



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Bid Receiving Public Works and Government  
Services Canada/Réception des  
soumissions/Travaux publics et Services  
gouvernementaux Canada  
See herein for bid submission  
instructions/  
Voir la présente pour les  
instructions sur la présentation  
d'une soumission  
NA  
Ontario

**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**

<b>Title - Sujet</b> Cold Climate Railway Technologies	
<b>Solicitation No. - N° de l'invitation</b> T8009-180251/B	<b>Date</b> 2020-06-08
<b>Client Reference No. - N° de référence du client</b> T8009-180251	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$TOR-009-7941	
<b>File No. - N° de dossier</b> TOR-8-41137 (009)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-07-20</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Holvec, Monique	<b>Buyer Id - Id de l'acheteur</b> tor009
<b>Telephone No. - N° de téléphone</b> (647) 616-3991 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF TRANSPORT T8009 Environmental Affairs (AHE) 18th Floor Programs Group 330 Sparks Street Ottawa Ontario K1A0N5 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  
Ontario Region  
10th Floor, 4900 Yonge Street  
Toronto  
Ontario  
M2N 6A6

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

**This bid solicitation cancels and supersedes previous bid solicitation number W3536-190002/A dated February 25, 2019 with a closing of March 29, 2019 at 14:00 Eastern Standard Time (EST).**

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T8009-180251/B  
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T8009-180251

Amd. No. - N° de la modif.  
File No. - N° du dossier  
TOR-8-41137

Buyer ID - Id de l'acheteur  
tor009  
CCC No./N° CCC - FMS No./N° VME

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, the Non-Disclosure Agreement, the Electronic Payment Instruments, the Federal Contractors Program for Employment Equity – Certification, the Insurance Requirements, the Task Authorization Form 572, the Technical Evaluation and the Rated Criteria Evaluation Grids.

### **1.2 Summary**

- 1.2.1 Transport Canada's (TC) Innovation Centre (IC) works closely with industry, academia, and other government organizations to research, test and evaluate the safety, efficiency and environmental performance of the railway industry in Canada.  
Transport Canada (TC) has a requirement for a wide range of Research, Design and Development (RD&D) tasks relating to railway operations in cold climatic conditions. This requirement relates to the research and development of improved procedures and materials, and the application of innovative technologies for efficient and safe operation of railways in cold climatic conditions.  
TC is seeking a research facility with capabilities to conduct testing and evaluation of track infrastructure materials, procedures and innovative technologies in a revenue service environment with a Canadian Class 1 railway(s) that is flexible, agile and close to real-time capacity to address planned and unforeseen issues in the Canadian rail environment related to continental climate and extreme winter weather operations.  
The period of the contract will be from the date of Contract award to March 31st, 2023 with the option to extend the contract two (2) additional one (1) year periods.
- 1.2.2 The Federal Contractors Program (FCP) for employment equity applies to this procurement; refer to Part 5 – Certifications and Additional Information, Part 6 - Resulting Contract Clauses and the annex titled Federal Contractors Program for Employment Equity - Certification.
- 1.2.3 This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

### 1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The [2003](#) (2019-03-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days  
Insert: 120 days

### 2.2 Submission of Bids

Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified below by the date and time indicated on page 1 of the bid solicitation:

#### PWGSC Ontario Region Bid Receiving Unit

Only bids submitted using epost Connect service will be accepted. The Bidder must send an email requesting to open an epost Connect conversation to the following address:  
[TPSGC.orrceptiondessaoumissions-orbidreceiving.PWGSC@tpsgc-pwgsc.gc.ca](mailto:TPSGC.orrceptiondessaoumissions-orbidreceiving.PWGSC@tpsgc-pwgsc.gc.ca)

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through an epost Connect message if the bidder is using its own licensing agreement for epost Connect.

It is the Bidder's responsibility to ensure the request for opening an epost Connect conversation is sent to the email address above at least six days before the solicitation closing date.

Bids transmitted by facsimile or hardcopy to PWGSC will not be accepted.

### 2.3 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the

Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

#### Definitions

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

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

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

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

#### Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? Yes ( ) No ( )

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

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

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

#### Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? Yes ( ) No ( )

If so, the Bidder must provide the following information:

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

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

## **2.4 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

## **2.5 Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in the Province of Ontario, Canada.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

## **2.6 Improvement of Requirement During Solicitation Period**

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least fifteen (15) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

## **2.7 Basis for Canada's Ownership of Intellectual Property**

Transportation Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, for the following reasons, as set out in the [\*Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts\*](#): the main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination.

