate and provide general direction of the project and progress of the trade subcontractors on the project;
 - b. Provide Quality Assurance (QA), monitoring and reporting throughout the construction stage of the project;
 - i. Rectify issues identified by the CM QA process or Design Consultant.
 - c. Coordinate access to project Work by trade subcontractors in the existing facility with the Departmental Representative or designate.

- i. The Departmental Representative mandate is to ensure uncompromised daily operations.
 - d. Establish onsite organization and lines of communications in order to carry out the work of the project as may be directed by the Departmental Representative.
- 3. CM's General Contractor "Own Forces" work.
 - a. The CM shall identify labour and material, which is beyond trade scopes.
 - b. This work shall be included in the trade tenders as "Not Withstanding Clauses" only.
 - c. Continue with responsibility for:
 - i. Division 01 as per CM contract with RCMP;
 - ii. Completeness of Tender Packages; and
 - iii. Delivery of the trade subcontractor packages and construction phase responsibilities identified in the TOR.
- 4. There will be no "Own Forces Work" mark-up extra to the CM's Contract.

3.2.3. DIVISION 01 – General Requirements

- 5. In addition to adhering to the project administration requirements contained in this TOR, comply with the general requirements contained in the Division 01 Document for a smooth and safe operation and coordination of the site.

3.2.4. Deliverables

- 1. Construction Management (CMc) Plan.
- 2. QA Reports - monthly

3.3. CMc Tendering Services

3.3.1. General

- 1. Proceed with procurement method as agreed upon with the Departmental Representative.
 - a. Consider at least three to five bidders either:
 - i. Experienced in the work; or
 - ii. Through public advertisement to the industry using methods acceptable in Saskatchewan.
 - b. Design Consultant, in collaboration with CM, will:
 - i. Document pre-tender site visit meetings and question/answer responses; and
 - ii. Prepare addenda.

3.3.2. Scope and Activities

- 1. Undertake tendering of trade packages in accordance with the General Conditions of the CM contract, and as agreed upon by the Departmental representative;
 - a. Include as part of each tender, Bidders' Requirements and as part of a Bid Submission to complete a cost breakdown table.
 - b. Coordinate the preparation of Tender Package specific Divisions 00 and
 - i. Ensure facilities and services being provided to subcontractors are identified.
 - c. Endeavour to ensure that a minimum of three bids are received for every tender package issued, and
 - i. In the event that fewer than three bids are received on any tender package, RCMP reserves the right to require the CM to re-tender the

respective tender package, unless prior acceptance has been issued by the Departmental Representative.

2. Issue all addenda in writing (no oral information):
 - a. Ensure in Instruction to Bidders that requests for information regarding a Bid Solicitation, be submitted in writing to the CM at least four (4) calendar days before Solicitation Closing Date;
 - b. Addenda to Tender Documents are to be issued through the Bid Depository (if applicable), or as otherwise agreed upon, to all recipients of the Tender Documents;
 - c. Ensure bidders receive all addenda and that they are listed as part of the CM Bid Submission Form; and
 - d. Endeavour to issue addenda no later than three (3) calendar days before the tenders close.
3. Receive and open Tenders at the agreed upon location:
 - a. Analyze the bids for each tender package to determine if the work should be awarded or if changes are required to keep costs within the budget;
 - b. Make recommendations for alternate strategies, in the event that the low bid exceeds the budgeted amount;
 - c. Prepare a tender package summary including;
 - i. Names of all Subcontractors invited and participating,
 - ii. List of all tender documents including addenda, and
 - iii. Results.
4. If the low bid on a tender package exceeds the CM's Construction accepted Cost Estimate (Class 'A' level) by more than 5%:
 - a. Re-tender the tender package if;
 - i. No satisfactory reduction can be negotiated with the low bidder, or
 - ii. If the desired price reduction entails significant changes in the scope of work or the character of the design.
5. If re-tendering is required, the CM shall:
 - a. Collaborate with the Design Consultant and the Departmental Representative to issue tender package revisions, substantiated by an Estimated Construction Cost;
 - b. Re-issue the package for tender.
6. Pre-Ordered equipment or other items:
 - a. Review all tender packages for long delivery items which may warrant pre-ordering; and
 - b. All pre-ordered equipment or items shall be specified by the Consultant.

3.3.3. Deliverables

1. Sub-Contractor contracts.
2. Tender, tender opening and contract award.
3. Monthly Reports.

3.4. CMC, General Construction and Contract Administration Services

3.4.1. General

1. Fulfill the obligations as General Contractor responsible for:
 - a. Trade subcontractors, suppliers and any maintenance or operational requirement contractors that require access to the site; and
 - b. Constructor / Prime Contractor in accordance with the Provincial Health and Safety Act.

2. The CM's Own Forces shall only be permitted for individual work package coordination activities less than \$25,000 value with the specific approval of the Departmental Representative where there is fair value to Canada.

3.4.2. Scope and Services

1. Construction Work.
 - a. When construction Work is duly authorized and assigned to the CM's contract agreement, the CM must:
 - i. Provide and be responsible for the development, coordination and management of all Work and Services included in Division 01 in the CM Agreement.
2. CM General Contractor Services.
 - a. Provide equipment and resources as required to perform the services.
 - b. Procure, coordinate, administer and manage all construction work and contracts as interdependent parts.
 - c. Prepare and execute contracts with the successful trade subcontractors:
 - i. Coordinate and manage the respective contracts in an integrated manner to avoid any conflicts between the Work of the trade subcontractors;
 - ii. Coordinate, manage and complete all the Work of each trade subcontractor's tender package in adherence to the approved drawings and specifications of each tender package, including all addenda and authorized change orders;
 - iii. Develop and implement a procedure for review, certification, processing and payment of trade subcontractors in accordance with the terms and conditions of the CM Agreement;
 - iv. Schedule and conduct progress meetings at which trade subcontractors, RCMP, Consultant Team and the CM can jointly discuss such matters as procedures, progress, problems and scheduling, and
 - v. Provide timely responses to correct issues, as they occur.
 - d. Complete the Work of the CM's Own Forces in adherence to Division 01 of the CM agreement and/or in accordance with the approved scope of Work.
 - e. Maintain a Daily Log, listing, as a minimum: weather conditions; visitors; workforce; by trade and number of employees; safety issues; and any other major issues.
 - f. Keep current As-Built documentation:
 - i. Record accepted changes that occur during construction; and
 - ii. Make ready for the Design Consultant to complete Record documents.
 - g. Prepare lists of incomplete and deficient items "punch list":
 - i. Schedule completion of these items with the trade subcontractors and distribute all lists as appropriate.
 - h. Distribute interim and final completion certificates.
 - i. Arrange with the Departmental Representative for the issuance of necessary forms respecting interim and final completion of the work
3. Cost Management Services (provide as an Interrelated CMa Service).
 - a. Provide updated cost information for monthly/quarterly reports, as outlined in the "Cost Management Services" heading of this Section.
4. Schedule Management (provide as an Interrelated CMa Service).
 - a. Provide updated schedule information for monthly/quarterly reports, as outlined in the "Schedule Management Services" heading of this Section.

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5. Quality Management Services (provide as an Interrelated CMA Service).
 - a. Provide, as part of the Project Procedures Manual (PPM), updated results of implementing the QMP and the QP, QA and QC components of QMP for monthly/quarterly reports, as outlined in the “Quality Management Services” heading of this Section.
 - i. Ensure that Quality Assurance measures are implemented and that impacts on the project are minimized.
6. Health and Safety.
 - a. Continue responsibly for the development, implementation and maintenance of the Healthy and Safety associated with the project Work.
 - i. Be the Constructor / Prime Contractor as defined in the Occupational Health and Safety Act of Saskatchewan.
 - ii. Ensure full compliance with the applicable Occupational Health and Safety Regulations in effect in Saskatchewan.
 - b. Provide full health and safety protection afforded under the Canada Labour Code to all visitors to the site, including workers, staff, contractors and the general public.
 - c. Provide appropriate safeguards to ensure safe protection and security of materials and holdings on the site.
 - d. Comply with Workplace Hazardous Materials Information System (WHMIS) and all other applicable regulations with respect to hazardous materials to ensure that:
 - i. Designated hazardous materials are treated, handled and stored as per legislated requirements, codes and industry practices.
 - e. Ensure exposure to fumes is within acceptable health and safety limits.
7. Shop Drawings.
 - a. Provide, as part of the Project Procedures Manual – document control, a schedule and log, complete with commentary, of shop drawing submissions/re-submissions for each tender package.
 - b. Provide updated quarterly reports for each Tender Package as per GP&S, Quarterly Up-date Reporting Outline.
 - c. Check and certify correct for construction:
 - i. Forward to Design Consultant for review before forwarding to the Departmental Representative for review and returning to the subcontractor; and
 - ii. Stamp documents with “Checked and Certified Correct for Construction”;
 1. Design Consultant stamp will include “Reviewed”.
 - d. Review, discuss, record problems and identify agreed remedial action.
 - e. Monitor and record the progress of shop drawing review.
 - i. Record, as related to shop drawings, in the Issues/Resolutions Log, parties designated for action and follow-up.
 - f. In compliance with the Project Procedures Manual - Record Management and Control, on completion of project, forward reviewed shop drawings to the Departmental Representative.
 - g. Verify that shop drawings include the project number and are recorded in the same sequence as the O&M and Systems Manual.
 - h. Verify the number of copies of shop drawings required; and
 - i. Provide additional copies for the RCMP.
 - i. Expedite the processing of shop drawings in a timely manner.

8. Sustainable Development.
 - a. Co-operate with all members of the project team in contributing to the achievement of the sustainable construction requirements.
9. Permits and Approvals.
 - a. Continue responsibility for coordinating, paying and obtaining all permits and approvals from local and statutory authorities;
 - i. Liaise with local and statutory authorities with respect to hoarding, traffic restrictions, services and associated diversions and/or connections;
 - ii. Inform the Departmental Representative of their requirements to inform any statutory body via applications or orders;
 - iii. Ensure that all applications are filed and executed successfully; and
 - iv. Verify that all necessary approvals have been obtained.
10. Post Construction and Warranty Stage.
 - a. Coordinate trade subcontractor activity to provide final Record Documents (Operations and Maintenance Manuals, As-built drawings and specifications) as required for each trade:
 - i. Assemble Record Documents in whole packages per tender packages, trades or as directed by the Departmental Representative; and
 - ii. Provide copies of Record Documents and updated records to the RCMP as including compliance to PSPC AutoCAD Standards.
 - b. Review and verify the accuracy of warranties and guarantees:
 - i. Before completion of work, collect all manufacturer's guarantees, and warranties, complete with relevant contract numbers, and submit to the Departmental Representative for review and acceptance: and
 - ii. Ensure that warranties and guarantees are included in the Operation and Maintenance Manuals.
 - c. Within ten (10) months of the commencement of the warranty period, arrange for an inspection of the facility to determine all deficiencies to be corrected:
 - i. Prepare a deficiency list for review and acceptance by the Departmental Representative;
 - ii. Provide a schedule indicating when correction of all deficiencies covered under the warranty will be corrected and submit to the Departmental Representative for review and acceptance;
 - iii. Arrange for and correct all identified deficiencies in accordance with the schedule and advise when all deficiencies have been properly corrected; and
 - iv. Ensure that all warranty deficiencies are properly corrected in a timely manner.
 - d. Provide information and advice during the post construction evaluation sessions.
11. Arrange for all key CM staff and representatives from the CM's key trade subcontractors to attend a one-day Post Construction Evaluation session, at a time and place to be determined with the Departmental Representative.
12. Deliver As-Built documents to the Design Consultant to produce Record construction documentation.

3.4.3. Deliverables

1. Refer to "Commissioning (Cx) Services" heading of this Section for further Cx Deliverables.

2. Project contracts corresponding to the Construction Documentation such as drawings, specifications, addenda, change orders and contract amendments.
3. Daily Logs.
4. Shop Drawings; including all logs and quarterly Reports.
5. As-Built documents.
6. Operations and Maintenance (O&M) and Systems Manual.
7. Punch List.
8. Reporting:
 - a. Cost Management;
 - b. Schedule Management;
 - c. Quality Management;
 - d. Risk Management;
 - e. Waste Management;
 - f. Health and Safety.
9. Updated construction-related documentation, including:
 - a. Project contracts and corresponding Construction Documentation such as drawings, specifications, addenda, change orders and contract amendments;
 - b. Project correspondence;
 - c. Samples, purchases, materials and equipment;
 - d. Trade subcontractors data;
 - e. Health and Safety Plan;
 - f. Material Safety Data Sheets (MSDS);
10. Cx Issues/Resolutions Log.
11. Input to/Review of Design Consultant overall project Issues/Resolutions Log.

3.5. Commissioning Services – Implementation (Construction) Phase

3.5.1. General

1. Notwithstanding CM contract with the Crown to carry out Division 01, General Requirements, coordinate and direct the Commissioning Activities in a logical, sequential and efficient manner.
2. Provide on-going consultation with design and construction teams in support of their specified commissioning deliverables.

3.5.2. Scope and Activities

1. Generate and update a schedule of commissioning activities as part of the regular monthly report on the Cx Plan.
2. Conduct site visits and attend site construction meetings to assist in identifying discrepancies and remedies.
3. Review request for information and change order for impact on commissioning.
4. Document all reviews and submit to Departmental Representative:
 - a. Updated Cx Issues/Resolutions Log.
5. As a lead member of the Commissioning Team assist the Team:
 - a. On a construction phase basis;
 - i. Areas where systems are required to be operational;
 - ii. Assist with certifying installations are completed and functioning as per the Cx Plan and OPR;
 - b. On a Cx Plan basis;
 - i. Assist Design Consultant with managing the Contactor's execution and contract closeout submissions, such as, manuals, warranties, extended warranties, and manufacturer's guarantees.

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- c. Subcontractor's submittals,
 - i. Copy CPM and Design Consultant,
 - ii. Verify submittals such as,
 - 1. Coordination drawings, shop drawings, O& M and Systems Manual(s), product samples, schedules and any other project submittals.
 - iii. Co-ordinate review comments with the Design Consultant.
 - d. Develop and complete construction checklists for commissioned equipment and systems.
 - i. 100% of the equipment must be tested and inspected. Representative sampling for equipment commissioning is not acceptable.
 - e. Provide, as per CSA Z320-11, Interim Acceptance and Facility Turnover recommendation document.
6. Review and Meetings
- a. Distribute minutes to the Departmental Representative and Design Consultant for any further redistribution as may be required.
 - b. Conduct an onsite pre-construction commissioning meeting with the Cx Team including the consultant team and appropriate contractors. Agenda to include:
 - i. Commissioning Issues/Resolutions Log
 - ii. Cx Plan;
 - 1. Compare CPM with Subcontractors' Cx Plans
 - c. OPR, and BOD update review.
 - d. Coincidental with construction meetings, organize and lead regularly scheduled on-site, bi-weekly commissioning meetings including:
 - i. Field reviews complete with reports verifying installation of systems and assemblies in accordance with OPR and Cx Plan;
 - ii. Conduct on-site bi-weekly commissioning meetings as per the CPM's Commissioning Plan; and
 - iii. Review with the Design Consultant the Contractor's standard submittals for enhanced commissioning.
7. Verification and Testing
- a. Oversee, in collaboration with the Design Consultant the subcontractors' coordination of equipment, systems and assembly, site testing and verification processes.
 - i. Ensure activities are accordance with the Cx Plan.
 - b. Provide testing and verification services such as:
 - i. Witness all site commissioning tests for all equipment, systems and assemblies identified in the Commissioning Plan;
 - ii. Review all factory test reports and data for compliance with the Owner's Project Requirements and the Commissioning Plan;
 - iii. Review and verify all commissioning test results and reports;
 - iv. Ensure all test procedures and results are recorded and documented in compliance with the Commissioning Plan;
 - v. In collaboration with the Design Consultant, support Contractor, as may be deemed suitable, to organize and lead testing and balancing activities;
 - vi. Verify submittals from Contractor, at each construction phase;
 - vii. Provide verification of final reports upon completion of the entire project; and

- viii. Coordinate seasonal commissioning for those systems that have been functionally tested and/or handed over in seasons where retesting and commissioning will be required during the opposite season.

8. Training

- a. Coordinate, as an Interrelated CMA Service, with the RCMP, Design Consultant and Contractor, a training plan and training schedule. Incorporate a complete system and assembly review of operational procedures, set points and maintenance requirements.
- b. Assist the coordination between the Design Consultant and the subcontractor with their provision of draft O&M Manuals (or complete Manuals as available) for the purposes of the training sessions.
- c. Collaborate as an Interrelated CMA Service with PSPC's commissioning guide to oversee and evaluate the subcontractor's training sessions between the Contractor and the RCMP's facility management and operations personnel.
 - i. Ensure attendees sign an attendance sign-in sheet.
 - ii. Verify that training is provided by the appropriate equipment manufacturer's representative.
 - iii. Verify the training requirements have been met.
- d. Oversee, in collaboration with the Design Consultant, the Contractor's development of a training manual (electronic & hard copy) including applicable videos and photos for existing and future personnel to use for future training seminars.
 - i. Material to be user friendly, electronically searchable, contain indexes and provide component, system and interrelated system references including the necessary maintenance requirements.

9. Substantial Performance

- a. Lead and facilitate Cx Team's Interim Acceptance/Substantial Performance Cx Manual, including the Cx Report sign off, on items, such as, those outlined in CSA Z320-11.
 - i. Include control sequence documentation.
- b. Collaborate, as an Interrelated CMA Service with the Design Consultant and the Departmental Representative in determining the number of expected commissioned Partial Interim Acceptances. Refer to Construction Options Analysis Report, Option 3.
 - i. Coordinate Partial Substantial Performance with the completed and occupied Work phases.

10. Facility Turnover

- a. Lead and facilitate Cx Team's Facility Turnover recommendation sign off, at the minimum, on items, such as, those outlined in CSA Z320-11.

11. Cx Report (Interim Acceptance/Substantial Completion Cx Report)

- a. Provide a Commissioning Report for the Departmental Representative and Design Consultant review and required revisions.
 - i. Refer to the Definitions document for minimum contents.

3.5.3. Deliverables

- 1. Review documentation;
- 2. Updated to post occupancy;
 - a. Cx Report format.
 - b. Cx Manual including elements such as;
 - i. Overview;

- ii. BOD and OPR and/or extracts associated with Cx
 - iii. Cx Plan
 - iv. Cx Report; and
 - v. Test Reports
 - c. Cx Issues/Resolutions Log and supporting narratives
 - d. Construction cost estimate and CX cost breakout
 - e. Cx Risk Assessment and Matrix;
 - f. Construction cost estimate and CX cost breakout.
- 3. Cx meeting minutes.
- 4. Provide construction checklists for commissioned equipment and systems.
- 5. Progressive/iterative Commissioning Schedule updates.
- 6. Schedule of commissioning activities
- 7. Cx Report.
 - a. Outline and content as per CSA Z320-1.
- 8. Training Manual (hard copy and electronic).

3.6. Commissioning – Delivery Close Out (Occupancy Operations & Acceptance) Phase

3.6.1. General

- 1. In collaboration with the Design Consultant coordinate corrections and re-testing as necessary until performance is in compliance with construction documents.
- 2. Throughout the occupancy and acceptance phase consult with the RCMP's operational personnel at appropriate intervals to determine that commissioned systems are operating properly and evaluate if additional personnel training may be required.

3.6.2. Scope and Activities

- 1. Oversee and document;
 - a. Deferred seasonal testing by the Contractor.
 - i. Design Consultants' and Sub-Contractors' post-occupancy Functional Performance Testing;
 - ii. Evaluate and document energy and operational performance as compared to designed performance defined in the updated BOD, OPR and Construction Documents. Evaluations will occur at:
 - 1. Three (3) months; and
 - 2. Ten (10) months of warranty expiration.
 - iii. Resolutions of any warranty issues on commissioned systems during the warranty period(s).
 - b. In collaboration with the Design Consultant and Departmental Representative finalize Commissioning Report.
 - c. Prepare Final Commissioning Report at end of warranty period.
 - d. Collaborate with the Departmental Representative on the Representative's development of the RCMP Cx Evaluation Report.
- 2. Ongoing Consultation;
 - a. Provide ongoing consultation with the design and construction teams in support of their project closeout activities and submittals related to systems and assemblies commissioning specific deliverables in compliance to the Commissioning Plan, Commissioning Specifications and Owner's Project Requirements (OPR).
 - b. Attend regularly scheduled proposed bi-weekly construction closeout meetings including consultants, contractors, subcontractors and suppliers.