# **PART 3 - BID PREPARATION INSTRUCTIONS**

## **3.1 Bid Preparation Instructions**

The Bidder must submit its bid electronically in accordance with section 08 of the 2003 standard instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

The bid must be gathered per section and separated as follows:

- Section I: Technical Bid
- Section II: Financial Bid
- Section III: Certifications
- Section IV: Additional Information

Bids transmitted by facsimile or hardcopy will not be accepted.

### **Section I: Technical Bid**

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear 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 bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that 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.

### **Section II: Financial Bid**

**3.1.1** Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B".

#### **3.1.2 Electronic Payment of Invoices – Bid**

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "1" to Part 3 - Electronic Payment Instruments, to identify which ones are accepted.

If Annex "1" to Part 3 - Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

#### **3.1.3 Exchange Rate Fluctuation**

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

#### **3.1.4 SACC Manual Clauses**

### **Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.

### **Section IV: Additional Information**

Offerors must complete Annex "E" – Non-Disclosure Agreement.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical, and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **4.1.1 Technical Evaluation**

##### **4.1.1.1 Mandatory Technical Criteria**

Mandatory technical evaluation criteria is included in Annex "2" to Part 4 of the Bid solicitation – Technical Evaluation Criteria.

##### **4.1.1.2 Point Rated Technical Criteria**

Point Rated technical evaluation criteria is included in Annex "2" to Part 4 of the Bid Solicitation – Technical Evaluation Criteria.

#### **4.1.2 Financial Evaluation**

##### **4.1.2.1 Evaluation of Price - Bid**

The Bidder must submit with its bid, pricing details in accordance with Annex "B" - *Basis of Payment*, in Canadian funds. Pricing must be provided for the initial Contract period and optional years.

Bids will be evaluated based on the prices detailed in Annex "B" – *Basis of Payment*.

The price used in the evaluation will be the Total Evaluated Price which is calculated as follows: Total Evaluated Price is the sum of the Total Firm Requirement and the Total Extended Price of the initial contract period and the optional years (sum of sections 1.1 + 1.2 + 1.3 + 1.4).

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price

#### **4.2 Basis of Selection**

##### **4.2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price**

1. To be declared responsive, a bid must:
  - a. comply with all the requirements of the bid solicitation; and
  - b. meet all mandatory technical evaluation criteria; and
  - c. obtain the required minimum of 20 points (0%) overall for the technical evaluation criteria which are subject to point rating.  
The rating is performed on a scale of 50 points.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70 % for the technical merit and 30 % for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 70 %.

5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30 %.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 70/30 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

#### Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)

<b>EXAMPLE: Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)</b>				
		<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>
<b>Overall Technical Score</b>		115/135	89/135	92/135
<b>Offer Evaluated Price</b>		\$55,000.00	\$50,000.00	\$45,000.00
<b>Calculations</b>	<b>Technical Merit Score</b>	$115/135 \times 70 = 59.63$	$89/135 \times 70 = 46.14$	$92/135 \times 70 = 47.70$
	<b>Pricing Score</b>	$45/55 \times 30 = 24.54$	$45/50 \times 30 = 27.00$	$45/45 \times 30 = 30$
<b>Combined Rating</b>		84.17	73.14	77.70
<b>Overall Rating</b>		1 <sup>st</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>

## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the Integrity declaration form available on the [Forms for the Integrity Regime](#) website

(<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

## 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [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>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

### 5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex titled Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

### 5.2.3 Status and Availability of Resources

5.2.3.1 *SACC Manual* clause [A3005T](#) (2010-08-16) Status and Availability of Resources

### 5.2.4 Education and Experience

5.2.4.1 *SACC Manual* clause [A3015T](#) (2014-06-26) Education and Experience

## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1 Statement of Work

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The Contractor must perform the Work in accordance with the Statement of Work at Annex "A".

### 6.1.1 Task Authorization

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

#### 6.1.1.1 Task Authorization Process

Task Authorization:

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

Task Authorization Process:

1. The Project Authority will provide the Contractor with a description of the task using the Task Authorization Form specified in Annex "D".
2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis (bases) and methods of payment as specified in the Contract.
3. The Contractor must provide the Project Authority, within fourteen (14) calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
4. The Contractor must not commence work until a TA authorized by the Project Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

#### 6.1.1.2 Task Authorization Limit

The Project Authority may authorize individual task authorizations up to a limit of \$\_\_\_\_\_ (*insert the amount at contract award*), Applicable Taxes included, inclusive of any revisions.

Any task authorization to be issued in excess of that limit must be authorized by the Project Authority and the Contracting Authority before issuance.

#### 6.1.1.3 Canada's Obligation - Portion of the Work - Task Authorizations

SACC *Manual* clause [B9031C](#) (2011-05-16) Canada's Obligation - Portion of the Work - Task Authorizations

#### 6.1.1.4 Periodic Usage Reports - Contracts with Task Authorizations

The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under the Contract.

The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "nil" report.

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The data must be submitted on a *quarterly basis* to the Contracting Authority.

The quarterly periods are defined as follows:

- 1st quarter: April 1 to June 30;
- 2nd quarter: July 1 to September 30;
- 3rd quarter: October 1 to December 31; and
- 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than ten (10) calendar days after the end of the reporting period.

### **Reporting Requirement- Details**

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

#### **For each authorized task:**

- i. the authorized task number or task revision number(s);
- ii. a title or a brief description of each authorized task;
- iii. the total estimated cost specified in the authorized Task Authorization (TA) of each task, exclusive of Applicable Taxes;
- iv. the total amount, exclusive of Applicable Taxes, expended to date against each authorized task;
- v. the start and completion date for each authorized task; and
- vi. the active status of each authorized task, as applicable.

#### **For all authorized tasks:**

- i. the amount (exclusive of Applicable Taxes) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- ii. the total amount, exclusive of Applicable Taxes, expended to date against all authorized TAs.

## **6.2 Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

### **6.2.1 General Conditions**

[2040](#) (2018-06-21), General Conditions - Research & Development, apply to and form part of the Contract.

## **6.3 Security Requirements**

**6.3.1** There is no security requirement applicable to the Contract.

## **6.4 Term of Contract**

### **6.4.1 Period of the Contract**

The period of the Contract is from date of Contract to March 31, 2023.

### **6.4.2 Option to Extend the Contract**

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to two (2) additional one (1) year periods under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor any time before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

## 6.5 Authorities

### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Monique Holvec  
Title: Supply Specialist  
Public Works and Government Services Canada  
Organization: Acquisitions Branch  
Telephone: 647-616-3991  
E-mail address: [monique.holvec@pwgsc-tpsgc.gc.ca](mailto:monique.holvec@pwgsc-tpsgc.gc.ca)

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

### 6.5.2 Project Authority

The Project Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority; however, the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

### 6.5.3 Contractor's Representative

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

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## 6.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

## 6.7 Payment

### 6.7.1 Basis of Payment: Firm Requirement

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in the Basis of Payment at Annex "B" for a cost of \$ \_\_\_\_\_ (*insert the amount at contract award*). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

### 6.7.2 Basis of Payment: Individual task authorizations

The Contractor will be paid for the Work specified in the authorized task authorization, in accordance with the Basis of payment at annex "B".

Canada's liability to the Contractor under the authorized task authorization must not exceed the limitation of expenditure specified in the authorized task authorization. Custom duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized task authorization resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

### 6.7.3 Limitation of expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ \_\_\_\_\_. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
  - a. when it is 75% committed, or
  - b. four months before the contract expiry date, or
  - c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

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whichever comes first.

3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

#### **6.7.4 Progress Payments**

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, up to 90 percent of the amount claimed and approved by Canada if:
  - a. an accurate and complete claim for payment using form [PWGSC-TPSGC 1111](#), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
  - b. the amount claimed is in accordance with the basis of payment;
  - c. the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
  - d. all certificates appearing on form [PWGSC-TPSGC 1111](#) have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the item if the Work has been accepted by Canada and a final claim for the payment is submitted.
3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

#### **6.7.5 SACC Manual Clauses**

*SACC Manual* clause [A9117C](#) (2007-11-30) T1204 - Direct Request by Customer Department  
*SACC Manual* clause [C0305C](#) (2014-06-26) Cost Submission - Limitation of Expenditure or Ceiling Price

#### **6.7.6 Electronic Payment of Invoices – Contract**

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

#### **6.7.7 Discretionary Audit**

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SACC Manual clause [C0705C](#) (2010-01-11), Discretionary Audit

#### **6.7.8 Time Verification**

SACC Manual clause [C0711C](#) (2008-05-12), Time Verification

#### **6.8 Invoicing Instructions - Progress Payment Claim - Supporting Documentation required**

1. The Contractor must submit a claim for payment using form [PWGSC-TPSGC 1111](#), Claim for Progress Payment.

Each claim must show:

- a. all information required on form [PWGSC-TPSGC 1111](#);
- b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- c. a list of all expenses;
- d. expenditures plus pro-rated profit or fee;
- e. the description and value of the milestone claimed as detailed in the Contract.