- c. Provide assistance to the Design Consultant in certifying that all installations have been completed and function in accordance with the Cx Plan, OPR and the Design Consultant's Basis of Design (BOD).
 - i. Design Consultant will update BOD and OPR as required.
 - d. As per the Commissioning Plan, assist the Design Consultant in ensuring that all completed operating and maintenance manuals, warranties, guarantees and other required submittals are turned over to the RCMP.
 - e. Update the Cx component of the OPR and the Commissioning Plan to record any final changes or adjustments after occupancy, for inclusion in the final Commissioning Report.
 - f. Compile Final Commissioning Manual with, at the minimum, updated contents as outlined in CSA Z320-11.
3. Deferred Testing
- a. Coordinate deferred commissioning for those systems that have been functionally tested and/or turned over where retesting and commissioning is required.
 - b. Witness onsite deferred testing as per the Commissioning Plan.
4. Deferred Training
- a. As per the training plan and in consultation with the RCMP, coordinate post occupancy training for any systems and assemblies where there are for example seasonal differences in operating parameters and/or where deferred testing is required.
 - b. Incorporate into the Training plan a complete system and assembly review of operational procedures, set-points and maintenance.
 - c. Confirm training sessions are coordinated between the Design Consultant, Contractor and the RCMP's facility managers and operations personnel.
 - d. Ensure attendees sign an attendance sheet.
 - e. Verify that training is provided by the appropriate equipment manufacturer's representative.
 - f. Verify the training requirements have been met.
5. Lessons Learned
- a. Collaborate with the Design Consultant to arrange a Lessons Learned workshop.
 - b. Develop and present Cx related material.
 - c. Attend and assist facilitating and onsite workshop.
 - i. Design Consultant remains accountable for workshop deliverables.
6. Commissioning Manual;
- a. Prepare and submit Final Cx Manual, at the minimum, those items outlined in CSA Z320-11 and in addition;
 - i. Refer to Definitions document, Cx Report;
 - ii. Contractor's project "as-built" documents; and
 - iii. All necessary documentation to permit a recommissioning of the entire facility in future and a return to all original "as- commissioned" operating parameters.

3.6.3. Deliverables

- 1. Final CX Report including Final Cx Manual, updated from when Work was considered to have reached Substantial Performance.
- 2. Compilation of the following items;
 - a. All system schematics (single line drawings);

- b. Control strategies and set points;
 - c. Final post-occupancy energy and operational performance results, including variances; and
 - d. Guidelines for energy accounting.
3. O&M and Systems Manuals(s).
 4. Training Manuals.
 5. Lessons learned.

4. ROLES AND RESPONSIBILITIES MATRIX

4.1. General

4.1.1. General

1. Project related roles and responsibilities common to the Departmental Representative (DR), Design Consulting Team (CT) and Construction Manager (CM).
 - a. Common roles and responsibilities are not an exclusion to the associated interdependencies, initiatives, resourcing and communication requirements of carrying out the Required Services.
 - b. Regarding the Commissioning (Cx) Process, the Matrix represents;
 - i. CM, in CMA and CMc service categories, assumes a Lead role in Commissioning (Cx).
 - ii. Design Consultant Team (CT), without relinquishing Professional project accountability and collaboration, assumes a Supportive role.

Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND		A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.		
		L - Leads	Responsible to direct & accountable to achieve the work and for the results.		
		S - Supports	Contributes subject matter expert resources to complete the work.		
		I - Informed	Being informed by Lead of work progress.		
		NR No Role			
		DR - Departmental Representative CT - Design Consulting Team CM - Construction			
		Phase Description/Work Product	DR	CT	CM
SP		Pre design period; Concept & Schematic Period			
SP	1	Partnering Workshop	L	S	S
SP	2	Lines of Communication & Roles & Responsibilities	L	S	S
SP	3	Owner Project Requirements (OPR)	A	L	S
SP	4	Review Owner Functional & Operational Program	S	L	S
SP	5	General Risk and Complexity Analysis	A	L	S
SP	6	Cx Risk Assessment and Matrix	A	S	L
SP	7	Review As-Builts, Current Design and Site Condition Review (Surveys, GeoTech Reports)	I	L	I
SP	8	Introductory CM Project Procedures Manual (PPM) , including Construction Management (CMA & CMc Plans), QMP and Master Schedule ¹	A	S	L

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Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					
		Phase Description/Work Product	DR	CT	CM
SP	9	Project Team Task Analysis and Deliverables	I	L	S
SP	10	Integrated Project Delivery Workshop	A	L	S
SP	11	Design Kickoff Meeting	I	L	S
SP	12	Schematic Design and Report Review	A	L	S
SP	13	Basis of Design (BOD) support document	A	L	S
SP	14	CM Plan Update	A	S	L
SP	15	Prepare Construction Cost Estimate (+/-15%)	A	L	S
SP	16	Prepare & Submit Initial Construction Budget/Schedule	A	S	L
SP	17	Identify Long Lead Items, prepare orders	A	S	L
SP	18	CM Initial Cx Plan	A	S	L
SP	19	Apply for & track all Regulatory Permits Requirements	I	S	L
DP	Design Development Period				
DP	1	Pre-design period Meeting Minutes	A	L	S
DP	2	Design Development & Review Report	A	L	S
DP	3	OPR & BOD Updates	A	L	S
DP	4	Project Procedures Manual (PPM) Update	A	S	L
DP	5	Risk Identification and Mitigation & Management Program Update	A	S	L
DP	6	Cx Risk Assessment and Matrix, up-date	A	S	L
DP	7	Prepare Construction Cost Estimate (+/-10%)	A	L	S
DP	8	Prepare & Submit Initial Budget/Schedule	A	S	L
DP	9	Design Drawings and Outline Specs Submission(s)	A	L	I
DP	10	QA Reviews	L	S	S
DP	11	Response to QA	S	L	S
DP	12	Integrated Project Delivery Workshop	A	L	S
DP	13	Constructability Review Workshop & Report.	A	S	L
Roles and Responsibilities Matrix - CM as Advisor & Contractor					

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LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					
		Phase Description/Work Product	DR	CT	CM
DP	14	Value Engineering Workshop Review & Report	A	S	L
DP	15	Life Cycle Costing	A	S	L
DP	16	Cx Plan Update	A	S	L
DP	17	Update Design Schedule	A	L	S
DP	18	Update Project Schedule	A	S	L
DP	19	Construction Document & Review Report (33%, 66% and 99% submissions)	L	A	S
DP	20	QA Reviews	L	S	S
DP	21	Response to QA	S	L	S
DP	22	Submit Design for Building Permit Review	A	S	L
DP	23	Project Procedures Manual - CM Plan Update	A	S	L
DP	24	Risk Identification and mitigation & Management Program Update	A	S	L
DP	25	Prepare Respective Construction Cost Estimate (+/-5%)	A	L	S
DP	26	Prepare & Submit Updated Construction Budgets/Schedules	A	S	L
DP	27	Constructability Review & Report.	A	S	L
DP	28	Obtain Code AHJ Review Approval	A	L	S
DP	29	CM Construction Plan Kickoff Meeting	L	S	S
DP	30	Construction Planning & Delivery Methods	A	S	L
DP	31	Prepare & Review of Sample Contracts/ Agreements/Division 01	S	S	L
DP	32	Early Tender - Order Long Lead Items, Material/Fabrication & Industry Design Assistance to Project.	S	S	L
DP	33	CM Tender Process & Contracting Plan	A	S	L
DP	34	CM Tender Sub-Contractor Work Package Plan & Respective Class A Estimates	A	L	S
Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					

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		Phase Description/Work Product	DR	CT	CM
DP	35	Develop & produce Tender Package specific contract documents including; drawings, specifications & Division 01.	A	L	S
DP	36	CM Tender Document Packages Compilation.	S	S	L
DP	37	CM Own Work Force Div 01 Work Plan	A	S	L
DP	38	Regulatory Approvals, Permits & Licenses Applications.	I	L	S
DP	39	Cx Plan Update	A	P	L
DP	40	Cx Verification Checklists & Test Procedures and Forms	S	L	S
DP	41	CM Bid / Award	A	S	L
DP	42	Develop Sub-Contractor Bid List, Tender Advertisement.	A	S	L
DP	43	Review & approve bid documents	A	S	L
DP	44	Develop General Contractor Bid List and Tender Advertisement	A	S	L
DP	45	Distribute Bid Documents	I	I	L
DP	46	Pre-Bid Conference	I	S	L
DP	47	Prepare & Distribute Minutes	I	S	L
DP	48	Prepare Addenda	A	L	S
DP	49	Schedule & Coordinate Bid Openings	I	S	L
DP	50	Receive, Open & Record Bids	I	S	L
DP	51	Review Bids and Provide Cost Analysis	I	S	L
DP	52	Review Sub-Contractors	I	S	L
DP	53	Sub-Contractor Contract Award	A	S	L
DP	54	CM Plan Update	A	S	L
DP	55	Risk Identification and Mitigation & Management Program Update	A	S	L
DP	56	Construction Cost , Cash Flow and Schedule Updates	A	S	L
Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					
		Phase Description/Work Product	DR	CT	CM
CP		Construction & Administration Period			
CP	1	Project Procedures Manual Update including, Construction Management (CMC) Plan – Construction milestone	A	S	L
CP	2	Review/Approve Sub-Contractor Schedule of Values Breakdown	A	S	L
CP	3	Review/Approve CM Own-Forces Schedule of Values Breakdown	A	L	S
CP	4	Review Sub-Contractor's Progress Schedule	S	L	A

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CP	5	Review/Approve Own-Forces Schedule of Values Breakdown	A	L	S
CP	6	Recommend Progress Claim & Payment Approval	A	L	S
CP	7	Pre-Construction Meeting	S	L	S
CP	8	Integrated Cx activities into Project Schedule	A	S	L
CP	9	OPR and BOD update	A	L	S
CP	10	Manage RFI process	A	S	L
CP	11	Submit Change Request	A	S	L
CP	12	Evaluate/Negotiate/Recommend Change Request	A	L	S
CP	13	Change Orders	A	L	S
CP	14	Track & Distribute Documents	S	L	S
CP	15	Review/Approve submittals	S	L	A
CP	16	Review Shop Drawings	S	L	A
CP	17	Approve Test Reports	I	S	A
CP	18	Prepare Change Request Plans & Specs	S	L	S
CP	19	Weekly Project Progress Meetings	S	S	L
CP	20	Meeting Minutes, Construction Cost Estimate & Status Reports	I	S	L
CP	21	CM Construction Budget & Schedule	I	S	L
CP	22	Sub-Contractors' Progress Schedules	I	S	L
CP	23	Progress Payment to Date	A	L	S
Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					
Phase Description/Work Product			DR	CT	CM
CP	24	Cx Plan and Cx Issues/Resolutions Log Update	A	S	L
CP	25	Cx Risk Assessment and Matrix, Update	A	S	L
CP	26	Field inspections re: Testing, Warranty, AHJ, Regulatory Agencies	I	S	L
CP	27	Testing and inspection services for envelop, roofing, concrete, compaction	I	S	L
CP	28	Construction Photographs	I	A	L
CP	29	Prepare "As-Built" Plans and Specifications ("Record" Plans & Specs by CT)	I	A	L
CP	30	Coordinate Partial Interim Acceptances/ Substantial Completions & Certificates	A	L	S
CP	31	Track All Permits	A	S	L

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CP	32	Track All Project Documents	S	L	S
CP	33	Review CM Invoices	A	L	S
CP	34	Prepare O&M Manuals	S	A	L
CP	35	Develop and Conduct Training	A	L	S
CP	36	Cx Process	S	S	L
CP	37	Cx Progress Meetings	S	S	L
CP	38	Update Cx Plan submission.	A	S	L
CP	39	Submit Cx Forms	S	S	L
CP	40	Witness and document Static Verification	I	A	L
CP	41	Witness and Document Scheduled Start-Up	I	A	L
CP	42	Witness and document Functional Performance Testing	I	A	L
CP	43	Prepare and update Cx Issues Log	I	A	L
CP	44	Resolve Cx issues resulting from all tests	S	A	L
CP	45	Prepare Cx report submission.	A	S	L
Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
DR - Departmental Representative CT - Design Consulting Team CM - Construction					
Phase Description/Work Product			DR	CT	CM
CP	46	Prepare Cx Manual submission.	A	S	L
CP	47	Verify and review training Plan.	A	L	S
CP	48	Conduct Training	A	S	L
CP	49	Assemble data for Operations and Maintenance Manuals	S	S	L
CP	50	Review O&M Manuals.	S	A	L
CP	51	Partial Substantial Completion	A	L	S
		Substantial Completion	A	L	S
CO		Close Out Period			
CO	1	Conduct pre-final inspection	A	L	S
CO	2	Prepare / consolidate Punch list(s)	S	L	A
CO	3	Complete Punch list Items	S	A	L
CO	4	Coordinate Code Inspection	A	L	S
CO	5	Plan, Schedule & Control Final Inspection by All Parties Incl. Regulatory Agencies	A	L	S
CO	6	Provide Maintenance & Operating Manuals	I	A	L
CO	7	Provide All Guarantees & Reports	I	A	L

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CO	8	Assemble & Approve Close-Out Documents	I	A	L
CO	9	Evaluate As-Built Plans	I	A	L
CO	10	Prepare Record Set Drawings	A	L	S
CO	11	Sign "Certificate Of Final Completion"	A	L	S
CO	12	Final Contract Acceptance	A	L	S
CO	13	All Permit closeouts	I	A	L
CO	14	Occupancy certificate	A	L	S
PO	Post Occupancy Period				
PO	1	Resolve Outstanding Cx issues	S	A/S	L
PO	2	Perform Seasonal/ Deferred Testing	I	A	L
Roles and Responsibilities Matrix - CM as Advisor & Contractor					
LEGEND	A - Accepts	Acceptance authority, sign-offs on the work and results provided by Lead.			
	L - Leads	Responsible to direct & accountable to achieve the work and for the results.			
	S - Supports	Contributes subject matter expert resources to complete the work.			
	I - Informed	Being informed by Lead of work progress.			
	NR No Role				
	DR - Departmental Representative CT - Design Consulting Team CM - Construction				
	Phase Description/Work Product		DR	CT	CM
PO	3	Resolve Cx issues from seasonal/deferred testing	I	A	L
PO	4	Update Cx Issues/Resolutions Log from seasonal/ deferred testing	I	A	L
PO	5	Complete final Cx report	A	S	L
PO	6	Provide Post-Occupancy Assistance	L	S	S
PO	7	Correct Warranty Issues	A	S	L
PO	8	Lessons Learned	L	S	S

Integrated Training Facility Project

Construction Management Services
Terms of Reference (TOR) Definitions

Construction Management
Terms of Reference (TOR) Definitions

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1. DEFINITIONS

1.1. General

1.1.1. Purpose

1. Terms of Reference (TOR) Definitions.
 - a. (TOR) Definitions (Attachment 3 to Annex A), Division 01 (Attachment 1 to Annex A), and General Requirements, Specifications, Procedures and Standards (GRSP&S) (Attachment 1 to Annex A) documents ensure a clear understanding of the project scope, services and deliverables, procedures and performance requirements.

1.1.2. Definitions

1. Acceptance
 - a. A formal action taken by a person with assigned authority (contractual or otherwise) to declare that some aspect of the project is permitted to proceed.
2. Basis of Design (BOD)
 - a. Refer to CSA Z320 Article 3, Definitions
 - b. A dynamic document throughout the project lifecycle constantly confirming design conformance to the explanation of the ideas, concepts and criteria considered important to the owner as contained in the Owner Performance Requirements (OPR).
 - c. Is a documentation of the primary thought processes and assumptions behind design decisions.
 - d. Includes descriptions of systems, components, conditions, and methods selected to meet the OPR.
3. Basis of Estimate (BOE)
 - a. A “living” narrative document throughout the project design and construction process and project life cycle.
 - b. Prepared and up-dated to facilitate the understanding, assessment and validation of the estimated value breakdowns, independent of any other supporting documentation.
 - c. Includes;
 - i. Estimate methodology,
 - ii. Pricing basis, cost data sources, allowances,
 - iii. Assumptions, exclusions, cost risks assessments,
 - iv. Opportunities, and any deviations from standard practices,
 - v. Record of pertinent communications and agreements that have been made between the estimator and other project stakeholders,
 - vi. Major changes relative to previous estimates, and
 - vii. Significant market events that may have an effect on the costs.
4. Biddability
 - a. Collaborative development of strategies to facilitate clear and competitive bids and avoid claims and extra contract administrative service costs.
 - b. Includes reviews to analyze the completeness, correctness, compatibility - to project requirements, clarity, and consistency of the collection of plans, specifications, clauses, forms, schedule, and other documents and references comprising the total solicitation package and the planned contract.
5. Budget
 - a. Built using the Cost Estimates and the Project Schedule.

Construction Management

Terms of Reference (TOR) Definitions

- b. Provides a view of how much the project is estimated to cost both in total and periodically.
 - c. Determines a cost performance baseline used in determining earned performance value analysis and other cost management variance analysis techniques.
 - d. Aligned with funding limits to ensure funding availability/appropriation.
 6. Budget/ Estimated Construction Cost Estimate
 - a. The Budget identified in the TOR or subsequently in writing by the Departmental Representative.
 - b. TOR states, "Construction Cost Estimate"
 7. "Canada", "Crown"/"Her Majesty"
 - a. Her Majesty the Queen in right of Canada.
 8. Commissioning Manual
 - a. Refer to CSA Z320 Article 4.9.2, Commissioning manual.
 9. Commissioning Plan
 - a. Dynamic document throughout project life cycle.
 - b. CM project specific commissioning plan, also refer to CSA Z320 Article 4.2.3 Commissioning Plan.
 10. Commissioning Process
 - a. Dynamic document throughout project life cycle.
 - b. Refer to CSA Z320 Article 4, Commissioning Process.
 11. Commissioning Process Manager
 - a. CM Cx Process Manger, overall responsible for managing the Commissioning Activities to demonstrate that the installed components and systems and overall facility meet the requirements of the OPR and facility design. Includes Cx;
 - i. Sequencing;
 - ii. Means and methods; and
 - iii. Documentation and related sign-offs.
 - b. Manager may require a unique combination of engineering, design fundamentals and building operations knowledge including: energy systems design, installation and operation, commissioning planning and process management, hands-on field experience with energy systems performance, interaction, start-up, balancing, testing, troubleshooting, operation, and maintenance procedures and energy systems automation control knowledge.
 - c. Also assumes the role of the "independent Commissioning Authority" and "Commissioning Authority" as addressed in LEED for New Construction and Major Renovations 2009 Rating System, as applicable.
 12. Commissioning Report
 - a. Cx Manual Component (at contract Substantial Performance and Completion – post Warranty/Final).
 - b. Cx Report (at Substantial Performance) based on;
 - i. Final BOD and OPR
 - ii. Final performance spreadsheets – OPR values to actuals.
 - iii. Final performance spreadsheets; component, systems and integrated systems - design values to actuals.
 - iv. Final training sessions,
 - v. Post occupancy changes,
 - vi. Deferred commissioning, and

Construction Management

Terms of Reference (TOR) Definitions

- vii. Current information not available or incomplete at Interim Acceptance/Substantial Performance.
 - c. Final Commissioning Report (prior to end of Warranty Period) also includes;
 - i. Final Cx Evaluation Report – produced by RCMP Cx Advisor;
 - ii. Updated Cx Report from Substantial Performance;
 - iii. Post-Occupancy test results and evaluations; and
 - iv. Up-dated Issues/Resolutions Log – highlighting documented Cx resolutions.
- 13. Commissioning Risk Assessment
 - a. Cx Risk Assessment aligns the rigor of the Commissioning Process with the following 2 risk items associated with Architectural and Engineering systems;
 - i. Building: function and performance as outlined in the RCMP Stewardship Excellence Protocols Principles; and
 - ii. Deliverables: deficiencies, such as; inaccurate as-built documentation, ineffective owner/occupant training, lack of documented system performance testing, and lack of comprehensive systems manuals
 - b. Cx Risk Assessment is often summarized in a matrix and accompanied by a basis of assessment narrative.
 - c. Premise of Cx Risk Assessment is;
 - i. Building type and intended use is guide for Cx risk assessment associated with the intended building systems.
 - ii. Performance of each system will affect the performance of all other systems, and non-performance places building in a negative impact on function and operational confidence.
- 14. Commissioning Team (Cx Team)
 - a. Live document throughout project life cycle
 - b. At the start of the Cx Process, the identification and definition of the Cx Team composition.
 - c. Size and membership varies, dependant on project size, complexity and phase of design and construction.
 - d. Objective is for interdisciplinary collaboration to ensure the Cx Process is completed and facility criteria has been achieved.
 - e. Offers expanded roles and responsibilities to address project delivery and commissioning tasks
 - f. Team make-up may consist of;
 - i. Departmental Representative;
 - ii. User Department Operating Personnel;
 - iii. Design Consultants (dependant on TOR, including a Cx Process Manager);
 - iv. CMA/c (dependant on TOR, including a Cx Process Manager); and
 - v. Sub-Trade Contractors (and Suppliers).
- 15. Constructability
 - a. The extent to which the design of the building facilitates ease of construction, subject to the overall requirements for the completed building project.
 - b. The effective and timely integration of construction knowledge into the conceptual planning, design, construction, and field operations of a project to achieve the overall project objectives in the best possible time and accuracy at the most cost-effective levels.

Construction Management

Terms of Reference (TOR) Definitions

- c. The integration of construction knowledge in the project delivery process and balancing the various project and environmental constraints to achieve the project goals and building performance at the optimal level.
16. Construction Cost Estimate
- a. Estimates costs associated with the work/tender packages or activities within the project schedule.
 - i. As compared to Budget – see Definition.
 - b. Cost breakdown estimating format as per CIQS best practice;
 - i. CSC/CSI ASTM UniFormat II – to 4th level of definition.
 - ii. CSC/CSI MasterFormat - Divisional and Sectional detail using CIQS best practice; and
17. Construction Management Firm (CM)
- a. Under separate contracts the Departmental Representative retains a Design Consultant and a CM simultaneously.
 - b. The CM, as a subject matter expert in construction provides functional services throughout the specified project life cycle.
 - i. Remuneration for CM services may have one or more 'fixed price' components and one or more 'cost reimbursement' components, with some of the services covered by the fixed price(s) and others cost reimbursable.
 - c. CM contract, notwithstanding being specified otherwise, includes two (2) functional service types under one contract;
 - i. CM, in an Advisory consulting capacity;
 - 1. Is not held responsible for technical design defects and does not assume any contractual responsibilities or duties of the Design Consultant(s);
 - ii. Works alongside the Design Consultant as a team member, sharing experience (for example, constructability and sequencing) as the design evolves, taking responsibility for the budget and schedule within the limits as may be also established by the Departmental Representative.
 - iii. Tenders construction trade packages.
 - 1. In the case of RCMP requirement to use mandatory Departmental Procurement Instruments (to procure, for example, furniture and equipment) CM provides procurement and installation support.
 - 2. CM, Semi – at-Risk in a General Contractor capacity;
 - a. Notwithstanding limited Work by Own Forces CM engages subcontractors to perform the Work.
 - b. Departmental Representative retains full control of the project scope and budget.
18. CM as Advisor (CMa)
- a. CM as Advisor is a form of Construction Management under which the CM acts as an advisor and support to, the Departmental Representative during Pre-Design, Design, Construction and Closeout by maintaining a working relationship with the Departmental Representative, User Department, the Design Consultant(s) (Architect/Engineers), construction subcontractors, and other consultants supporting the Departmental Representative.

Construction Management

Terms of Reference (TOR) Definitions

- i. CMA and CMc roles remain interrelated during Construction/ Implementation and Delivery/Closeout Phases
- 19. CM as Contractor/Constructor (CMc)
 - a. See Semi-At-Risk.
 - i. CMc and CMA roles remain interrelated during Construction/ Implementation and Delivery/Closeout Phases.
- 20. CMA Plan – Design, Documentation and Construction milestones
 - a. CMA activities include;
 - i. Project execution management;
 - ii. Staffing plan;
 - iii. On-site administration;
 - iv. OPR evolution regarding;
 - 1. Performance criteria, program, schedule, construction, cost estimate requirements - each evaluated in terms of the other.
 - v. Cost estimates and alternative evaluations
 - vi. Project schedule, including;
 - 1. Milestone and master schedules, phased construction sequencing, Design Consultant required service performance.
 - vii. Risk and issues Management (RM) input into Departmental Representative RM Plan.
 - viii. Quality management approach, including;
 - 1. Quality design application. of RCMP Stewardship Excellence Protocols Principles,
 - 2. QA documentation quality, constructability/biddability, life- cycle data, market factors;
 - ix. Commissioning (Cx) process development, including;
 - 1. Cx risk assessment and Cx cost.
 - x. Project delivery methods, including;
 - 1. Phased construction and advance procurement;
 - xi. Trade subcontractors' scope Work (multiple contracts/fast-track construction); and
 - xii. Meetings
- 21. Construction Management (CMc) Plan – Construction milestone.
 - a. CMc activities include;
 - i. Project execution management;
 - ii. Staffing plan
 - iii. Co-ordination of trade subcontractors Work and CM Work related to Division 01.
 - iv. Site mobilization, site facilities and site work verification;
 - v. Environmental and archeological considerations;
 - vi. Communication protocol; co-ordination, leadership and establishment of lines of commendation;
 - vii. Issues/resolution management
 - viii. Meetings: preconstruction, progress and special meetings;
 - ix. Time management: master and detailed construction schedules – development and up-dating, slippage recovery and claims avoidance;
 - x. Budget and cost monitoring: tracking, projecting and monitoring;
 - xi. Status reporting;

Construction Management

Terms of Reference (TOR) Definitions

- xii. Progress payment requesting;
 - xiii. Change Orders;
 - xiv. RFI tracking
 - xv. Claims Management: towards equitable resolutions and minimal disruptions;
 - xvi. Quality management including field test not part of trade subcontracts.
 - xvii. Commissioning; monitoring, implementation and acceptance of performance testing;
 - xviii. Furniture, furnishings and equipment related services
 - xix. Tenant/User related services
 - xx. Substantial Performance, including Owner occupancy of Partial
 - xxi. Substantial Performance.
 - xxii. Final inspection and punch list;
 - xxiii. As-Builts;
 - xxiv. Project record keeping;
 - xxv. Issues/Resolution Log up-dates; and
 - xxvi. LEED management.
22. Construction Management (CM) Plan - General
- a. Refer to Project Procedures Manual/CM Plan
23. Construction Management (CM) Project Management Plan (CM-PMP)
- a. Respective roles and responsibilities of various project team members introduce differing management process and procedures. CM, as CMa and CMc, is still responsible for providing quality project management services associated the Required Service and Deliverables – actual or virtual.
 - b. PMPs a component management program of the CM Plans – CMa and CMc, Plan.
 - i. PMP defines expected management level – management tasks, processes and procedures.
 - ii. Tasks, processes and procedures are linked to QC metrics.
 - c. PMP creates an opportunity to monitor/be aware of other project members' management process and procedures.
 - d. PMP consists for at least 3 parts element;
 - i. Intended purpose of procedure;
 - ii. Assignment of primary responsibility to carry out procedure; and
 - iii. Required steps to carry out procedures.
24. Constant dollar estimate;
- a. This is an estimate expressed in terms of the dollars of a particular base fiscal year.
 - i. It includes no provision for inflation.
 - b. Cash flows over a number of fiscal years may also be expressed in constant dollars of the base year including no allowance for inflation in the calculation of costs.
 - c. Current Dollar estimate:
 - i. Budget year dollars is also be referred to as Nominal dollars or Budget Year dollars.
 - ii. This is an estimate based on costs arising in each FY of the project schedule.

Construction Management

Terms of Reference (TOR) Definitions

- iii. It is escalated to account for inflation and other economic factors affecting the period covered by the estimate.
 - iv. The costs and benefits across all periods should initially be tabulated in budget year dollars for the following reasons;
 - 1. First; this is the form in which financial data are usually available,
 - 2. Second; adjustments, such as tax adjustments, are accurate and easily made in budget year dollars,
 - 3. Finally; working in budget-year dollar enables the analyst to construct a realistic picture over time, taking into account changes in relative prices.
25. CM contract Percentage Fee
- a. Refer to CM contract; Supplementary Conditions (SCs) and General Condition (GCs)
26. Consultant Team
- a. An architectural or engineering firm and their sub-consultants and professionals and advisors with whom the RCMP has contracted to provide other services on this project.
27. Current Dollar estimate:
- a. Budget year dollars is also be referred to as Nominal dollars or Budget Year dollars.
 - b. This is an estimate based on costs arising in each FY of the project schedule.
 - c. It is escalated to account for inflation and other economic factors affecting the period covered by the estimate.
 - d. The costs and benefits across all periods should initially be tabulated in budget year dollars for the following reasons;
 - i. First; this is the form in which financial data are usually available,
 - ii. Second; adjustments, such as tax adjustments, are accurately and easily made in budget year dollars,
 - iii. Finally; working in budget-year dollar enables the analyst to construct a realistic picture over time, taking into account changes in relative prices.
28. Departmental Representative
- a. Means the person designated in the CM contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the CM contract, and includes a person designated and authorized in writing by the Departmental Representative to the Contractor.
29. Design Development
- a. Subsequent to the Consultant's Schematic Design, the Design Development process provides a method to:
 - i. Coordinate and resolve the design of all major components associated with architectural, structural, mechanical, and electrical;
 - ii. Prepare an outline project specifications including an initial Cx focused testing procedures and check sheets/forms document related to;
 - 1. Static Verification,
 - 2. Start-up,
 - 3. Functional Performance Testing.
 - iii. Perform preliminary modeling and simulations (such as energy analysis and daylight simulation); and
 - iv. Update of the construction and commissioning cost estimates.

Construction Management

Terms of Reference (TOR) Definitions

- b. The Design Consultants Design Report is of sufficient detail to assist Cx Process Manager with the ongoing development of the initial Cx Plan that also updates;
 - i. Commissioning activities based on risk and complexity,
 - ii. Construction Cx cost.
- 30. Facility Turnover
 - a. CSA Z320 Article 4.7, Facility Turnover Activities.
- 31. Integrated Project Delivery Workshops
 - a. Mechanism that enables early and ongoing engagement of a project team to provide a better designed, constructed cost effective and timely project.
 - b. Early engagement of the CM allows for the potential of early starts in the construction sequence, as the design is proceeding.
- 32. Interim acceptance
 - a. Refer to CSA Z320 Article 4.6, Interim Acceptance
 - b. Interim Acceptance will be synonymous with Substantial Completion as GC's of the Consultant Contract.
- 33. Issues Log
 - a. Issues/Resolution Log contains description of project issues and/or variances ranging from specifics such as with the Owner Project Requirements (OPRs) to general design and construction and related processes.
 - i. On an ongoing basis the log maintains status of current and resolved issues.
 - b. Issues are identified and tracked as encountered during all design phases, construction and operations of the facility.
 - c. Issues Log is also included as part of the monthly construction phase reporting on the Cx Plan.
 - i. For information to be documented refer to ASHRAE Guideline, The Commissioning Process.
- 34. Leads (as per Roles and Responsibilities Matrix)
 - a. Facilitates activity and is accountable for the resultant final documentation delivery.
- 35. Master Schedule
 - a. Component of each up-dated Project Procedures Manual
 - b. Master Schedule is produced by and is the responsibility of the CM-A/C with input from the Design Consultant team and Departmental Representative.
 - c. An authoritative project schedule to which all other schedules roll up and are coordinated.
 - d. Prepared using Microsoft Project to develop/prepare;
 - i. Detailed network diagrams, with work breakdown structures and Key milestones listings;
 - ii. Critical Paths for all key activities, with key milestone dates and lead times for each activity.
 - 1. Gantt Charts require Department Representative agreement.
 - iii. An anticipated start and completion dates for all design and construction activities, linked by interdependence on activities that must be completed prior to the start of a subsequent activity.
 - iv. Separate schedules for each tender package and incorporated into the Master Schedule.

Construction Management

Terms of Reference (TOR) Definitions

- e. Schedule process and software has the capability of tracking changes.
36. Move Plan
- a. Identifies move tasks, dependencies and task duration
 - b. Explores potential move optimization and risk minimization
 - c. Includes phasing, specific timeline/Gantt chart, order and process for relocations, hoteling (office) and final moves.
37. Move Process
- a. Requires co-ordination with User Department process and protocols, including;
 - i. Resource and a Roles and Responsibilities matrix
 - ii. Move activities and logistics associated with;
 - 1. Pre-Move - supply of boxes, packing, data labeling requirements.
 - 2. Move Day - preventative operational downtime logistics.
 - 3. Post Move – unpacking and walkthroughs
 - 4. IT Moves – equipment/infrastructure disconnect/reconnect.
 - iii. Meetings Schedule
 - iv. Checklists
 - v. Occupational Health and Safety – Canada Labour Code
38. Owner Project Requirements (OPR)
- a. A dynamic document throughout the project lifecycle that provides the explanation of the ideas, concepts and criteria considered important to the owner.
 - b. OPRs are project specific and include quantifiable and measurable performance benchmarks that when the project is also commissioned, it is confirmed that owner's objectives have been met to the greatest extent possible. (Also refer to CSA Z320 Article 3, Definitions.)
39. Own Forces
- a. Supplementary Conditions (to the GCs), SC – Soliciting Bids and the TOR establish limits to the value of individual construction work packages for which the CM is allowed to submit tenders.
 - i. Intent is to limit to Own Forces to advisory, coordination and services as a contractor
 - b. CM own work force not subject to competitive bidding often includes conducting limited amount of construction not included in trade subcontract work, such as temporary facilities and services (e.g. hoarding, temporary heat, site office, power, water, security, hoisting, etc.) clean-up, miscellaneous cutting, patching, blocking, and other similar when permitted by Departmental Representative.
40. Participates
- a. As per Roles and Responsibilities Matrix
 - i. Responsibility to participant in the activity and/or deliverable.
41. Partnering Session Workshops
- a. Workshop led by the Departmental Representative with all project stakeholders addressing;
 - i. Role and responsibilities,
 - ii. Rules of engagement,
 - iii. Project status, goals, objectives, elements, scope, funding preliminary schedule,
 - iv. Project risks and development of initial risk management plan,
 - v. Review of existing available documentation and site,

Construction Management

Terms of Reference (TOR) Definitions

- vi. Schedule biweekly (or as otherwise determined by the Departmental Representative) project and milestone meetings, and
 - vii. Establish communication and document control plan.
 - b. The CM as part of the design team is responsible for matters such as the Master Schedule and Commissioning Plan and provides input into matters such as, phasing, constructability, availability of material and equipment.
- 42. Permits and Fees
 - a. Refer to the CM contract; General Conditions (GCs).
- 43. Project Procedures Manual (PPM) – CM Plan (CMA/CMc Plans)
 - a. Live document throughout project life cycle.
 - b. PPM intent to enforce mutually agreed upon (CM and Departmental Representative) policies, procedures, standards of practices, basic systems and measures for evaluating performances, to be linked to various task elements of various Plans and Deliverables.
 - c. Integral component to the PPM is the CM Plan.
 - i. The CM Plan is dynamic and establishes how the design, construction and closeout process will be structured to deliver a Project on time, budget, scope and quality
 - ii. CM Plan is structured as separate CMA and CMc Plans to reflect the respective service categories.
 - 1. Task elements of each CM Plan are implemented by applying CM industry project management practices; CM Project Management Plan is a component of the CM Plans – see (CM) Project Management Plan (CM-PMP) Definition.
 - d. Includes related items such as;
 - i. Organization and communication charts;
 - ii. Quality Management Plan (QMP) - see Definition;
 - iii. Quality assurance procedures and documentation plan to determine for example documentation completeness and suitability, testing, inspection and submissions requirements;
 - iv. Master Schedule complete with a detailed Work Breakdown
 - v. Structure,
 - vi. Master Cost Plan including;
 - 1. Cost estimating, control and management techniques,
 - vii. Risk management;
 - viii. Bid packaging description and contracting strategy;
 - ix. Division 01 work and site mobilization;
 - x. Commissioning Plan;
 - xi. Record management plan (including e-mails) establishing procedure regarding collection recording, tracking, access and storage;
 - xii. Tender package reviews, acceptance, change orders billing;
 - xiii. Safety management – preparation, update monitoring maintenance and incidence response and reporting;
- 44. RCMP Consultant Cx Advisor
 - a. Government commissioning liaison amongst all project stakeholders and reports to the Departmental Representative.
 - b. A Cx Team member.
 - c. Provides due diligence overview.

Construction Management

Terms of Reference (TOR) Definitions

- d. Responsible for delivering the Final Cx Evaluation Report.

45. Quality

- a. The degree to which the Work meets or exceeds the Project requirements and expectations.

46. Quality Management Plan (QMP)

- a. Component of Project Procedures Manual;
 - i. Live document throughout project life cycle.
- b. QMP is an output of a Quality Planning (QP) process in collaboration with the Departmental Representative and therefore is an integral part of the Departmental Representative and CM Project Management plans (PMP).
 - i. Similarly, as part of QP process/activity, Consultants and Contractors develop their respective PMPs and QMPs in support of each other processes and in support of the Departmental Representative's PMP.
- c. Describes how Quality will be managed during CMA and CMc Required Services; Scope and Activities and Deliverables throughout the project life cycle.
 - i. Includes procedures for continuous process monitoring quality improvement.
- d. Identifies/confirms, quantifiable and measurable, quality related, performance requirements to be achieved for both the management of the project or process and the management of the product or outcome.
- e. Determines method if deliverables are being produced to an acceptable quality level and if the project design, procurement and construction processes used to manage and create deliverables are effective and appropriate.
- f. Consists of four (4) continuously Interrelated Processes with respective supporting plans and accompanying detail to be link CMA and CMc respective tasks/deliverables;
 - i. Quality Planning (QP)
 1. Process of identifying/confirming quality requirements and/or standards for the project and deliverables, and documenting how the project will demonstrate compliance.
 2. Process of reviewing project processes and supporting deliverables and detailing their corresponding quality standards in the Quality Assurance (QA) and Quality Control (QC) of the QMP.
 3. Process of establishing, for example, Quality related standards, metrics, checklists and problem remediation strategies.
 4. Deliverables, such as; Quality Metrics and Scope, Cost, Schedule and Risk Management Plans and base-line performance narratives.
 - a. Refer to TOR for project specific related Deliverables.
 - ii. Quality Assurance (QA) Plan
 1. Process of identifying, assessing, responding to, monitoring and controlling project Quality
 2. Process of iterative reviews, providing confidence that quality requirements are being fulfilled and confirming Quality Control (QC) program effectiveness.
 3. Process of establishing for example data collection, distribution and response organization/structure for planning data collection.

Construction Management

Terms of Reference (TOR) Definitions

4. Deliverables, such as; Design and Construction review commentaries, Site Reviews/Inspections and Issues/Resolution Logs.
 - a. Refer to TOR for project specific related Deliverables.
 - iii. Quality Control (QC) Plan
 1. Process of developing procedures, systems and controls to address unexpected conditions internal and external to the project.
 2. Process of monitoring project deliverables to verify that the deliverables are of acceptable quality, complete and correct.
 3. Process of for maintaining and retrieving records
 4. Deliverables, such as; Deliverables schedules, QC tools and methodologies, Guidelines (for routine technical activities - reviews, testing, inspections and action) and QC Reporting
 - a. Refer to TOR for project specific related Deliverables.
 - iv. Independent Verification and Validation Plan (IV&VP)
 1. Process of evaluating project and deliverables by an independent third party (outside the project process), to confirm they meet specified requirements (verification), and meet the needs of the intended target performance/audience (validation).
 2. Process for high risk and complex projects.
 3. Deliverables, refer to TOR if project determined to be high risk and complex.
 - g. Compliance with an overall project QMP, principles and objectives, is the shared responsibility of all project personnel including mutually supporting Design Consultant's and CM's respective QMPs.
47. Quality Control (QC) Methodologies and Tools
- a. CM Project Management Plan component
 - b. Application of Interrelated Process of the Quality Management Plan (QMP), involve;
 - i. Availability and cost comparisons of construction materials;
 - ii. Project costs and expenditures;
 - iii. Project schedule and progress;
 - iv. Methods of construction and constructability;
 - v. Scope and quality of design and construction materials and systems;
 - vi. Alternative approaches to completing the Work;
 - vii. Change and Change Order control;
 - viii. Life Cycle Cost analysis;
 - ix. Sustainability;
 - x. Cx Plan;
 - xi. Value Engineering;
 - xii. Risk Management; and
 - xiii. Claims Avoidance.
48. Quality Control (QC) Process and Metrics Manual.
- a. CM Project Management Plan component.
 - b. QC Processes and metrics forecast or evaluate management and deliverables.
 - c. Application of Interrelated Process of the Quality Management Plan (QMP), involve;

Construction Management

Terms of Reference (TOR) Definitions

- i. Development of project activities to be executed.
 - ii. Description of procedures, roles and responsibilities and levels of authority.
 - iii. Documentation; type, outline formats and corresponding reporting schedules.
 - iv. Application of QC process, methods and metrics to:
 1. Project management program;
 2. Monitor the project and report (as per a schedule);
 3. Maintain project records;
 4. Implement a Quality Assurance program;
 5. Prepare, update, monitor and maintain the Master Schedule;
 6. Update, monitor and maintain the Cost Plan, Progress Payments, Change Orders and Cash Flow;
 7. Manage communications as directed by the Departmental Representative between Project Delivery Team participants based upon the documented roles, responsibilities and authority of Team members, and maintain a listing of meetings, frequency, type, etc.;
 8. Manage correspondence, reports and performance records;
 9. Distribute correspondence electronically;
 10. Process Shop Drawings;
 11. Document the process for reviews and approvals of Tender Package Contracts and change orders; and
 12. Maintain a decision log during the construction of the project, recording participants, date and place of all decisions affecting schedule, budget, scope, or quality.
49. Risk Management Program
- a. Project Procedures Manual (PPM) component
 - b. An articulated approach or framework to identifying risk and its impact in advance and managing the risk with a goal of reducing, transferring or avoiding risk where appropriate.
50. Roles and Responsibility Matrix
- a. Establishes pre-construction, construction and project closeout roles and responsibilities.
 - b. Communication activities, consensus building, project team reviews, conceptual design, data gathering, documentation, and formal public notice are planned by the appropriate responsible party and coordinated with all team members. Overlapping accomplishment and parallel paths of activity are to be planned to finish the respective development phase in accordance with the shortest possible schedule.
 - c. It is not the intent of the summarized Roles and Responsibilities be exclusive of overall contractual services to thereby alleviate CM's obligations.
51. Schematic Design
- a. Subsequent to the Consultant's BOD document, the Schematic Design process provides a method to fully investigate and fine tune the Owner's planning and technical requirements before beginning Design Development.
 - b. Detail includes preliminary selection of assemblies, systems and load calculations.