Each claim must be supported by:

- a. a copy of time sheets to support the time claimed;
  - b. a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
  - c. a copy of the quarterly progress report.
2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
  3. The Contractor must prepare and certify one original and two (2) copies of the claim on form [PWGSC-TPSGC 1111](#), and forward it to the Project Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.  
The Project Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.
  4. The Contractor must not submit claims until all work identified in the claim is completed.

#### **6.9 Certifications and Additional Information**

##### **6.9.1 Compliance**

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing

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additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

### **6.9.2 Federal Contractors Program for Employment Equity - Default by the Contractor**

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

### **6.10 Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_.

### **6.11 Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions [2040](#) (2018-06-21), General Conditions - Research & Development;
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Insurance Requirements;
- (f) the signed Task Authorizations (including all of its annexes, if any);
- (g) Annex E, Non-Disclosure Agreement;
- (h) the Contractor's bid dated \_\_\_\_\_.

### **6.12 Foreign Nationals (Canadian Contractor)**

SACC Manual clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)

### **6.13 Insurance Requirements**

The Contractor must comply with the insurance requirements specified in Annex "C". The Contractor must maintain the required insurance coverage for the duration of the Contract. 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.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

## ANNEX "A"

### STATEMENT OF WORK

#### TERMINOLOGY

<b>Class 1 railway(s):</b>	Class I rail carrier is defined (as of 2004) as a company that has earned gross revenues exceeding \$250 million (CAD) for each of the previous two years. A map of North American class 1 railways can be found at: <a href="https://www.cn.ca/en/our-services/maps-and-network/">https://www.cn.ca/en/our-services/maps-and-network/</a>
<b>Continental Climates</b>	refers to climates characterized by variable weather patterns and significant variations in temperature. This type of climate occurs in the mid-latitudes (40 to 55 degree north) where temperatures are not moderated by any water body such as sea or ocean, and the prevailing wind blow overhead. Such regions experience colder winters and hot summers since there is no water body to keep the climate milder in winter and cooler in summer. Annual precipitation in these regions averages 600 mm (24 in) to 1,200 mm (47 in), most of it in the form of snow during winter.
<b>Frost heave</b>	means freezing of moisture in the sub-grade or ballast resulting in the lifting of the track.
<b>Heavy-axle load</b>	high impact wheel loads from cars with 36 ton axle loads, with a gross weight on rail of 286,000 lb.
<b>Railway Equipment</b>	(a) a machine that is constructed for movement exclusively on lines of railway, whether or not the machine is capable of independent motion, or (b) a vehicle that is constructed for movement both on and off lines of railway while the adaptations of that vehicle for movement on lines of railway are in use
<b>Extreme winter weather conditions</b>	Temperatures dropping as low as -60 degrees Celsius, temperature fluctuations of up to 40 degrees Celsius in a 24 hour period, and up to 145cm of precipitation in a 24 hour period
<b>Revenue service</b>	The movement of a vehicle along a route where commodities are moved for fee
<b>IC</b>	Innovation Centre
<b>NRC</b>	National Research Council Canada
<b>RRAB</b>	Railway Research Advisory Board
<b>TC</b>	Transport Canada
<b>Phase</b>	A Phase of work is defined as work to be done under one Fiscal Year
<b>Test Program</b>	A suite of research initiatives defined for each Phase
<b>Test Project</b>	Specific projects under each Annual Test Program
<b>Test Plan</b>	Complements of activities needed to complete a Test Projects, such as defining objective, methodology, Test Process, temperature parameters, etc.

## 1. Introduction

Transport Canada's (TC) Innovation Centre (IC) works closely with industry, academia, and other government organizations to research, test and evaluate the safety, efficiency and environmental performance of the railway industry in Canada. The IC's Rail RD&D program's research results help inform the development of safety and environmental regulations, informing policy development, addressing key industry concerns and knowledge gaps related to new technologies and processes, and help industry uptake of emerging technologies.