Construction Management

Terms of Reference (TOR) Definitions

- c. The Design Consultants Schematic Design Report is of sufficient detail to assist CM with the further development of the CM Plan/Project Procedures Manual.

52. Semi-at-Risk

- a. A more common PWGSC/NPMS term for CM Contracts including CMA and/or CMc Required Services.
- b. CM as Contractor safely facilitates and coordinates the Work and the trade work to maximize quality, limit the schedule and prioritize costs
- c. CM as Contractor is a form of Construction Management under which the CM enters into multiple trade subcontracts and is;
 - i. Solely responsible for the construction means, methods, sequences and procedures used in construction of the project and for related quality performance.
 - ii. Accountable for contracting risks inherent in each of the trade subcontracts and assumes responsibility for the performance of the trade subcontracts , much as a general contractor would under the traditional method (design/bid/build), and is paid for the trade subcontract work on a cost reimbursement basis.
- d. CM preforms' project management planning, cost management, time management, quality management, contract administration and safety management.

53. Stewardship Excellence Protocols Principles.

- a. Creativity and Technical Competence;
 - i. Create solutions in accordance with good design principles with an ingenious and productive team.
- b. Functional Suitability;
 - i. Appropriate for use and place. Fit-for-purpose solutions.
- c. Whole-of-Life Performance;
 - i. Enhanced long-term economic advantage and value;
- d. Health, Safety and Security;
 - i. Health, safe and comfortable workplace.
- e. Inspiring and Attractive;
 - i. Expression of civic significance, cultural values and sense of place;
- f. Appropriate Innovation;
 - i. Ingenious solutions in response to current and future needs and changing uses; and
- g. Sustainable and Enduring;
 - i. Environmentally responsive, timeless and durable solutions.

54. Sub-Project

- a. User Department project work by a Departmental Service Provider, coordinated delivery in a main capital works project.
 - i. For example, IT works

55. Systems

- a. Refer to CSA Z320 Article, 5 Specific systems.

56. Work

- a. Refer to CM contract; General Conditions (GCs).

ANNEX B BASIS OF PAYMENT

THE BASIS OF PAYMENT OF THE CONTRACT IS COMPRISED OF THE FOLLOWING

1. CONTRACTOR'S FEE

- Fixed Monthly Fee
- Percent Construction Fee
- Additional Personnel

2. CONSTRUCTION COSTS

3. ALLOWABLE DISBURSEMENTS

1. Contractor's Fee

The Contractor's Fee will be paid monthly in arrears for the term of the contract. The Contractor's fee is based on the aggregate of the following:

a. Fixed Monthly Fee

The fixed monthly fee will be paid in equal monthly installments in arrears over the Term of the Contract. The fixed monthly fee will constitute reimbursement for Services provided by the Contractor's Staff as specified in detail in the Terms of Reference. All services specified in the Terms of Reference are to be included in the Fixed Monthly Fee portion of the contract.

The fixed monthly fee will include:

- i. all overhead, administration, mark-up and profit for the Contractor's operations, including, but not limited to standard office expenses such as any photocopying, computer and software costs, Internet, all telephone and fax, cellular telephones, depreciation, rent and maintenance of office facilities, furniture, office equipment and supplies, taxi charges, parking. Note: Site office costs are included in the percent construction fee.
- ii. the actual cost of all personnel employed or contracted by the Contractor to deliver the services specified in the Terms of Reference and includes all payroll costs such as salary, statutory holidays, vacations with pay, unemployment insurance premiums and worker's compensation contributions where applicable, pension plan contributions, sick time allowance, medical/dental insurance premiums and any other benefits. Do not include contracted personnel of sub-trades that will perform the construction;
- iii. The salaries, benefits or other compensation for the Contractor's officers, directors, principals and support staff;
- iv. Travel and accommodation costs related to the Work for the duration of the Contract, of the Contractor's personnel;
- v. All other costs which may be considered disbursements unless specifically listed;
- vi. Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work, unless otherwise expressly provided herein;
- vii. All field personnel such as superintendents, health and safety officers, assistant superintendents, field engineers, commissioning agent, etc., including vehicles and vehicle expenses

b. Percent Construction Fee

The percent construction fee includes:

- i. The Contractor's percentage mark-up for overhead, profit and general administration costs that are not included in b. (below).
- ii. The construction, maintenance and operation of a site field office at the Site, including, but not limited to standard office expenses such as any photocopying, computer costs, Internet, all telephone and fax, cellular telephones, depreciation, rent and maintenance of office facilities, furniture, office equipment and supplies, taxi charges, parking, communication equipment, advertising and publications, long distance phone, bottled water, courier, stamps, software, office supplies and petty cash items.
- iii. All costs that have not been identified for reimbursement under the Basis of Payment - Fixed Monthly Fee, Additional Personnel, Construction Costs and Allowable Disbursements will be included in the Percent Construction Fee. The percent construction fee will be paid in arrears for each progress claim submitted in accordance with GC5 - Terms of Payment, during

the Term of the Contract. The value of the percent construction fee for the payment period will be based on the construction cost of the work actually incurred during that period.

2. Construction Costs

Determination of Construction Cost will be in accordance with the SUPPLEMENTARY CONDITIONS (SC). Construction Costs will be reimbursed in accordance with GC5 - Terms of Payment.

Construction Costs will include:

- i. The actual, reasonable and direct costs of subcontracts;
- ii. The actual, reasonable and direct costs incurred by the Contractor, as previously agreed to by Canada in performing the Work, as follows:
- iii. Materials incorporated into the Work, including costs of transportation;
- iv. Materials, products, supplies, equipment, temporary services and facilities, including transportation and maintenance thereof, which are consumed in the performance of the Work, and cost less salvage value on such items used, but not consumed, which remain the property of the Contractor;
- v. Tools, machinery and equipment, exclusive of hand tools, used in the performance of the Work, whether rented by the Contractor or others, including installation, minor repairs and replacements, dismantling, removal, transportation and delivery costs thereof;
- vi. Site engineering, as-built drawings, maintenance manuals and all other documents required to be provided prior to certification of Substantial Performance, as well as commissioning activities;
- vii. Independent inspection and testing services other than those described in the construction documents;
- viii. Temporary services, O & M Manuals, as-builts, engineering drawings and rental costs of site trailers;
- ix. Site washrooms other than those furnished by Canada;
- x. Health and Safety sundries for visitors (hard hats, boots, gloves, goggles, masks, etc.);
- xi. Bilingual Site signage;
- xii. Utility costs, as applicable;
- xiii. The cost of safety measures and requirements;
- xiv. Cleaning materials supplies, hand tools and consumables;
- xv. Site photos;
- xvi. Printing of construction documents;
- xvii. Removal and disposal of waste products and debris.

Site Labour Costs (allowance is included within Estimated Construction Cost)

The Contractor will not use its own forces or the forces of a non-arm's length entity to provide Trade Work unless the Contractor has been specifically authorized to do so by Canada.

However, the Contractor will be reimbursed for the labour expended by the Contractor's carpenters and general site labourers for any physical construction work related to RS 18 which received prior approval from the Departmental Representative. Site labour costs that have been authorized by the Departmental Representative will be paid monthly in arrears.

Notwithstanding the above, Canada may require that the Contractor competitively procure any or all of the construction work, including work that may be completed by the Contractor's own labourers.

Any costs incurred by the Contractor due to failure on the part of the Contractor to exercise reasonable care and diligence in the Contractor's attention to the Work will be borne by the Contractor.

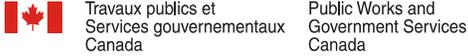
3. Allowable Disbursements

In addition to the Contractor's Fee, Canada will reimburse at actual cost, without any administrative cost or mark-up for overhead or profit, the following disbursements supported by Invoices/receipts:

- i. The cost of the Contractor's insurance and bonding;
- ii. Fees, levies, permits, costs and charges levied by authorities having jurisdiction at the Site;
- iii. Travel, if requested in writing by Canada, would be reimbursed in accordance with the National Joint Council Travel Directives without any administrative cost or mark-up for overhead or profit.

ANNEX C CERTIFICATE OF INSURANCE

(not required at id submission)



Description and Location of Work	Contract No.
	Project No.

Name of Insurer, Broker or Agent	Address (No., Street)	City	Province	Postal Code
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Name of Insured (Contractor)	Address (No., Street)	City	Province	Postal Code
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Additional Insured (All Policies)
Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services.(Wrap-Up Policy), the Consultant and any Subcontractor, at any tier, performing any part of the Work.

Type of Insurance	Insurer Name and Policy Number	Inception Date D / M / Y	Expiry Date D / M / Y	Limits of Liability		
				Per Occurrence	Annual General Aggregate	Completed Operations Aggregate
Commercial General Liability Umbrella/Excess				\$	\$	\$
Wrap-Up General Liability Umbrella/Excess				\$	\$	\$
Builder's Risk / Installation Floater				\$		

I certify that the above policies were issued by insurers in the course of their Insurance business in Canada, are currently in force and include the applicable insurance coverage's stated on page 2 of this Certificate of Insurance, including advance notice of cancellation / reduction in coverage.

Name of person authorized to sign on behalf of Insurer(s) (Officer, Agent, Broker)	Telephone number
Signature	Date D / M / Y

CERTIFICATE OF INSURANCE Page 2 of 2

General

The insurance policies required on page 1 of the Certificate of Insurance must be in force and must include the insurance coverage listed under the corresponding type of insurance on this page and the policies must insure the Contractor and must include Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services (Wrap-Up Policy), the Consultant and any Subcontractor, at any tier, performing any part of the Work as an additional Insured and the Policy shall be endorsed to provide the Owner with not less than 30 days' notice in writing in advance of any cancellation or change or amendment restricting coverage.

Without increasing the limit of liability, the policies must protect all insured parties to the full extent of coverage provided. Further, the policies must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

Commercial General Liability

The insurance coverage provided must not be substantially less than that provided by the latest edition of IBC Form 2100.

The policy must either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:

- (a) Blasting.
- (b) Pile driving and caisson work.
- (c) Underpinning.
- (d) Removal or weakening of support of any structure or land whether such support be natural or otherwise if the work is performed by the insured.

The policy must have the following minimum limits:

- (a) **\$5,000,000** Each Occurrence Limit;
- (b) **\$10,000,000** General Aggregate Limit per policy year if the policy contains a General Aggregate; and
- (c) **\$5,000,000** Products/Completed Operations Aggregate Limit.

Umbrella or excess liability insurance may be used to achieve the required limits.

Wrap-Up General Liability

The insurance coverage provided must be primary to all other insurance policies and must not be less than that provided by the latest edition of IBC Form 2100, except for liability arising from damage to the Work during construction, which must be limited to the completed operations period.

The policy must include an extension for a standard provincial and territorial form of non-owned automobile liability policy and must either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:

- (a) Blasting;
- (b) Pile driving and caisson work;
- (c) Underpinning;
- (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured contractor.
- (e) Damage to existing structure

The policy must have the following minimum limits:

- (a) **\$5,000,000.00** Each Occurrence Limit; and
- (b) **\$10,000,000.00** Completed Operations Aggregate Limit.

Umbrella or excess liability insurance may be used to achieve the required limits.

The Insurer must provide a waiver of subrogation against any named or additional insured.

Builder's Risk / Installation Floater

The insurance coverage provided must not be less than that provided by the latest edition of IBC Forms 4042 and 4047 and must permit use and occupancy of any of the projects, or any part thereof, where such use and occupancy is for the purposes for which a project is intended upon completion.

The policy may exclude or be endorsed to exclude coverage for loss or damage caused by asbestos, fungi or spores, cyber and terrorism.

The policy must have a limit that is **not less than the sum of the contract value** plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Canada at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy must be changed to reflect the revised contract value.

The policy must provide that the proceeds thereof are payable to Canada or as Canada may direct in accordance with GC10.2, "Insurance Proceeds" (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R/R2900D/2>).

ANNEX D
SECURITY REQUIREMENT CHECK LIST (SRCL)



Government of Canada / Gouvernement du Canada

SRCL # 2018-11121751 (T)

Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

**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 RCMP	2. Branch or Directorate / Direction générale ou Direction Property Management	
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 Construction Management (CM) services to construct the new ITC (Integrated Training Centre) at Depot in Regina Saskatchewan. Div T. The CM team will be involved in the design and review construction plans and site and building access through Construction.		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	<input type="checkbox"/> No / Non <input checked="" type="checkbox"/> Yes / Oui	
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?	<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	
Foreign / Étranger <input type="checkbox"/>		
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions / Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries / Tous les pays de l'OTAN <input type="checkbox"/>	
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>		TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
 Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
 If Yes, indicate the level of sensitivity:
 Dans l'affirmative, indiquer le niveau de sensibilité:

No / Non Yes / Oui

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
 Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

No / Non Yes / Oui

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

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

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

<input checked="" type="checkbox"/> RELIABILITY STATUS COTE DE FIABILITÉ	<input type="checkbox"/> CONFIDENTIAL CONFIDENTIEL	<input type="checkbox"/> SECRET SECRET	<input type="checkbox"/> TOP SECRET TRÈS SECRET
<input type="checkbox"/> TOP SECRET - SIGINT TRÈS SECRET - SIGINT	<input type="checkbox"/> NATO CONFIDENTIAL NATO CONFIDENTIEL	<input type="checkbox"/> NATO SECRET NATO SECRET	<input type="checkbox"/> COSMIC TOP SECRET COSMIC TRÈS SECRET
<input type="checkbox"/> SITE ACCESS ACCÈS AUX EMPLACEMENTS			

Special comments:
 Commentaires spéciaux :

The CM team requires RCMP Enhanced Reliability Status (ERS) formerly known as RCMP Reliability (RRS) NT
 General sub trades require Facility Access level 2 with escort. No CISD requirement.
 General sub trades and labours require FA2 with escort.

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

10. b) May unscreened personnel be used for portions of the work?
 Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
 If Yes, will unscreened personnel be escorted?
 Dans l'affirmative, le personnel en question sera-t-il escorté?

No / Non Yes / Oui

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

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
 Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

No / Non Yes / Oui
 NT

11. b) Will the supplier be required to safeguard COMSEC information or assets?
 Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
 Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

No / Non Yes / Oui

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

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
 Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
 Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

No / Non Yes / Oui



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

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

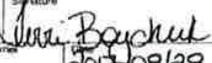
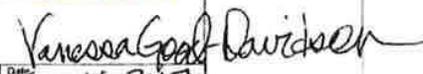
Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ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

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
 La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

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

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
 La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

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

TABLE OF AUTHORIZATION / TABLE D'AUTORISATION			
13. Organization Project Authority / Chargé de projet de l'organisme			
Name (print) - Nom (en lettres moulées)		Title - Titre	
Peter Jolco		Senior PM, NPDO	
Signature		Date	
		2017-04-23	
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	
813-843-3828	813-825-3260	peter.jolco@comp.gc.ca	
14. Organization Security Authority / Responsable de la sécurité de l'organisme			
Name (print) - Nom (en lettres moulées)		Title - Titre	
Tant DOYONAR		Team Leader Personnel Security	
Signature		Date	
		2017-08-18	
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	
204-660-3317	306-780-6665	dallas.wiebe@pwsge.gc.ca	
15. Are there additional instructions (e.g. security, data, signaling, classification (date), etc.)? (Yes/Out) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes			
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes? <input type="checkbox"/> Non <input checked="" type="checkbox"/> Oui			
16. Procurement Officer / Agent d'approvisionnement			
Name (print) - Nom (en lettres moulées)		Title - Titre	
DALLAS WIEBE		PROCUREMENT SPECIALIST	
Signature		Date	
		SEPT 28/18	
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	
(204) 877-5257	(204) 783-7776	dallas.wiebe@pwsge.gc.ca	
17. Contracting Security Authority / Autorité contractante en matière de sécurité			
Name (print) - Nom (en lettres moulées)		Title - Titre	
Vanessa Good-Davidson		Contract Security Officer	
Signature		Date	
		Nov. 16, 2017	

Vanessa Good-Davidson

Agente à la Sécurité des contrats | Contract Security Officer
 Secteur de la Sécurité industrielle, TPSGC | Industrial Security Sector, PWGSC
 Vanessa.Good-Davidson@pwsge.gc.ca
 Téléphone : 416-941-0441

Reviewed by:

 Michelle Tamlin
 Physical Security
 Reviewer

Ammended
 2017-10-18

 Michelle Tamlin

Integrated Training Facility Project

Construction Management Services CMa/CMc

Division 01 General Requirements

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1. DIVISION 01 – GENERAL REQUIREMENTS

1.1. General

1.1.1. MasterFormat

1. Division 01, General Requirements are structured using MasterFormat 2010" Section title numbering system.

1.1.2. Division 01 – CM as “General” Contractor (CMc)

1. Perform the Work in accordance with contract documents including, Division 01 requirements below.

1.1.3. Division 01 – CM as CMc, Tendering for Sub-Contractors

1. Division 01 directed at Sub-Contractor(s)/Sub-Trade(s);
 - a. Prepare for each tender package, with the PWGSC Design Consultant, a tender specific, Division 01 requirements using the PWGSC/NRC, National Master Specifications (NMS) latest data base version.

1.2.01 11 00 – Summary of Work

1.2.1. Work Sequence

1. Construct Work in stages to accommodate Departmental Representative's continued use of the site and existing surrounding premises during construction.
2. Maintain fire access/control.

1.2.2. Work by Others

1. Co-operate with other Contractors in carrying out their respective works and carry out instructions from Departmental Representative.
2. Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of Work.

1.2.3. Construction Manager Use of Premises

1. Restricted use of site and premises as directed by Departmental Representative until Substantial Performance.
2. Limit use of premises for Work, and for storage.
3. Utilize indicated Laydown Area for all storage, all vehicle and equipment parking, and all site offices and trailers.
4. Maintain Laydown Area to prevent dusting and mud.
5. Make good Laydown Area to original condition, composition, nature and character upon completion of Work.
6. Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

1.2.4. Departmental Representative Furnished Items

1. Construction Manager Responsibilities:
 - a. Disassemble, ship and reassemble all items being relocated;
 - b. Arrange for replacement of damaged, defective or missing items;
 - c. Designate submittals and delivery date for each product in progress schedule;

- d. Review shop drawings, product data, samples, and other submittals. Submit to Departmental Representative notification of observed discrepancies or problems anticipated due to non-conformance with Contract Documents;
- e. Receive and unload products at site;
- f. Inspect deliveries jointly with Departmental Representative; record shortages, and damaged or defective items;
- g. Handle products at site, including uncrating and storage;
- h. Protect products from damage, and from exposure to elements;
- i. Assemble, install, connect, adjust, and finish products;
- j. Provide installation inspections required by public authorities; and
- k. Repair or replace items damaged by Construction Manager or subcontractor on site.

1.2.5. Existing Services

1. Notify, Departmental Representative and utility companies of intended interruption of services and obtain required permission.
2. Where Work involves breaking into or connecting to existing services, give Departmental Representative 7 days' notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian and vehicular traffic and Departmental Representative's operations.
3. Provide alternative routes for personnel, pedestrian and vehicular traffic.
4. Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.
5. Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
6. Provide temporary services to maintain existing buildings' systems.
7. Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
8. Provide traffic control in the event of one lane access.
9. Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
10. Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
11. Record locations of maintained, re-routed and abandoned service lines.
12. Construct barriers in accordance with Section 01 56 00.
13. Provide and maintain for purposes of the Work access road within construction area for Construction Manager's own construction vehicles, equipment and material access.

1.2.6. Documents Required

1. Maintain at job site, one copy each document as follows:
 - a. Contract Drawings.
 - b. Specifications.
 - c. Addenda.
 - d. Reviewed Shop Drawings.

- e. List of Outstanding Shop Drawings.
- f. Change Orders.
- g. Other Modifications to Contract.
- h. Field Test Reports.
- i. Copy of Approved Work Schedule.
- j. Health and Safety Plan and Other Safety Related Documents.
- k. Material and Safety Data Sheets.
- l. Labour conditions and Wage Schedules.
- m. Material and Labour Bonds.
- n. Manufacturers' applicable instructions.
- o. Municipal and Provincial Permits.
- p. Other documents as specified.

1.3.01 14 00 – Work Restrictions

1.3.1. Access and Egress

1. Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.3.2. Special Requirements

1. Check in at indicated Check Point at all times of entry and exit from the Work Site and Laydown areas.
2. Perform work during normal working hours from 07:30 to 16:00 hours Monday to Friday.
3. Deliver materials from 07:30 hours to 16:30 hours unless otherwise approved by Departmental Representative.
4. Submit schedule in accordance with Section 01 32 15.
5. Ensure that Construction Manager personnel employed on site become familiar with and abide by regulations including safety, fire, traffic and security regulations.
6. Keep within Limits of Work and ingress and egress access.
7. Keep within Limits of Site.

1.3.3. Security Clearances

1. Personnel employed on this project will be subject to security checks.

1.3.4. Building Smoking Restrictions

1. Comply with smoking restrictions. Smoking is not permitted.

1.4.01 29 00 – Payment Procedures

1.4.1. Application for Progress Payment

1. Submit to Department Representative, at least 14 days before first application for payment, Cost Breakdown, in detail as directed by Department Representative, for parts of Work, aggregating total amount of each Contract Amount, so as to facilitate evaluation of applications for payment. After approval by Department Representative, Cost Breakdown will be used as basis for progress payments.

2. Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as Department Representative may reasonably require to establish value and delivery of products.

1.5.01 29 83 – PAYMENT PROCEDURES: TESTING LABORATORY SERVICES

1.5.1. APPOINTMENT AND PAYMENT

1. Obtain and pay for services of an accredited inspection/testing laboratory for:
 - a. Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - b. Inspection and testing performed exclusively for the Construction Manager's convenience.
 - c. Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - d. Commissioning performance testing and verification.
 - e. Mill tests and certificates of compliance.
 - f. Tests specified to be carried out by the Construction Manager.
2. Where tests or inspections by an accredited testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work.
3. Inspection/testing agencies engaged by the Construction Manager shall be reviewed by and be acceptable to the Departmental Representative.
4. The Departmental Representative, at the Departmental Representative's expense, may also engage inspection/testing agencies as may be deemed required.

1.5.2. CONSTRUCTION MANAGER'S RESPONSIBILITIES

1. Provide, for Construction Manager's and Departmental Representative's inspection/testing agencies, labour, equipment and facilities to:
 - a. Provide access to Work to be inspected and tested.
 - b. Facilitate inspections and tests.
 - c. Make good Work disturbed by inspection and test.
 - d. Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
 - e. Notify the Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
 - f. Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
 - g. Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by the Departmental Representative.

1.6. 01 31 19 – Project Meetings

1.6.1. Administrative

1. Schedule and administer project meetings throughout the progress of the work.
2. Prepare agenda for meetings.
3. Distribute written notice of each meeting four days in advance of meeting date to the Departmental Representative.

4. Provide physical space and make arrangements for meetings.
5. Preside at meetings.
6. Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
7. Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and, affected parties not in attendance and Departmental Representative.
8. Representative of Construction Manager, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.6.2. Preconstruction Meeting

1. Within 7 days after each Contract award, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
2. Departmental Representative, Construction Manager, major Subcontractors, field inspectors and supervisors will be in attendance.
3. Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
4. Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
5. Agenda to include:
 - a. Appointment of official representative of participants in the Work;
 - b. Schedule of Work: in accordance with Section 01 32 15;
 - c. Schedule of submission of shop drawings, samples, colour chips, product data. Submit submittals in accordance with Section 01 33 00;
 - d. Commissioning;
 - e. Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00;
 - f. Delivery schedule of specified equipment in accordance with Section;
 - g. Site security in accordance with Section 01 56 00;
 - h. Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements;
 - i. Departmental Representative provided products;
 - j. Record drawings in accordance with Section 01 33 00;
 - k. Maintenance manuals in accordance with Section 01 78 00;
 - l. Take-over procedures, acceptance, warranties in accordance with Section 01 78 00;
 - m. Monthly progress claims, administrative procedures, photographs, hold backs;
 - n. Appointment of inspection and testing agencies or firms;
 - o. Insurances, transcript of policies.

1.6.3. Progress Meetings

1. During course of Work schedule separate construction and commissioning progress meetings every two weeks.
2. Construction Manager, major Subcontractors involved in Work and Departmental Representative are to be in attendance.
3. Notify parties minimum 5 days prior to meetings.

4. Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 days after meeting.
5. Agenda to include the following items such as:
 - a. Review, approval of minutes of previous meeting.
 - b. Review of Work progress since previous meeting.
 - c. Field observations, problems, conflicts.
 - d. Problems which impede construction schedule.
 - e. Review of off-site fabrication delivery schedules.
 - f. Corrective measures and procedures to regain projected schedule.
 - g. Revision to construction schedule.
 - h. Progress schedule, during succeeding work period.
 - i. Review submittal schedules: expedite as required.
 - j. Commissioning.
 - k. Maintenance of quality standards.
 - l. Review proposed changes for effect on construction schedule and on completion date.
 - m. Health and Safety
 - n. Other business.

1.7.01 32 15 – Construction Progress Schedules

1.7.1. General

1. Use a project management control system based on Critical Path Method (CPM) and Bar (GANTT) Chart techniques as may be required and agreed upon by Departmental Representative to achieve project Work demands.
2. Schedule reviews by Departmental Representative shall not mean approval of detail inherent in schedule, responsibility for which lies with Construction Manager.

1.7.2. Definitions

1. Master Plan: summary-level schedule that identifies major activities and key milestones.
2. Project Plan: formal, approved document used to guide both Project execution and Project control. Primary uses of Project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines. Project plan may be summary or detailed.
3. Project Schedule: planned dates for performing activities and planned dates for meeting milestones.
4. Risk: uncertain event or condition that, if it occurs, has positive or negative effect on Project's objectives.
5. Work Breakdown Structure (WBS): deliverable-oriented grouping of project elements that organizes and defines total Work scope of Project. Each descending level represents increasingly detailed definition of Project Work.

1.7.3. System Description

1. Construction Progress Schedule (Project Time Management): describes processes required to ensure timely completion of Project. These processes ensure that various elements of Project are properly coordinated. It consists of planning, time estimating, scheduling, progress monitoring and control.

2. Project monitoring and reporting: as Project progresses, keep team aware of changes to schedule, and possible consequences. In addition to Bar Charts and CPM networks, use narrative reports to provide advice on seriousness of difficulties and measures to overcome them.
3. Narrative reporting begins with statement on general status of Project followed by summarization of delays, potential problems, corrective measures and Project status criticality.

1.7.4. Schedule Requirements

1. Ensure Master Plan and Detail Schedule are practical and remain within specified Contract duration.
2. Acceptance of Master Plan and Detail Schedule showing scheduled Contract duration shorter than specified Contract duration does not constitute change to Contract. Duration of Contract may only be changed through bilateral Agreement.
3. Consider Master Plan and Detail Schedule showing Work completed in less than specified Contract duration, to have float.
4. Calculate dates for completion milestones from Plan and Schedule.
5. Delays to non-critical activities, those with float may not be basis for time extension.
6. Allow for and show Master Plan and Detail Schedule adverse weather conditions normally anticipated. Specified Contract duration has been predicated assuming normal amount of adverse weather conditions.
7. Provide necessary crews and manpower to meet schedule requirements for performing Work within specified Contract duration. Simultaneous use of multiple crews on multiple fronts on multiple critical paths may be required.
8. Arrange participation on and off site of Construction Manager's Contractors, Own Forces and suppliers, as required by Departmental Representative for purpose of network planning, scheduling, updating and progress monitoring. Approvals by Departmental Representative of original networks and revisions do not relieve Construction Manager from duties and responsibilities required by Contract.
9. Substantial Completion Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.7.5. Submittals

1. Provide submittals in accordance with Section 01 33 00.
2. Submit preliminary construction progress schedule and Commissioning Schedule within 14 days of contract award to Departmental Representative for review.
3. Coordinate with Departmental Representative's project schedule.
4. After review, revise and resubmit schedule to comply with revised project schedule.
5. During progress of Work revise and resubmit as directed by Departmental Representative.
6. Submit to Departmental Representative Project Control System for planning, scheduling, monitoring and reporting of project progress.
7. Submit Project Control System to Departmental Representative for approval; failure to comply with each required submission, may result in progress payment being withheld in accordance with Federal Government's Terms of Payment.

8. Refer to article "Progress monitoring and reporting" of this specification Section for frequency of Project control system submittals.
9. Submit Project planning, monitoring and control system data as required by Departmental Representative in following form.
 - a. CD files in specified here in original scheduling software containing schedule and cash flow information, labelled with data date, specific update, and person responsible for update.
 - b. Master Plan Bar Chart.
 - c. Construction Detail schedule Bar Chart.
 - d. Listing of project activities and tender packages including milestones and logical connectors, networks from Project start to end. Sort activities by activity identifier and accompany with descriptions. List early and late start and finish dates together with durations, codes and float time.
 - e. Criticality report listing activities and milestones with days total float.
 - f. Progress report in early start sequence, listing for each trade or tender package, activities due to start, underway, or finished within two months from monthly update date. List activity identifiers, description and duration.

1.7.6. Quality Assurance

1. Use experienced personnel, fully qualified in planning and scheduling to provide services from start of construction to Final Certificate, including Commissioning.

1.7.7. Project Meeting

1. Meet with Departmental Representative within 5 working days of each Award of Sub-Contract or Own Forces date, to establish Work requirements and approach to project construction operations.

1.7.8. Work Breakdown Structure (WBS)

1. Prepare construction Work Breakdown Structure (WBS) within 5 working days of Award of Sub-Contract or Own Forces date.

1.7.9. Project Milestones

1. Project milestones include:
 - a. Award.
 - b. Submissions such as shop drawings and samples.
 - c. Mock-ups.
 - d. Permits.
 - e. Mobilization and demobilization.
 - f. Demolition.
 - g. Tender Packages/Own Forces Work.
 - h. Excavation.
 - i. Backfill.
 - j. Substructure.
 - k. Superstructure such as steel.
 - l. Concrete Work.
 - m. Building closed-in.
 - n. Interior finishing including fitting and millwork.

- o. Fire Suppression.
- p. Plumbing.
- q. HVAC.
- r. Electrical.
- s. Communications.
- t. Electronic safety and security.
- u. Earthwork.
- v. Exterior improvements.
- w. Commissioning
 - i. Components
 - ii. Systems
 - iii. Integrated Systems
 - iv. Final Commissioning Report
- x. Training
- y. Partial Interim and Interim Certificate(s) of Completion.
- z. Final Certificate Completion.

1.7.10. MASTER PLAN

1. Structure and base construction progress/ networks system on WBS coding.
2. Prepare comprehensive construction Master Plan and dependent Cash Flow Projection within 5 working days of finalizing agreement proceed with construction.
 - a. Master Plan will be used as baseline.
 - i. Departmental Representative will review and return revised baseline within 10 working days.
3. Reconcile revisions to Master Plan and Cash Flow Projections with previous baseline to provide continuous audit trail.
4. Initial and subsequent Master Plans will include:
 - a. CD containing schedule and cash flow information, clearly labeled with data date, specific update, and Construction Manager's person responsible for update.
 - b. Bar chart identifying coding, activity durations, early/late and start/finish dates, total float, completion as percentile, current status and budget amounts.
 - c. Network diagram showing, activity sequencing (logic), total float, early/late dates, current status and durations.
 - d. Actual/projected monthly cash flow: expressed annually and monthly and shown in both graphical and numerical form.

1.7.11. Detail Schedule

1. Provide detailed project schedules within 5 working days of agreement to proceed with construction, showing activity sequencing, interdependencies and duration estimates. Include listed activities as follows:
 - a. Shop drawings.
 - b. Samples.
 - c. Approvals.
 - d. Procurement.
 - e. Construction.

- f. Installation.
 - g. Site works.
 - h. Testing.
 - i. Commissioning and acceptance.
2. Relate Detail Schedule activities to basic activities and milestones developed and approved in Master Plan.
3. Insert Change Orders in appropriate and logical location of Detail Schedule. After analysis, clearly state and report to Departmental Representative for review effects created by insertion of new Change Order.

1.7.12. Review of the Construction Detail Schedule

1. Allow 10 workdays for review by Departmental Representative of proposed construction Detail Schedule.
2. Upon receipt of reviewed Detail Schedule make necessary revisions and resubmit to Departmental Representative for review within 5 workdays.
3. Promptly provide additional information to validate practicability of Detail Schedule as required by Departmental Representative.
4. Submittal of Detail Schedule indicates that it meets Contract requirements and will be executed generally in sequence.

1.7.13. Compliance with Detail Schedule

1. Comply with reviewed Detail Schedule.
2. Proceed with significant changes and deviations from scheduled sequence of activities that cause delay, when agreed by Departmental Representative.
3. Identify activities that are behind schedule and causing delay. Provide measures to regain slippage.
 - a. Construction delays affecting project schedule will not constitute justification for extension of contract completion date.
4. In the event of a request for Contract extension, submit as per a pre- agreed upon scheduled review periods to Departmental Representative, justification, project schedule data and supporting evidence for extension to Construction Manager's Contract or Construction Manager's Contractors' completion date, or partial or interim acceptance milestone date when required. Include as part of supporting evidence:
 - a. Written submission of proof of delay based on revised activity logic, duration and costs, showing time impact analysis illustrating influence of each change or delay relative to approved contract schedule.
 - b. Prepared schedule indicating how change will be incorporated. Demonstrate perceived impact based on date of occurrence of change and include status of construction at that time.
 - c. Other supporting evidence requested by Departmental Representative.

1.7.14. Progress Monitoring and Reporting

1. On ongoing basis, Detail Schedule on job site must show "Progress to Date". Arrange participation on and off site of Construction Manager's Own Forces, Contractors and suppliers, as, and when necessary, for purpose of network planning, scheduling, updating and progress monitoring. Inspect Work with Departmental Representative at

least once monthly to establish progress on each current activity shown on applicable networks.

2. Update and reissue project Work Breakdown Structure and relevant coding structures as project develops and changes.
3. Perform Detail Schedule update monthly with status dated (Data Date) on last working day of month. Update to reflect activities completed to date, activities in progress, logic and duration changes.
4. Submit to Departmental Representative copies of updated Detail Schedule.
5. Requirements for monthly progress monitoring and reporting are basis for progress payment request.
6. Submit monthly written report based on Detail Schedule, showing Work to date performed, comparing Work progress to planned, and presenting current forecasts. Report must summarize progress, defining problem areas and anticipated delays with respect to Work schedule, and critical paths. Explain alternatives for possible schedule recovery to mitigate any potential delay. Include in report:
 - a. Description of progress made.
 - b. Pending items and status of: permits, shop drawings, Change Orders, possible time extensions.
 - c. Status of Construction Manager's Contractors' completion date and milestones.
 - d. Risk review including current and anticipated problem areas, potential areas of delays and gains and corrective measures and opportunities with gains in time.
 - e. Review of progress and status of critical activities.

1.8.01 33 00 – Submittal Procedures

1.8.1. Administrative

1. Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
2. Do not proceed with Work affected by submittal until review is complete.
3. Present shop drawings, product data, samples and mock-ups in SI Metric units.
4. Where items or information is not produced in SI Metric units converted values are acceptable.
5. Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
6. Notify Departmental Representative in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
7. Verify field measurements and affected adjacent Work are coordinated.
8. Construction Manager's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
9. Construction Manager's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
10. Keep one reviewed copy of each submission on site.

11. Unless otherwise stated, ensure 4 reviewed copies of all submissions are available to be retained by the Departmental Representative.

1.8.2. Shop Drawings and Product Data

1. The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other product data which are to be provided by Construction Manager to illustrate details of a portion of Work.
2. Submit shop drawings bearing stamp and signature of qualified professional registered or licensed in Alberta.
 - a. Submit in addition to specified number of hard copies in electronic pdf version.
3. Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
4. Allow 10 working days for Departmental Representative's review of each submission.
5. Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
6. Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
7. Accompany submissions with transmittal letter, containing:
 - a. Date.
 - b. Project title and number.
 - c. Construction Manager's name and address.
 - d. Identification and quantity of each shop drawing, product data and sample.
 - e. Other pertinent data.
8. Submissions include:
 - a. Date and revision dates.
 - b. Project title and number.
 - c. Name and address of:
 - i. Construction Manager.
 - ii. Supplier.
 - iii. Manufacturer.
 - d. Construction Manager's stamp, signed by Construction Manager's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - e. Details of appropriate portions of Work as applicable:
 - i. Fabrication.
 - ii. Layout, showing dimensions, including identified field dimensions, and clearances.
 - iii. Setting or erection details.
 - iv. Capacities.
 - v. Performance characteristics.

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- vi. Standards.
 - vii. Operating weight.
 - viii. Wiring diagrams.
 - ix. Single line and schematic diagrams.
 - x. Relationship to adjacent work.
9. After Departmental Representative's review, distribute copies.
 10. Submit 6 prints of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
 11. Submit 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
 12. Submit 6 copies of test reports for requirements requested in specification Sections and as Departmental Representative may reasonably request.
 - a. Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 13. Submit 6 copies of certificates for requirements requested in specification Sections and as Departmental Representative may reasonably request.
 - a. Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - b. Certificates must be dated after award of project contract complete with project name.
 14. Submit 6 copies of manufacturer's instructions for requirements requested in specification Sections and as Departmental Representative may reasonably request.
 - a. Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
 15. Submit 6 copies of Manufacturer's Field Reports for requirements requested in specification Sections and as Departmental Representative may reasonably request.
 - a. Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
 16. Submit 6 copies of Operation and Maintenance Data for requirements requested in specification Sections and as Departmental Representative may reasonably request.
 17. Delete information not applicable to project.
 18. Supplement standard information to provide details applicable to project.
 19. If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
 20. The review of shop drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept.

- a. This review shall not mean that Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Construction Manager submitting same, and such review shall not relieve Construction Manager of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
- b. Without restricting generality of foregoing, Construction Manager is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.8.3. Samples

1. Submit for review samples in triplicate as requested in respective specification Sections. Label samples with origin and intended use.
2. Deliver samples prepaid to Departmental Representative's site office.
3. Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of the Construction Manager's specifications.
4. Where colour, pattern or texture is criterion, submit manufacturer's full range of samples.
5. Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
6. Make changes in samples which Departmental Representative may require, consistent with Construction Manager's drawings and specifications.
7. Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.8.4. Mock-Ups

1. Erect mock-ups in accordance with 01 45 00.

1.8.5. Progress Photographs

1. Submit labeled progress photographs.
2. Each submission
 - a. Prints sizes from electronic format, 200 x 300 mm.
 - b. Electronic format on CD.
3. Print Type: semi-matt colour with binding margin at one end.
4. Paper: single weight, not mounted.
5. Number of prints required: 3 sets.
6. Identification, print copy and electronic format: name and project number, viewpoint and date of photograph.
7. Viewpoints: interior and exterior locations: viewpoints determined by Departmental Representative.
8. Frequency: twice monthly and with each progress statement.

1.9.01 35 43 – Environmental Procedures

1.9.1. Definitions

1. Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
2. Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.9.2. Submittals

1. Submittals: in accordance with Section 01 33 00.
2. Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
3. Address topics at level of detail commensurate with environmental issue and required construction tasks.
4. Environmental protection plan: include:
 - a. Name of person responsible for ensuring adherence to Environmental Protection Plan.
 - b. Name and qualifications of person responsible for manifesting hazardous waste to be removed from site.
 - c. Name and qualifications of person responsible for training site personnel.
 - d. Descriptions of environmental protection personnel training program.
 - e. Erosion control plan which identifies type and location of erosion controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion control plan, Federal, Provincial, and Municipal laws and regulations.
 - f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
 - g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
 - h. Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.

- i. Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- j. Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- k. Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.
- l. Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- m. Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- n. Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- o. Pesticide treatment plan: to be included and updated, as required.

1.9.3. Fires

- 1. Fires and burning of rubbish on site not permitted.

1.9.4. Disposal of Wastes

- 1. Do not bury rubbish and waste materials on site.
- 2. Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.9.5. Drainage

- 1. Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan: include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- 2. Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sedimentations control plan.
- 3. Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- 4. Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- 5. Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.9.6. Site Clearing and Plant Protection

- 1. Protect trees and plants on site and adjacent properties.

2. Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.
3. Protect roots of designated trees to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
4. Minimize stripping of topsoil and vegetation.
5. Restrict tree removal to areas indicated or designated by Departmental Representative.

1.9.7. Pollution Control

1. Maintain temporary erosion and pollution control features installed under this contract.
2. Control emissions from equipment and plant to local authorities' emission requirements.
3. Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area, by providing temporary enclosures.
4. Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.9.8. Historical/Archaeological Control

1. Provide historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
2. Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Construction Manager and Departmental Representative.

1.9.9. Notification

1. Departmental Representative will notify Construction Manager in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Construction Manager's Environmental Protection plan.
2. Construction Manager: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
3. Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
4. No time extensions granted or equitable adjustments allowed to Construction Manager for such suspensions.

1.10. 01 41 00 – Regulatory Requirements

1.10.1. References and Codes

1. Perform Work in accordance with National Building Code of Canada (NBC) including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
2. Meet or exceed requirements of:
 - a. Contract documents.

- b. Specified standards, codes and referenced documents.

1.10.2. Hazardous Material Discovery

1. Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel- applied asbestos is encountered during demolition work. Notify Departmental Representative.
2. PCB: Polychlorinated Biphenyl: stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify Departmental Representative.
3. Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify Departmental Representative.

1.10.3. Building Smoking Environment

1. Comply with smoking restrictions and municipal by-laws.

1.11. 01 45 00 – Quality Control

1.11.1. Inspection

1. Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
2. Give at minimum, 3 working days' notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
3. If Construction Manager covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
4. Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.11.2. Independent Inspection Agencies

1. Notwithstanding the testing responsibilities of the Construction Manager, the Departmental Representative will conduct re-testing where deemed necessary;
 - a. Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work.
 - b. Cost of such services will be borne by Departmental Representative.
2. Provide equipment required for executing inspection and testing by appointed agencies.
3. Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
4. If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and re-inspection.

1.11.3. Access to Work

1. Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
2. Co-operate to provide reasonable facilities for such access.

1.11.4. Procedures

1. Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
2. Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
3. Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.11.5. Rejected Work

1. Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
2. Make good other Work damaged by such removals or replacements promptly.
3. If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative

1.11.6. Reports

1. Submit 4 copies of inspection and test reports to Departmental Representative.
2. Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

1.11.7. Test and Mix Designs

1. Furnish test results and mix designs as requested by Departmental Representative.
2. Include for tests and mix designs as specified.
3. Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.

1.11.8. Mock-Ups

1. Prepare mock-ups for Work specifically requested in specifications.
2. Construct in locations acceptable to Departmental Representative.
3. Prepare mock-ups for Departmental Representative review with reasonable promptness and in orderly sequence, to not cause delays in Work.
4. Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

5. If requested, Departmental Representative will assist in preparing schedule fixing dates for preparation.
6. Mock-ups may remain as part of Work.

1.11.9. Mill Tests

1. Submit mill test certificates as requested by Departmental Representative.

1.11.10. Equipment and Systems

1. Submit adjustment and balancing reports for mechanical, electrical and building equipment and systems.

1.12. 01 51 00 – Temporary Utilities

1.12.1. Installation and Removal

1. Provide temporary utilities controls in order to execute work expeditiously.
2. Remove from site all such work after use.

1.12.2. Dewatering

1. Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.12.3. Water Supply

1. Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.

1.12.4. Temporary Heating and Ventilation

1. Provide temporary heating required during construction period, including attendance, maintenance and fuel.
2. Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.
3. Provide temporary heat and ventilation in enclosed areas as required to:
4. Facilitate progress of Work.
5. Protect Work and products against dampness and cold.
6. Prevent moisture condensation on surfaces.
7. Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
8. Provide adequate ventilation to meet health regulations for safe working environment.
9. Maintain temperatures of minimum 10 degrees C in areas where construction is in progress.
10. Ventilating:
 - a. Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - b. Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - c. Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - d. Ventilate storage spaces containing hazardous or volatile materials.
 - e. Ventilate temporary sanitary facilities.

- f. Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- 11. Permanent building heating system not to be used when available. Be responsible for damage to heating system if use is permitted.
- 12. Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - a. Conform to applicable codes and standards.
 - b. Enforce safe practices.
 - c. Prevent abuse of services.
 - d. Prevent damage to finishes.
 - e. Vent direct-fired combustion units to outside.
- 13. Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.12.5. Temporary Power and Light

- 1. Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- 2. Provide temporary power for electric cranes and other equipment as required.
- 3. Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lux.
- 4. Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Departmental Representative provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months.

1.12.6. Temporary Communication Facilities

- 1. Provide and pay for temporary telephone, fax, data, e-mail, internet access hook up, lines, equipment necessary for own use.

1.12.7. Fire Protection

- 1. Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- 2. Burning rubbish and construction waste materials is not permitted on site.

1.13. 01 52 00 – Construction Facilities

1.13.1. References

- 1. Canadian Standards Association (CSA International)
 - a. CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - b. CSA-0121-M1978 (R2003), Douglas Fir Plywood.
 - c. CAN/CSA-S269.2-M1987 (R2003), Access Scaffolding for Construction Purposes.
 - d. CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.
- 2. Master Painters Institute (MPI)

1.13.2. Submittals

1. Provide submittals in accordance with Section 01 33 00.

1.13.3. Installation and Removal

1. Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Construction Manager, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
2. Identify areas which have to be graveled to prevent tracking of mud.
3. Indicate use of supplemental or other staging area.
4. Provide construction facilities in order to execute work expeditiously.
5. Remove from site all such work after use.

1.13.4. Scaffolding

1. Scaffolding in accordance with CAN/CSA-S269.2.
2. Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, and temporary stairs.

1.13.5. Hoisting

1. Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
2. Hoists cranes to be operated by qualified operator.

1.13.6. Elevators

1. Permanent elevators not to be used by construction personnel and transporting of materials.

1.13.7. Site Storage/Loading

1. Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
2. Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.13.8. Construction Parking

1. Parking is restricted to indicated Laydown Area.
2. Make good damage to roads used for project site access.
3. Provide and maintain adequate access to project site.
4. Clean site access areas/routes where used by Construction Manager's equipment.

1.13.9. Offices

1. Provide a separate site office for the Departmental Representative's use, lockable, complete with keys, furnishings and equipment.
2. Provide site office heated to 22 degrees C, lighted 750 lux and ventilated and air conditioned,
 - a. Site office, 24/7/365 occupancy, of sufficient size to at the minimum accommodate site meetings for 12 people, a furnished drawing laydown table and a serviced kitchenette.
 - b. Provide at the minimum 3 serviced and operational voice/data outlets;

- c. One outlet in each enclosed office and,
 - d. One outlet in the meeting area.
 - e. Provide data line speed as best locally available.
 - f. Provide and maintain operational a site office scanner/fax machine.
 - g. Scanner capacity/bed to accommodate at the minimum a 279mm x 430mm page size.
3. Provide additional site offices as required to accommodate Construction Manager's operation
 4. Subcontractors to provide their own offices as necessary. Direct location of these offices.
 5. Provide in each site office facility, marked and fully stocked first-aid cases in readily available locations.
 6. Locate all site office facilities in indicated Laydown Area.
 7. Make site good after decommissioning facilities.

1.13.10. Equipment, Tool and Materials Storage

1. Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
2. Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.13.11. Sanitary Facilities

1. Provide sanitary facilities for work force and Departmental Representative in accordance with governing regulations and ordinances.
2. Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.13.12. Construction Signage

1. No construction advertisement signs, other than health and safety, warning and instructional signs, are permitted on site.
2. Maintain approved signs and notices in good condition for duration of project, and dispose of offsite on completion of project or earlier if directed by Departmental Representative.

1.13.13. Protection and Maintenance of Traffic

1. Provide access and temporary relocated roads as necessary to maintain traffic.
2. Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.
3. Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
4. Protect traveling public from damage to person and property.
5. Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
6. Verify adequacy of existing roads and allowable load limit on these roads. Construction Manager: responsible for repair of damage to roads caused by construction operations.

7. Construct access and haul roads necessary.
8. Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
9. Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
10. Dust control: adequate to ensure safe operation at all times.
11. Location, grade, width, and alignment of construction and hauling roads: Subject to approval by Departmental Representative.
12. Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
13. Provide snow removal during period of Work.
14. Remove, upon completion of work, haul roads designated by Departmental Representative.

1.13.14. Clean-Up

1. Remove construction debris, waste materials, packaging material from work site daily.
2. Clean dirt or mud tracked onto paved or surfaced roadways.
3. Store materials resulting from demolition activities that are salvageable.
4. Stack stored new or salvaged material not in construction facilities.

1.14. 01 56 00 – Temporary Barriers and Enclosures

1.14.1. Installation and Removal

1. Provide temporary controls in order to execute Work expeditiously.
2. Remove from site all such work after use.

1.14.2. Hoarding Fence

1. Erect temporary site enclosures using purpose made, 1.8m high, modular, prefinished metal mesh, self-supporting, interlocking fencing.
2. Provide lockable truck entrance gate(s) and pedestrian door(s) as required and conforming to applicable traffic restrictions on adjacent streets and sites roadways. Equip gates with locks and keys.
 - a. Provide keys to Departmental Representative's Commissionaire for surveillance and inspection as it may related to Institutional operations.
3. Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law and directed by Departmental Representative.
4. Maintain enclosure in clean condition.
5. Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.
6. Ensure construction areas inside and outside Institution's fenced area are secure.
7. Fence and secure separately the Lay down and Work site areas.

1.14.3. Guard Rails and Barricades

1. Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.
2. Provide as required by governing authorities.

1.14.4. Weather Enclosures

1. Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
2. Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
3. Design enclosures to withstand wind pressure and snow loading.

1.14.5. Dust Tight Screens

1. Provide dust tight screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
2. Maintain and relocate protection until such work is complete.

1.14.6. Access to Site

1. Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
2. Maintain access in broom clean condition.
3. Maintain operable and paved roads to the Medium and Minimum Institution throughout the duration of the project, for un-interrupted full use.

1.14.7. Public Traffic Flow

1. Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

1.14.8. Fire Routes

1. Maintain access to property including overhead clearances for use by emergency response vehicles.

1.14.9. Protection for Off-Site and Public Property

1. Protect surrounding private and public property including laydown, site office facilities and parking areas from damage during performance of Work.
2. Be responsible for damage incurred.

1.14.10. Protection of Building Finishes

1. Provide protection for finished and partially finished building finishes and equipment during performance of Work.
2. Provide necessary screens, covers, and hoardings.
3. Confirm with Departmental Representative locations and installation schedule 3 working days prior to installation.
4. Be responsible for damage incurred due to lack of or improper protection.

1.15. 01 61 00 – Common Product Requirements

1.15.1. Quality

1. Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
2. Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition.

3. Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
4. Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
5. Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
6. Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.15.2. Availability

1. Immediately upon signing Contract(s), review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
2. In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.15.3. Storage Handling and Protection

1. Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
2. Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
3. Store products subject to damage from weather in weatherproof enclosures.
4. Store cementitious products clear of earth or concrete floors, and away from walls.
5. Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
6. Store sheet materials, lumber and on flat, solid supports and keep clear of ground. Slope to shed moisture.
7. Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
8. Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
9. Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.15.4. Transportation

1. Pay costs of transportation of products required in performance of Work.
2. Departmental Representative will pay for transportation cost of products supplied by Departmental Representative. Unload, handle and store such products.

1.15.5. Manufacturer's Instructions

1. Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
2. Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, to allow for Departmental Representative's review of the next course of action.
3. Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.15.6. Quality of Work

1. Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
2. Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
3. Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative whose decision is final.

1.15.7. Co-ordination

1. Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
2. Be responsible for coordination and placement of openings, sleeves and accessories.

1.15.8. Concealment

1. In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
2. Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

1.15.9. Remedial Work

1. Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
2. Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.15.10. Location of Fixtures

1. Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
2. Inform Departmental Representative of conflicting installation. Install as directed.

1.15.11. Fastenings

1. Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
2. Prevent electrolytic action between dissimilar metals and materials.

3. Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
4. Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
5. Keep exposed fastenings to a minimum, space evenly and install neatly.
6. Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.15.12. Fastenings – Equipment

1. Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
2. Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
3. Bolts may not project more than one diameter beyond nuts.
4. Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15.13. Protection of Work in Progress

1. Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

1.15.14. Existing Utilities

1. When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants and pedestrian and vehicular traffic.
2. Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

1.16. 01 71 00 – Examination and Preparation

1.16.1. Qualifications of Surveyor

1. Qualified registered land surveyor, licensed to practice in Place of Work, acceptable to Departmental Representative.

1.16.2. Survey Reference Points

1. Existing base horizontal and vertical control points are designated on drawings.
2. Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
3. Make no changes or relocations without prior written notice to Departmental Representative.
4. Report to Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
5. Require surveyor to replace control points in accordance with original survey control.

1.16.3. Survey Requirements

1. Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
2. Establish lines and levels, locate and lay out, by instrumentation.
3. Stake for grading, fill, topsoil placement and landscaping features.
4. Stake slopes and berms.
5. Establish pipe invert elevations.
6. Stake batter boards for foundations.
7. Establish foundation column locations and floor elevations.
8. Establish lines and levels for mechanical and electrical work.

1.16.4. Existing Services

1. Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.
2. Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by Departmental Representative.

1.16.5. Location of Equipment and Fixtures

1. Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
2. Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
3. Inform Departmental Representative of impending installation and obtain approval for actual location.
4. Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

1.16.6. Records

1. Maintain a complete, accurate log of control and survey work as it progresses.
2. On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.
3. Record locations of maintained, re-routed and abandoned service lines.

1.16.7. Submittals

1. Submit name and address of Surveyor to Departmental Representative.
2. On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.
3. Submit certificate signed by surveyor certifying those elevations and locations of completed Work that conform and do not conform to Contract Documents.

1.17. 01 73 03 – Execution Requirements

1.17.1. Submittals

1. Submittals: in accordance with Section 01 33 00.
2. Submit written request in advance of cutting or alteration which affects:
 - a. Structural integrity of elements of project.

- b. Integrity of weather-exposed or moisture-resistant elements.
 - c. Efficiency, maintenance, or safety of operational elements.
 - d. Visual qualities of sight-exposed elements.
 - e. Work of Departmental Representative or separate Construction Manager.
3. Include in request:
- a. Identification of project.
 - b. Location and description of affected Work.
 - c. Statement on necessity for cutting or alteration.
 - d. Description of proposed Work, and products to be used.
 - e. Alternatives to cutting and patching.
 - f. Effect on Work of Owner or separate Construction Manager.
 - g. Written permission of affected separate Construction Manager.
 - h. Date and time work will be executed.

1.17.2. Materials

- 1. Required for original installation.
- 2. Change in Materials: Submit request for substitution in accordance with Section 01 33 00.

1.17.3. Preparation

- 1. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- 2. After uncovering, inspect conditions affecting performance of Work.
- 3. Beginning of cutting or patching means acceptance of existing conditions.
- 4. Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- 5. Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

1.17.4. Execution

- 1. Execute cutting, fitting, and patching including excavation and fill to complete Work.
- 2. Fit several parts together, to integrate with other Work.
- 3. Uncover Work to install ill-timed Work.
- 4. Remove and replace defective and non-conforming Work.
- 5. Remove samples of installed Work for testing.
- 6. Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- 7. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- 8. Employ original installer to perform cutting and patching for weather- exposed and moisture-resistant elements, and sight-exposed surfaces.
- 9. Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- 10. Restore work with new products in accordance with requirements of Contract Documents.
- 11. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

12. At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.
13. Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
14. Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.
 - a. Remove all excess excavation and fill and all other material to off-site.

1.18. 01 74 11 – Cleaning

1.18.1. Project Cleanliness

1. Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Construction Managers.
2. Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
3. Clear snow and ice from access to building, bank/pile snow in designated areas only.
4. Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
5. Provide on-site containers for collection of waste materials and debris.
6. Provide and use marked separate bins for recycling. Refer to Section 01 74 21.
7. Dispose of waste materials and debris off site.
8. Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
9. Store volatile waste in covered metal containers, and remove from premises at end of each working day.
10. Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
11. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
12. Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.18.2. Final Cleaning

1. When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
2. Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
3. Prior to final review remove surplus products, tools, construction machinery and equipment.
4. Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
5. Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
6. Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

7. Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls and floors.
8. Clean lighting reflectors, lenses, and other lighting surfaces.
9. Vacuum clean and dust building interiors, behind grilles, louvers and screens.
10. Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
11. Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
12. Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
13. Remove dirt and other disfiguration from exterior surfaces.
14. Clean and sweep roofs, gutters, areaways, and sunken wells.
15. Sweep and wash clean paved areas.
16. Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
17. Clean roofs, downspouts, and drainage systems.
18. Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
19. Remove snow and ice from access to building.
20. Complete cleaning prior to start-up and commissioning of systems and integrated systems.

1.19. 01 74 21 – Construction Demolition Waste Management and Disposal

1.19.1. Waste Management Goals

1. Prior to start of Work conduct meeting with Departmental Representative to review and discuss PWGSC's waste management goals.
2. PWGSC's waste management goal 75 percent of total project waste to be diverted from landfill sites. Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
3. Accomplish maximum control of solid construction waste.
4. Preserve environment and prevent pollution and environment damage.

1.19.2. Definitions

1. Demolition Waste Audit (DWA): relates to actual waste generated from project.
2. Inert Fill: inert waste - exclusively asphalt and concrete.
3. Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
4. Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
5. Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
6. Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

7. Reuse: repeated use of product in same form but not necessarily for same purpose.
Reuse includes:
 - a. Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - b. Returning reusable items including pallets or unused products to vendors.
8. Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
9. Separate Condition: refers to waste sorted into individual types.
10. Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
11. Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
12. Waste Management Co-ordinator (WMC): Construction Manager representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
13. Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA (Schedule A).

1.19.3. Documents

1. Maintain at job site, one copy of following documents:
 - a. Waste Audit.
 - b. Waste Reduction Workplan.
 - c. Material Source Separation Plan.
 - d. Schedules completed for project.

1.19.4. Submittals

1. Submittals in accordance with Section 01 33 00.
2. Prepare and submit following prior to project start-up:
 - a. Submit 2 copies of completed Waste Audit (WA): Schedule A.
 - b. Submit 2 copies of completed Waste Reduction Workplan (WRW): Schedule B.
 - c. Submit 2 copies of completed Demolition Waste Audit (DWA): Schedule C.
 - d. Submit 2 copies of Materials Source Separation Program (MSSP) description.
3. Submit before final payment summary of waste materials salvaged for reuse, recycling or disposal by project using deconstruction/disassembly material audit form.
 - a. Provide receipts, scale tickets, waybills, and show quantities and types of materials reused, recycled or disposed of.
 - b. For each material reused, sold or recycled from project, include amount in tones or quantities by number, type and size of items and the destination.
 - c. For each material land filled or incinerated from project, include amount of material and identity of landfill, incinerator or transfer station.

1.19.5. Waste Audit (WA)

1. Conduct WA prior to project start-up.

2. Prepare WA: Schedule A.
3. Record, on WA - Schedule A, extent to which materials or products used consist of recycled or reused materials or products.

1.19.6. Waste Reduction Workplan (WRW)

1. Prepare WRW prior to project start-up.
2. WRW should include but not limited to:
 - a. Destination of materials listed.
 - b. Deconstruction/disassembly techniques and sequencing.
 - c. Schedule for deconstruction/disassembly.
 - d. Location.
 - e. Security.
 - f. Protection.
 - g. Clear labeling of storage areas.
 - h. Details on materials handling and removal procedures.
 - i. Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
3. Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
4. Describe management of waste.
5. Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
6. Post WRW or summary where workers at site are able to review content.
7. Set realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.
8. Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

1.19.7. Demolition Waste Audit (DWA)

1. Prepare DWA prior to project start-up.
2. Complete DWA: Schedule C.
3. Provide inventory of quantities of materials to be salvaged for reuse, recycling, or disposal.

1.19.8. Cost Revenue Analysis Workplan (CRAW)

1. Prepare CRAW: Schedule D.

1.19.9. Materials Source Separation Program (MSSP)

1. Prepare MSSP and have ready for use prior to project start-up.
2. Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Departmental Representative.
3. Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
4. Provide containers to deposit reusable and recyclable materials.
5. Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
6. Locate separated materials in areas which minimize material damage.

7. Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - a. Transport to approved and authorized recycling facility or to users of material for recycling.

1.19.10. Storage Handling and Protection

1. Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
2. Unless specified otherwise, materials for removal become Construction Manager's property.
3. Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
4. Protect structural components not removed for demolition from movement or damage.
5. Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
6. Protect surface drainage, mechanical and electrical from damage and blockage.
7. Separate and store materials produced during dismantling of structures in designated areas.
8. Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - a. On-site source separation is recommended.
 - b. Remove co-mingled materials to off-site processing facility for separation.
 - c. Provide waybills for separated materials.

1.19.11. Disposal of Wastes

1. Do not bury rubbish or waste materials.
2. Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner into waterways, storm, or sanitary sewers.
3. Keep records of construction waste including:
 - a. Number and size of bins.
 - b. Waste type of each bin.
 - c. Total tonnage generated.
 - d. Tonnage reused or recycled.
 - e. Reused or recycled waste destination.
4. Remove materials from deconstruction as deconstruction/disassembly Work progresses.
5. Prepare project summary to verify destination and quantities on a material- by-material basis as identified in pre-demolition material audit.

1.19.12. Use of Site and Facilities

1. Execute work with least possible interference or disturbance to normal use of premises.

1.19.13. Scheduling

1. Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

1.19.14. Application

1. Do Work in compliance with WRW.
2. Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

1.19.15. Cleaning

1. Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
2. Clean-up work area as work progresses.
3. Source separate materials to be reused/recycled into specified sort areas.

1.19.16. Diversion of Materials

1. From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Departmental Representative and consistent with applicable fire regulations.
 - a. Mark containers or stockpile areas.
 - b. Provide instruction on disposal practices.
2. On-site sale of salvaged, recovered, reusable, recyclable materials is not permitted.
3. Demotion Waste:

Material Type	Recommended Diversion %	Actual Diversion %
Acoustic Tile	50	[_____]
Acoustical Insulation	100	[_____]
Carpet	100	[_____]
De-mountable Partitions	80	[_____]
Doors and Frames	100	[_____]
Electrical Equipment	80	[_____]
Furnishings	80	[_____]
Marble Base	100	[_____]
Mechanical Equipment	100	[_____]
Metals	100	[_____]
Rubble	100	[_____]
Wood (uncontaminated)	100	[_____]
Other		

4. Construction Waste

Material Type	Recommended Diversion %	Actual Diversion %
Cardboard	100	[_____]

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Plastic Packaging	100	[_____]
Rubble	100	[_____]
Steel	100	[_____]
Wood (uncontaminated)	100	[_____]
Other		[_____]

1.19.17. Waste Audit (WA)

1. Schedule A - Waste Audit (WA):

1	2	3	4	5	6	7
Material	Material	Estimated	Total	Generation	%	%
Category	Quantity Unit	Waste %	Quantity of Waste (unit)	Point	Recycled	Reused

Wood and
 Plastics
 Material
 Description
 Off-cuts
 Warped
 Pallet
 Forms
 Plastic
 Packaging
 Cardboard
 Packaging
 Other

Doors and
 Windows
 Material
 Description
 Painted
 Frames
 Glass

1.19.18. Waste Reduction Workplan (WRW)

1. Schedule B:

1	2	3	4	5	6
Material Category	Person(s) Responsible	Total Quantity of Waste	Reused Amount (units) Project Actual	Recycled Amount (units) Actuals	Material(s) Destination
Wood and Plastics Material Description Chutes Warped Pallet Forms Plastic Packaging Cardboard Packaging Other:					
Doors and Windows Material Description Painted Frames Glass Wood Metal Other					

1.19.19. Demolition Waste Audit (DWA)

.1 Schedule C - Demolition Waste Audit (DWA):

1	2	3	4	5	6	7
Material	Quantity	Unit	Total	Volume	Weight	Remarks

Category/ Description	(cum)	(cum)	and Assumptio s
Assumptions			
Wood			
Wood Stud			
Plywood			
Baseboard			
Wood Door			
Trim -			
Wood			
Cabinet			
Doors and			
Windows			
Panel			
Regular Slab			

1.20. 01 77 00 – Closeout Procedures

1.20.1. Inspection and Declaration

1. Construction Manager's Inspection: Construction Manager and Sub Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - a. Notify Departmental Representative in writing of satisfactory completion of Construction Manager's Inspection and that corrections have been made.
 - b. Request Departmental Representative Inspection.
2. Completion: submit written certificate that following have been performed:
 - a. Work has been completed and inspected for compliance with
 - i. Contract Documents.
 - ii. Local authorities having jurisdiction.
 - iii. Local services/utility providers.
 - b. Defects have been corrected and deficiencies have been completed.
 - c. Equipment and systems have been tested, adjusted and balanced and are fully operational.
 - d. Certificates required by Authorities Having Jurisdiction and by Utilities have been submitted.
 - e. Operation of systems have been demonstrated to Departmental Representative's and Institution's personnel.
 - f. Work is complete and ready for final inspection.
3. Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and Construction Manager. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.

1.20.2. Warranty Inspection

1. In the case of one year warranty, conduct joint inspections six (6) and ten (10) months after Interim Certificate of Completion. In the case of each extended warranty, conduct joint inspections in four (4) periods as agreed by Departmental Representative.
2. Immediately prior to end of warranty period(s) Departmental Representative and Construction Manager shall make a joint final inspection of the remedial Work noted two (2) months prior to end of warranty(s) and reported within the two (2) during remedial work.

1.21. 01 78 00 – Closeout Submittals

1.21.1. Submittals

1. Submittals: in accordance with Section 01 33 00.
2. Prepare instructions and data using personnel experienced in maintenance and operation of described products.
3. Copy will be returned after final inspection, with Departmental Representative's comments.
4. Revise content of documents as required prior to final submittal.
5. Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative;
 - a. Four final copies plus electronic copies of operating and maintenance manuals in English.
 - b. Four copies plus electronic copies of final Commissioning Report.
6. Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
7. Furnish evidence, if requested, for type, source and quality of products provided.
8. Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
9. Pay costs of transportation.

1.21.2. Electronic Submittals

1. Submit number of hard copies specified for each type and format of submittal and in also submit in electronic format as pdf files and also in MS Word, Excel, Project as may be appropriate and in AutoCAD dwg files all on CD R/W or USB.
2. Departmental Representative will provide one electronic set of drawings, schedules and specifications for as-built drawing and specification purposes.
 - a. Drawings are in AutoCAD.
 - b. Specifications are in MS Word
 - c. Amendments are in MS Word.
3. Transfer as-built information from marked up set of documents to electronic format.
 - a. Provide plotted or printed as specified.
4. As-built topographical and site surveys in AutoCAD and pdf format.

1.21.3. Format

1. Organize data as instructional manual.

2. Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
3. When multiple binders are used correlate data into related consistent groupings. Identify contents of each binder on spine.
4. Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
5. Arrange content by components, systems, integrated systems, process flow, under Section numbers and sequence of Table of Contents.
6. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
7. Text: manufacturer's printed data, or typewritten data.
8. Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
9. Provide 1:1 scaled CAD files in pdf and dwg format.
10. On project completion submit to Departmental Representative 4 electronic pdf copies on CD R/W and 4 paper copies in binders of Operations and Maintenance and Systems Descriptions Manual.
 1. Organize manuals into industry standard maintenance manual tabs with links in index to each descriptive section describing the component or maintenance procedure.
 2. Organize files into MasterFormat 2010 numbering system.
 3. Label disk "Operational and Maintenance Data", project name, date, names of Construction Manager, subcontractors, consultants and sub consultants.
 4. Include scanned guarantees, bonds, diagrams and drawings.
 5. Organize contents into applicable sections of work to parallel specification breakdown. Mark each section by labeled tabs (navigation buttons).
 6. Ensure all content is legible.

1.21.4. Contents – Each Volume

1. Table of Contents: provide title of project;
 - a. Date of submission; names.
 - b. Addresses, and telephone numbers of Department Representative and Construction Manager with name of responsible parties.
 - c. Schedule of products and systems, indexed to content of volume.
2. For each product or system:
 - a. List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
3. Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
4. Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
5. Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.
6. Demonstration and Training: refer to Section 01 79 00.

- a. Submit to Departmental Representative 4 electronic copies on DVD R/W of demonstration and training sessions.

1.21.5. As-Builds Specifications and Samples

1. Maintain, in addition to requirements in General Conditions, at site for Departmental Representative one record copy of:
 - a. Contract Drawings.
 - b. Specifications.
 - c. Addenda.
 - d. Change Orders and other modifications to Contract.
 - e. Reviewed shop drawings, product data, and samples.
 - f. Field test records.
 - g. Inspection certificates.
 - h. Manufacturer's certificates.
2. Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
3. Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
4. Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
5. Keep record documents and samples available for inspection by Departmental Representative.
6. Departmental Representative may furnish additional drawings and specifications to clarify Work.
 - a. Such documents become part of Contract Document.
 - b. Include such documents in As Built submission.
7. Turn over, at completion, with all as-built information:
 - a. Drawings;
 - i. 4 electronic copies of drawings in AutoCAD file format 2010.
 - ii. 4 sets of printed as-built drawings.
 - iii. 1 pdf copy.
 - b. Specifications in Master format 2010;
 - i. 4 electronic copies of specifications in MS Word 2007.
 - ii. 4 sets of printed as-built specifications.
 - iii. 1 pdf copy.
8. Submit to Departmental Representative one copy of drawings and specifications for review prior to final submission.

1.21.6. Recording Actual Site Conditions

1. Record information on set of black line opaque drawings, and in copy of Specifications Documents.
2. Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
3. Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

4. Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - a. Measured depths of elements of foundation in relation to finish first floor datum.
 - b. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - c. Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - d. Field changes of dimension and detail.
 - e. Changes made by change orders.
 - f. Details not on original Contract Drawings.
 - g. References to related shop drawings and modifications.
5. Specifications: mark each item to record actual construction, including:
 - a. Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - b. Changes made by Addenda and change orders.
6. Other Documents: maintain manufacturer's certifications, guarantees, inspection certifications, field test records, required by individual specifications sections.

1.21.7. Final Survey

1. Submit final site survey certificate in accordance with Section 01 71 00 certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.21.8. Equipment and Systems

1. Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
2. Panel board circuit directories: provide electrical service characteristics, controls, and communications.
3. Include installed colour coded wiring diagrams.
4. Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
5. Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
6. Provide servicing and lubrication schedule, and list of lubricants required.
7. Include manufacturer's printed operation and maintenance instructions.
8. Include sequence of operation by controls manufacturer.
9. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
10. Provide installed control diagrams by controls manufacturer.
11. Provide Construction Manager's co-ordination drawings, with installed colour coded piping diagrams.

12. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
13. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
14. Include test and balancing reports as specified in Section 01 45 00 and 01 91 13.
15. Additional requirements: as specified in individual specification sections and Terms of Reference (TOR).

1.21.9. Materials and Finishes

1. Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
2. Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
3. Moisture-Protection and Weather-Exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
4. Additional Requirements: as specified in individual specifications sections.

1.21.10. Spare Parts

1. Provide spare parts.
2. Provide items of same manufacture and quality as items in Work.
3. Deliver to site as directed; place and store.
4. Receive and catalogue items. Submit inventory listing to Departmental Representative. Include approved listings in Maintenance Manual.
5. Obtain receipt for delivered products and submit prior to final payment.

1.21.11. Maintenance Materials

1. Provide maintenance and extra materials.
2. Provide items of same manufacture and quality as items in Work.
3. Deliver to site as directed; place and store.
4. Receive and catalogue items. Submit inventory listing to Departmental Representative. Include approved listings in Maintenance Manual.
5. Obtain receipt for delivered products and submit prior to final payment.

1.21.12. Special Tools

1. Provide special tools.
2. Provide items with tags identifying their associated function and equipment.
3. Deliver to site as directed; place and store.
4. Receive and catalogue items. Submit inventory listing to Departmental Representative. Include approved listings in Maintenance Manual.

1.21.13. Storage, Handling and Protection

1. Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
2. Store in original and undamaged condition with manufacturer's seal and labels intact.
3. Store components subject to damage from weather in weatherproof enclosures.

4. Store paints and freezable materials in a heated and ventilated room.
5. Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.

1.21.14. Warranties and Bonds

1. Develop warranty management plan to contain information relevant to Warranties.
2. Submit warranty management plan, 60 days before planned pre-warranty conference, to Departmental Representative approval.
3. Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
4. Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
5. Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
6. Assemble approved information in binder and submit upon acceptance of work.

Organize binder as follows:

- a. Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - b. List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - c. Obtain warranties, manufacturers' guarantees and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - d. Verify that documents are in proper form, contain full information, and are notarized.
 - e. Co-execute submittals when required.
 - f. Retain warranties and bonds until time specified for submittal.
7. Except for items put into use with Departmental Representative permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
 8. Include information contained in warranty management plan as follows:
 - a. Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Construction Managers, subcontractors, manufacturers or suppliers involved.
 - b. Listing and status of delivery of Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and commissioned systems and integrated systems.
 - c. Provide list for each warranted equipment, item, feature of construction or system indicating:
 - i. Name of item.
 - ii. Model and serial numbers.
 - iii. Location where installed.
 - iv. Name and phone numbers of manufacturers or suppliers.
 - v. Names, addresses and telephone numbers of sources of spare parts.
 - vi. Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.

- vii. Cross-reference to warranty certificates as applicable.
 - viii. Starting point and duration of warranty period.
 - ix. Summary of maintenance procedures required to continue warranty in force.
 - x. Cross-Reference to specific pertinent Operation and Maintenance manuals.
 - xi. Organization, names and phone numbers of persons to call for warranty service.
 - xii. Typical response time and repair time expected for various warranted equipment.
- d. Construction Manager's plans for attendance of the various required post-construction warranty inspections.
 - e. Procedure and status of tagging of equipment covered by extended warranties.
 - f. Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.
9. Respond in a timely manner to oral or written notification of required construction warranty repair work.
10. Written verification will follow oral instructions. Failure to respond will be cause for the Departmental Representative to proceed with action against Construction Manager.

1.21.15. Pre-Warranty Conference

- 1. Meet with Departmental Representative, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by Departmental Representative.
- 2. Departmental Representative will establish communication procedures for:
 - a. Notification of construction warranty defects.
 - b. Determine priorities for type of defect.
 - c. Determine reasonable time for response.
- 3. Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.
- 4. Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.21.16. Warranty Tags

- 1. Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by Departmental Representative.
- 2. Attach tags with copper wire and spray with waterproof silicone coating.
- 3. Leave date of acceptance until project is accepted for occupancy.
- 4. Indicate following information on tag:
 - a. Type of product/material.
 - b. Model number.
 - c. Serial number.
 - d. Contract number.
 - e. Warranty period.
 - f. Inspector's signature.
 - g. Construction Manager.

Construction Management
Division 01 – General Requirements

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Integrated Training Facility Project

CM Services

General Procedures & Standards

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1. Introduction

1.1. General Procedures and Standards (GP&S)

1.1.1. General

1. GP&S for Construction Management (CM) have been developed to:
 - a. Facilitate the development of a consistent, well-documented CM process reflecting industry best practices and performance standards; and
2. Ensure compliance with federal government standards, RCMP Policies and Treasury Board directives.

1.1.2. Document Harmonization and Order of Precedence

1. GP&S, TOR, Division 01-General Requirements and Definitions documents are complementary and to be used together.
 - a. TOR takes precedence.
2. TOR describes project-specific requirements, services and deliverables while the
3. GP&S outlines with minimum standards, procedures and performance common to all projects.

1.1.3. Key Links

1. National Project Management System (NMPS)
 - a. <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>
 - b. PSPC project delivery and terminology is defined in the NPMS.
2. National Master Specifications (NMS)
 - a. http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/nms_index.html?utm_campaign=nms&utm_medium=redirect_eng
 - b. Develop specifications to the latest version of the NMS data base.
3. Code of Conduct for Procurement - Context and purpose of the Code
 - a. <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>
 - b. Provide Work in an honest, fair and comprehensive manner.

1.2. Project Delivery

1.2.1. General Requirements

1. Obtain written authorization from the Departmental Representative before proceeding to the next milestone or phase of work.
2. Coordinate all services with the Departmental Representative.
3. Deliver project utilizing best practices in support of User Department needs, respecting the approved financial budget, schedule, scope and quality.
4. Provide continuous and comprehensive documentation of the project at all stages of the project implementation.
5. Ensure continuity of key personnel and a CM team with an in-depth understanding and collective “buy-in” of the project requirements for the life of the project.

1.2.2. Service Delivery

1. Submittals

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- a. Submit various Reports, Sketches, Drawings, Specifications and Progress Schedules and Payment and Manuals at key project milestones.
 - i. Content and level of detail shall be specific to the expectations relative to a milestone and not in advance of a milestone.
 - ii. Construction budget/estimate level of accuracy shall reflect the scope and accuracy consistent with the expectations relative to a milestone and not in advance of a milestone.
 - iii. All work submitted to the Departmental Representative will be reviewed for;
 - 1. Design and documentation performance quality;
 - 2. Conformance to Owner Project Requirements (OPR), and
 - 3. Constructability, biddability and claims avoidance.
 - b. Provide written responses to review comments.
2. Computer Aided Design (CAD)
- a. In the case BIM is not required or used, develop project drawings on a CAD drawing system acceptable to PSPC standards;
 - i. Web site, <http://www.tpsgc-pwgsc.gc.ca/biens-property/cdao-cadd/index-eng.html>
 - ii. Furnish digital files for all submissions.
 - iii. Make provisions for automatic take-offs to be derived directly from the CAD drawing files. These shall be used to prepare final estimates.
3. Building Information Modeling (BIM)
- a. RCMP may require the use of BIM to deliver projects. Any requirement to use BIM will be indicated in the TOR and other complementary documents.
4. Specifications and Cost Estimates
- a. During the Schematic Design and Design Development milestones, development of outline specification and cost estimates are to be structured to Unifomat II detail Level 4.
 - b. During Construction Documentation, Tender and Close Out milestones, development of specifications and cost estimate are to be are to be structured to National Research Council/ PWGSC/ National Master Specifications, MasterFormat.
 - c. National Master Specification (NMS)
 - i. The National Research Council of Canada (NRC) has assumed ownership of the National Master Specification (NMS) from Public Works and Government Services Canada (PWGSC).
 - ii. NMS is intended for use by the federal government, other public organizations and the private sector in the preparation of construction and renovation contract documents.
 - iii. Contact NRC for the re-branded latest version of PWGSC NMS User Guide and specification development framework.
 - 1. The Guide reflects honest, fair and comprehensive conduct for both public and private sectors.

1.2.3. Procurement of Goods and Services

1. PSPC contracting requirements
 - a. Code of Conduct for Procurement applies to all goods and services tenders issued by the CM in compliance to the TOR.

1.2.4. Industry Standard Practices

1. Review the tender work packages to confirm completeness and that the procurement method will achieve value for money and meet the schedule.
2. Use standard Construction Association practices for tendering for the project area. Include the use of;
 - a. CCDC standard contracting documents.
 - b. Public advertisement to the industry using provincially/territorially acceptable advertisement methods or where;
 - i. Justified for value for money, an invitation to three to five bidders experienced in the work.
 - ii. Limited trades or suppliers are proven, the Departmental Representative with the approval of the Contracting Authority, may authorize pre-qualified or sole source tenders.

2. Project Administration

2.1. General

1. Project Administration provides background information and expectations associated with the design process and deliverables.

2.1.1. Project Management

1. The RCMP administers the project on behalf of Canada and exercises control over the Design, Implementation and Close Out phases of Project Delivery.
2. This project is to be organized, managed and delivered in a collaborative manner.
3. The RCMP Project Team, the Consultant, the CM and the User Department teams will be required to work together during the Design, Implementation and Close Out phases of Project Delivery.

2.2. Language

1. Construction documents must be prepared in English.

2.3. Media

1. The CM shall not respond to any media inquiry.
2. Direct all media requests to the Departmental Representative.

2.4. Project Management

2.4.1. National Project Management System

1. RCMP uses the National Project Management System (NPMS) for management and delivery of its real property projects to align with the Federal Government review and approvals processes. Refer to the PWGSC NPMS web site for more details.

- a. Web site, <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>

2.4.2. Design Stage

1. Preliminary design Process.
 - a. The purpose of this process is to analyze project requirements including codes, regulations, programming, sustainability, cost, time management and risk to demonstrate a full understanding of the project.
 - b. The Preliminary Design documents become guiding documents utilized throughout the project to guide the delivery.
2. Schematic Design Process.
 - a. The purpose of this process is to explore different design options and to analyze them against the project requirements.
 - b. Typically, the Schematic Design will be in sufficient detail to illustrate and communicate the project characteristics, and would provide a detailed review and analysis of the project requirements including all updates and amendments to ensure all requirements are fully integrated into the Schematic Design.
 - c. Out of this process the Schematic Design is accepted and authorization to proceed to Design Development is based on the accepted Schematic Design.
 - d. The Departmental Representative, in concert with others choose a preferred option to be further developed.
 - e. The approved Schematic Design become guiding documents and will be utilized throughout the project to guide the delivery.
3. Design Development Process.
 - a. The purpose of this process is to further develop the design option selected for refinement during the Schematic Design process.
 - b. Typically, the Design Development documents consist of drawings and other documents to describe the scope, quality and cost of the project in sufficient detail to facilitate design approval, confirmation of code compliance, detailed planning of construction and project approval.
 - c. This design is used as the basis for preparation of construction documents.
 - d. The approved Design Development documents become guiding documents and are utilized throughout the project to guide the delivery.
4. Construction Document Process.
 - a. The purpose of this process is to translate design development documents into construction drawings and specifications, for use by the contractor to determine a cost for the work.
 - b. Refer to the TOR for Construction Documents QA Review submission milestones.

2.4.3. Implementation Phase

1. Commissioning Process.
 - a. Commissioning Process: refer to CAN/CSA Z320-11

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- b. Commissioning is a quality assurance process, in which the functional requirements and the operational requirements (Owner Project Requirements – OPR) of the project are tested, verified and proven to function as intended.
 - c. Commissioning Process deliverables occur progressively throughout the project life cycle as per milestones detailed in TOR Part 2 Required Services.
2. Construction Contract Procurement Process.
 - a. The purpose of this process is to obtain and evaluate bids/proposals from qualified contractors to construct the work, as per the Construction Contract Documents and to award the construction contract according to government regulations.
 3. Construction Contract Administration Process.
 - a. The purpose of this process is to construct the work in compliance with the Construction Contract Documents and to direct and monitor all necessary or requested changes to the scope of work during construction, commissioning and closeout.

2.4.4. Closeout Phase

1. Post Construction Process.
 - a. The purpose of this process is to ensure the orderly completion and recording of project and contract required documents and deliverables and to liaise with the RCMP and other agencies as appropriate to close out the project.

2.5. Cost Management

2.5.1. General

1. Construction cost estimates are prepared and submitted to RCMP by the Consultant Team Quantity Surveyor at various times during the Design and Implementation phases.
2. In addition to the Consultants' estimate, RCMP may have independent estimates performed to compare with the Consultant estimate.
3. The CM provides cost confirmation using same format as well as by trade division breakouts.
 - a. Schematic Design and Design Development;
 - i. Cost estimates, similar to specifications, structured to Uniformat II detail Level 4/5.
 - b. Construction Documentation and Construction/Implantation/Close-Out
 - i. Cost estimates, similar to specifications, structured to National Research Council/ PSPC/ National Master Specifications, MasterFormat.
4. The level of accuracy of a class D cost estimate is such that no more than a 20% design contingency allowance is required.
5. The level of accuracy of a class C cost estimate is be such that no more than a 15% design contingency allowance is required.
6. The level of accuracy of a class 'B' cost estimate is such that no more than a 10% design contingency allowance is required.
7. The level of accuracy of a class 'A' cost estimate is such that no more than a 5% design contingency allowance is required.

2.6. Roles and Responsibilities

2.6.1. Construction Manager (CM)

1. The CM shall:
 - a. Assign staff or engage the services of Specialist Consultants to provide the required services outlined in TOR Part 2, Advisory and Support Services;
 - b. Complete the Work outlined in TOR Part 3 General Contractor Work using the CM's Own Forces and the CM's contracted Sub-Trades;
 - c. Ensure continuity of key personnel and dedicate a working team for the life of this project;
 - d. Submit in writing, to the Departmental Representative for review and acceptance;
 - i. The respective names, addresses and confirmation of qualifications of individuals and/or firms engaged to provide Services for this Project, who were not identified in the CM's response to the RFP, and
 - ii. Proposed changes to the roles of persons to be employed by the CM or firms to be contracted by the CM to provide the Services and Work for the Project and shall include the names, addresses, qualifications and experience of the proposed individual(s) or firm(s).

2.6.2. The CM Team

1. The CM's Key Personnel shall be located in Regina, Saskatchewan or in the immediate surrounding area, for the period of their involvement in the Project. Key Personnel shall not be substituted without written approval by the departmental representative.
2. The CM team shall:
 - a. Have complete and collective understanding of the project requirements, including scope, budget and scheduling objectives; and
 - b. Work to ensure a collaborative and cooperative team approach with knowledgeable and timely input and contribution by all project team members.

2.6.3. RCMP

1. RCMP will:
 - a. Be responsible to deliver the project;
 - b. Manage the internal stakeholders of RCMP and the User Departments;
 - c. Manage internal resources to Quality Assure the project deliverables;
 - d. Provide authorizations to the CM and Consultant on various tasking;
 - e. Ensure Integrated Design Review Sessions are organized at various stages of the project, as required; and
 - f. Manage the project and contracts with the Consultant and the CM.

2.6.4. The RCMP Team

1. The RCMP Departmental Representative:
 - a. Is the RCMP Project Manager or delegated Deputy Project Manager assigned to administer the Project;
 - b. Is responsible for the day-to-day management of the project and for overseeing its progress and delivery, on behalf of RCMP;

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- c. Is the representative for all project contract services and, as such, will be the CM's single point of contact for all project direction;
 - d. Is the liaison amongst and between the Construction Manager, the Consultant, RCMP and the User Departments; and
 - e. Is responsible for conveying all requirements of the User Department to the CM and Consultant Team.
2. The PWGSC Architecture and Engineering Centre of Expertise (AECoE) Team:
 - a. Provides expert advice and quality assurance for architectural and engineering disciplines and specialities;
 - b. Participates in pre-design, design and reviews construction documents.
 - c. Attends construction meetings and conduct field reviews on behalf of the Departmental Representative, as required;
 - d. Uses PWGSC Design Manager to coordinate its services;
 - e. Offers technical advice, risk advice, reviews CM deliverables and tracks compliance and recommends design approaches;
 - f. The PWGSC Architecture and Engineering Centre of Expertise (AECoE) Team will be represented by the following disciplines;
 - i. Architecture & Interior Design,
 - ii. Structural Engineering,
 - iii. Civil Engineering,
 - iv. Mechanical Engineering,
 - v. Electrical Engineering,
 - vi. Commissioning Advisor.
 3. The PWGSC Commissioning Advisor:
 - a. Represents the Crown's interests in the commissioning process;
 - b. Provides technical advice and quality assurance on the commissioning process throughout delivery;
 - c. Reviews documentation and reported results throughout the project delivery;
 - d. Witnesses verification of Systems and Integrated Systems Testing as demonstrated by CM; and
 - e. Participates in warranty reviews.

2.6.5. User Department

1. The User Department Project Leader:
 - a. Is accountable for the expenditure of public funds and delivery of the project in accordance with terms accepted by the Treasury Board;
 - b. Reports to User Department senior executive management;
 - c. Will play several roles in the delivery of the project, as follows;
 - i. Coordinate the quality, timing and completeness of information and decisions related to the functional performance of the facility,
 - ii. Ensure User Department program requirements are understood by all, and
 - iii. Facilitate and provide User Department sign-offs and approvals, as required.

2.6.6. The Consultant Team

1. The consultant team includes the prime consultant, qualified professionals, sub-consultants and specialists with relevant experience, capable of providing required professional services for the Project.
2. The Consultant Team is responsible for:
 - a. Completing the design for the built works and for coordinating and directing the work of sub-consultants and specialists;
 - b. Preparing and assembling the tender documents for each identified tender package;
 - c. Providing input into the Departmental Representative's Risk Management Plan; and
 - d. Providing to the Departmental Representative contract administration services during design and construction.

2.6.7. Provincial and Municipal Authorities

1. The federal government generally defers to provincial/territorial and municipal authorities for specific regulations, standards and inspections but in areas of conflict, the more stringent authority prevails.
2. Municipal authority review.
 - a. Submissions will be reviewed as required by the authority.
3. Permits.
 - a. The Consultant will support the Contractor in applying for permits by providing documentation.
 - i. The Consultant will negotiate and resolve building permit related issues.
 - b. The Consultant shall support the Contractor in its application for an occupancy permit and coordinate the resolution of all outstanding issues relating to the permit.
 - c. The CM Contractor shall pay for the permits on behalf of RCMP.

2.7. Communications and Meetings

2.7.1. Communication

1. Unless otherwise directed by the Departmental Representative, the CM shall conduct all project communication through the Departmental Representative only.
2. If any communication with the User Departments results in the need for change to the Project scope of work, quality, cost or schedule, the CM shall inform the Departmental Representative, and seek direction, before taking any action.
3. The Departmental Representative will arrange for the CM to obtain access to the PWGSC secure shared document management site (Buzzsaw).
4. Correspondence.
 - a. All correspondence from the CM shall be distributed as directed by the Departmental Representative.
 - b. There shall be no correspondence between occupants or users of the facility and the CM unless directed by the Departmental Representative.
 - c. All correspondence must carry the Contract name/number, PWGSC Project title, PWGSC Project number and File number and a date (i.e. Year/Month/Day).

- d. Automatic date fields shall not be used except when preceded by the text "Printed on:".
- 5. The CM shall:
 - a. Develop a communication and correspondence protocol, submit to the Departmental Representative for review and acceptance prior to undertaking the work and incorporate it into the Project Procedures Manual;
 - i. Account for the involvement of all Stakeholders in this protocol.
 - b. Direct communication and correspondence between members of the RCMP Project Team, the Consultant and the User Departments on routine matters as may be required to enable the project to proceed in a timely and efficient manner however;
 - i. No communication shall alter the terms of the project scope, budget or schedules unless directed in writing by the Departmental Representative.

2.7.2. Submissions to RCMP

- 1. Where submissions to RCMP include summaries, monitoring outcomes, reports, network diagrams, drawings, plans, specifications or finish schedules, submit one (1) original to the Departmental Representative in electronic format, unless otherwise directed in writing.
- 2. Electronic format.
 - a. The electronic deliverables shall be provided using Microsoft applications.
 - b. Alternatively, as agreed upon by the Departmental representative, submit all work in Adobe Acrobat *.pdf format except for Network Diagrams which shall be submitted in their original electronic format.

2.7.3. Project Response Time

- 1. It is a requirement of this project that the key personnel of the CM are personally available to attend meetings or respond to inquiries.
- 2. During the project, the CM's key personnel shall be:
 - a. Available to attend meetings and respond to inquiries within one (1) working day notice;
 - b. Able to respond to emergencies within four (4) hours, including those occurring during off-hours and on weekends/ holidays; and
- 3. On occasion, there may be urgent, problem-solving meetings.
 - a. The CM shall be available to attend such meetings in location agreed upon within four (4) business hours.

2.7.4. Meetings during the Preliminary Design, Schematic Design, Design Development and Construction Documentation Processes

- 1. Meetings with RCMP, the CM, the Consultant and User Department will be held in agreed upon location.
- 2. The Departmental Representative will arrange meetings bi-weekly with representatives from:
 - a. RCMP;

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- b. Consultant team;
 - c. Construction Management Team; and
 - d. User Department representatives.
3. The Consultant Team will be responsible for:
- a. Preparing minutes of meetings;
 - b. Forwarding minutes to the Departmental Representative and CM;
 - c. These meetings are for the accurate exchange of information; and
 - d. Requests and decisions taken shall follow the formal lines of communications.
4. The CM shall:
- a. Attend meetings, prior to construction start;
 - i. Respond to meeting minute action items as required prior to the next meeting

2.7.5. Meeting during Construction Period

1. The CM shall:
- a. Arrange and coordinate construction meetings on site;
 - i. Regular meetings to be held bi-weekly through the duration of the project,
 - ii. Prepare and distribute minutes within two (2) working days of the meeting, and
 - iii. Endeavour to hold meetings as Green Meetings (i.e. Electronic copies of documents where possible or double sided hard copies).
 - b. Establish a list of standing agenda items, including (as a minimum):
 - i. Schedule and progress;
 - ii. Cost issues and changes;
 - iii. Risk issues;
 - iv. Quality issues;
 - v. Scope of work;
 - vi. Site safety;
 - vii. Sustainable development; and
 - viii. Commissioning

2.8. Regulatory Requirements

2.8.1. Federal Government

1. The RCMP Departmental Representative will review work in progress on a continuing basis.
2. The following are authorities having Federal Government jurisdiction over the project:
- a. Treasury Board of Canada;
 - b. Public Works and Government Services Canada;
 - i. Contracting authority and project delivery.
 - c. National Research Council Canada:
 - i. Building Codes and Standards;
 - 1. National Building Code, and
 - 2. National Fire Code.

2.8.2. Provincial, Municipal and Other Authorities Having Jurisdiction

1. Although the Federal Government is not subject to jurisdictions at other levels of government, voluntary compliance with the Departmental Policy of these other Authorities is a requirement unless otherwise directed by the Departmental Representative.
 - a. Codes, regulations, by-laws and decisions of authorities identified herein as having jurisdiction shall be observed.
 - b. In areas of conflict between codes, standards and regulations, the most rigid requirements shall be adhered to.
 - c. The CM shall identify other jurisdictions appropriate to the project.
2. Provincial Acts, Regulations, Standards and Inspections
 - a. Unless directed otherwise by the Departmental Representative, the CM will:
 - i. Adhere to all applicable provincial Construction Health and Safety Acts and regulations, in addition to the related Canada Occupational Safety and Health Regulations.
 - ii. Adhere to the requirements of the Province/Territory appropriate to the project for:
 1. Employment Standards;
 2. Construction Safety;
 3. Designated Substance Management; and
 4. Workers Compensation
 - iii. Adhere to the requirements of the Provincial/Territorial Department of the Environment appropriate to the project for:
 1. Building Discharges into the air, water and ground; and
 2. Disposal of Designated Substances including Asbestos.
 - iv. Adhere to the requirements of the Province/Territory as per project location for:
 1. Construction Hoists; and
 2. Elevators, Escalators and Dumb Waiters.
3. Local / Municipal By-laws, Regulations, Standards and Inspections
 - a. Unless directed otherwise by the Departmental Representative, the CM will:
 - i. Make preliminary municipal submissions at stages required by the AHJ;
 - ii. Provide all required supporting documentation for permit applications;
 - iii. Apply for and obtain all permits and approvals necessary for the work, including, but not limited to Building, Electrical and Plumbing Permits;
 - iv. Resolve all Building Permit related issues, with support from the Consultant as may be required;
 - v. Provide fire safety equipment and access for fire-fighting services, as required by the city; and
 - vi. If required by the AHJ, apply for an Occupancy Permit and co- ordinate the resolution of all outstanding issues related to obtaining the permit.
4. Provide Local / Municipal authorities with access to the site as required and arrange for inspections of the construction work by the AHJ or governing utility officials.

2.9. Acceptance of Project Deliverables

2.9.1. Acceptance of Project Deliverables

1. While RCMP acknowledges the CM's obligations to meet project requirements, the project delivery process entitles RCMP to review all work.
2. RCMP reserves the right to reject undesirable or unsatisfactory work.
3. The CM must obtain Departmental Representative acceptance of all required deliverables for the Project.
 - a. Acceptance indicates that based on a general review of material for specific issues, the material is considered to comply with governmental and departmental objectives and practices and those overall project objectives appear to be satisfied.
 - b. Acceptance does not relieve the CM of responsibility for the work and compliance with the contract.
 - c. Acceptance does not prohibit rejection of work, which is determined to be unsatisfactory at later stages of review

3. Project Monitoring and Reporting

3.1. General

1. Use industry recognized and readily available software for project monitoring and reporting.
 - a. Make available all deliverables electronically (in original software format and PDF) and hard copy.
2. Notwithstanding more detailed Project Monitoring and Reporting requirements in the TOR, Definitions and Division 01 documents, provide a system for documentation and project monitoring and reporting through each milestone of project delivery, for review and acceptance by the Departmental Representative prior to proceeding with next milestone.
 - a. The actual report outline shall be acceptable to the Departmental Representative.
3. As a component of the Project Procedures Manual (PPM), prepare and submit, at the start of the project, sample outlines/formats for all reports, for review and acceptance by the Departmental Representative.
 - a. Resubmit as may be required.
 - b. Date(s) of issue of the CM Monthly Report shall be established.
 - c. The Monthly Report formats shall be used for all subsequent project milestones.
4. During the Design and Construction Documentation milestones, prepare and submit monthly progress reports.
 - a. The purpose of the report shall be to review and monitor the progress of the Services by the CM. Reports shall provide:
 - i. An executive summary of key points;
 - ii. Progress of Advisory Support and Construction Support Services;
 - iii. Progress Claims and Payments to date (including change orders) in a form that compares the original budgets for each Tender Package with the expected costs;

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- iv. Instances where the schedule is not being met and identify impact on scheduled completion date;
 - v. Outline of remedial measures being taken or planned to be undertaken to ensure the scheduled completion date; and
 - vi. Anticipated or potential problems to be addressed.
 - vii. Progress in Commissioning Process development.
5. During the Construction/Implementation milestone, notwithstanding Division 01, General Requirements document, specifying reporting requirements, prepare and submit monthly reports to address status and variances with respect to schedule, budget, quality, and scope:
- a. The actual report outline shall be acceptable to the Departmental Representative, and shall provide:
 - i. An executive summary of key points,
 - ii. General progress of the Work and modifications to reflect changes in project parameters as may be identified throughout the project life,
 - iii. Construction Cost Plan Report including an overview of cost issues as outlined in this TOR,
 - iv. Master Schedule Update and narrative report including an overview of schedule issues as outlined in this TOR,
 - 1. Monitor changes to the Master Schedule at least once a month and submit written reports to the Departmental Representative on any deviations or delays from the master schedule, and identify possible remediation measures required to maintain the Master Schedule Completion date.
 - 2. Monthly reports must identify not only reasons for delay but also offer suggestions, where possible, on how to bring the project back on track.
 - v. Identification of risks and proposed strategies for mitigation, including scope creep as well as quality control outlined in this TOR,
 - vi. Health and Safety status Report, and
 - vii. Progress in Commissioning Plan updates and Commissioning Manual development.

3.2. Executive Summary on Key Points

- 1. Per Report, provide general commentary/narrative on where the project is at, milestones achieved, upcoming milestones and estimation on how the project is progressing at a high level including:
 - a. Assumptions, exclusions, risk assessments, opportunities and deviation from standards, major changes relative to previous report including market events.

3.3. General Progress of Work

- 1. Per report describe:
 - a. Work Completed in the last reporting period
 - b. Upcoming work that is anticipated to be completed in the next reporting period.
 - c. Issues requiring resolutions.

4. Monthly Reporting Outline

4.1. General Progress of Work

1. Description of Work Completed in the last reporting period.
2. Description of upcoming work that is anticipated to be completed in the next reporting period.
3. Issues that need to be resolved.

4.2. Commissioning Plan Progress Report

1. Component of Project Procedures Manual
2. Update on Progress of Commissioning Plan
3. Commentary on next steps
4. Update Issues/Resolutions Log complete with highlighted pending resolutions and associated narratives.
5. Implementation/Construction and Project Close-Out, Cx Schedule of commissioning activities, to include updated:
 - a. Cx Team meetings;
 - b. Start and substantial/interim completion of each construction phase;
 - c. Systems and related assembly completion and testing;
 - d. Static Verification, Start-Up and Functional Performance Testing;
 - e. Training sessions;
 - f. Deferred Cx testing;
 - g. Warranty start date(s);
 - h. Occupancy dates for each construction phase;
 - i. Schedule, planned vs. actual; and
 - j. Final Acceptance.

4.3. Health & Safety Report

1. Narrative on the application or adjustment to the CM's Health and Safety Plans.
2. Safety incidents identified and resulting actions
3. Confirmation that Safety Tailgate Meetings are Occurring
4. On site activities that warrant special safety consideration or awareness.

4.4. Master Cost Plan Report

1. Component of Project Procedures Manual
2. Basis of Estimate (BOD)
3. Budgeted dollars per month.
4. Expenditure Cash Flow per month.
5. Forecasted Expenditures per month.
6. Actual Expenditures per month.
7. Authorized Plan Deviations.
 - a. Variances between actual costs and Estimated Construction Cost limits.
8. Earned value of work done to end of reporting period, per fiscal year and project overall. Include;
 - a. Progress Claims per Tender (work) Package.
9. Actions Required to Maintain Estimated Construction Costs limit, if required.

4.5. Master Schedule Update

1. Component of Project Procedures Manual.
2. Identification of Critical Path tasks completed, Critical Path tasks upcoming
3. Progress on Schedule.
4. Authorized Deviations to Schedule to date
 - a. Detail variances between actual and estimated dates for milestone deliverables.
5. Work Packages;
 - a. Design, Construction Documentation Tender, Award Construction/Implantation and Close-Out
6. Actions Required to Maintain Schedule, if required.

4.6. Move Progress Report

1. Continued roles and responsibilities, critical milestones, estimate of move scope cost, logistics and coordination with the overall delivery.
2. Move Plan and Move Process Protocols Narrative updates.
3. Tender Package cost estimate updates and actual contract costs.

4.7. Risk Management Report

1. Component of Project Procedures Manual.
2. Identified risk; stating new or ongoing risk.
3. Identified risk mitigation strategy.
4. Report on the outcome of the mitigation strategy

5. Quarterly Up-Date Reporting Outline

5.1. Milestone Reporting

1. Cost Estimating and Cost Planning;
2. Master Schedule;
3. Quality Management Plan (QMP) – QM planned/actual actions and results;
4. Project Procedures Manual (PPM);
5. Design and Construction documentation review summaries;
6. Shop Drawings, per each tender package, schedule, log and issues/resolution log.