With more than 48,000 route kilometres of track, Canada has one of the most extensive rail networks in the world. Transportation by rail, road, marine and air have become integrated within society and are vitally important to the economy and the quality of life enjoyed by Canadians.

Canada is a northern nation with long and harsh winters. Railways operating in Canada face extreme winter weather conditions including cold temperatures, dropping as low as -60 degrees Celsius, snow, ice and high winds. Challenges due to winter weather can reduce capacity and result in shipping delays, which negatively impact customers, reduce the profitability of Canadian railways, and negatively affect the movement of goods.

For Canadian industries to be competitive in an increasingly global environment, the transportation system needs to be able to transport people, goods and services in a safe, efficient and environmentally responsible manner. This requires the railway industry in Canada to continuously adapt to extreme winter operating conditions.

In 2014, Transport Canada conducted a project with the National Research Council Canada (NRC) to identify key challenges for rail winter operability in Canada for the purpose of uncovering research and development opportunities that could contribute to improved safety, efficiency and environmental sustainability of rail operations in Canada. The study consisted of a literature review, interviews with key railway personnel, and site visits to several train yards. Several issues were identified as key challenges to the Canadian railway industry, including: frozen switches, broken rails, wheel shelling, air brake performance, and the performance and reliability of distributed power. These issues are seen as challenges to efficient and safe winter railway operations from the operator's mechanical and engineering departments respectively.

Although efforts to address a number of these challenges have been progressed through collaborative research with Canada's two centres of railway research (Canadian Railway Research Laboratory and National Research Council Canada), research gaps still exist. Transport Canada is seeking a research facility with capabilities to conduct testing and evaluation of track infrastructure materials, procedures and innovative technologies in a revenue service environment with a Canadian Class 1 railway(s) that is flexible, agile and close to real-time capacity to address planned and unforeseen issues in the Canadian rail environment related to continental climate and extreme winter weather operations. This arrangement would provide TC with the research services and facilities to respond to the key challenges identified above.

## 2. Objective

TC Innovation Centre's Rail RD&D program is seeking professional research services and a laboratory to perform testing and evaluation of track infrastructure materials, railway equipment, procedures and

innovative technologies for the safe and efficient operation of railways in continental climate and extreme winter weather conditions. The Contractor will be assigned a broad range of Research, Design & Development (RD&D) tasks related to the testing and evaluating innovations designed to help railways handle the winter conditions that impact their operations. The anticipated Test Projects to be performed by the Contractor will be organized into two main themes:

- i. Railway Equipment, Track Infrastructure & Inspection Equipment (Engineering)
- ii. Geotechnical

The testing and tasks to be performed for each Test Project will be determined through the Project Steering Committee (comprised of program officers from TC's Innovation Centre and Rail Safety) and in consultation with stakeholders and technical experts through the Railway Research Advisory Board (RRAB). The Project Steering Committee and RRAB members will meet once per year to determine industry pressures as they relate to cold climate operations.

The RRAB, created in 1989 by Transport Canada, seeks to optimize collaboration in the railway R&D programs of the performing sectors of industry, government and academia, and to facilitate participation by industry and academia in the formulation and implementation of railway-oriented R&D programs by the Federal government. The RRAB has developed six themes for rail R&D based on the input of sector stakeholders and the results from this project will support the "Harsh and Changing Environments" theme.

The contractor will be given written permission to proceed with each Phase of the work dependent upon the successful completion of the previous Phase, and availability of funds. A Phase of work is defined as work to be done under one Fiscal Year. Each Phase will include a literature review and gap analysis along with the development and completion of a Test Program. The Test Programs will consist of Test Project(s), each having their own Test Plan. The Phases of the work are noted below:

Phase 1, Year 1	Date of Contract Award	to March 31, 2021
Phase 2, Year 2	April 1, 2021	to March 31, 2022
Phase 3, Year 3	April 1, 2022	to March 31, 2023
Phase 4, Year 4	April 1, 2023	to March 31, 2024 (Optional)
Phase 5, Year 5	April 1, 2024	to March 31, 2025 (Optional)

It is anticipated that the specific program elements for subsequent years will be developed based on the previous year's research recommendations. These specific program elements will be developed prior to the start of each year.

### **2.1. Railway Equipment, Track Infrastructure & Inspection Technologies (Engineering)**

The extreme cold temperatures, as low as -60 degrees Celsius, heavy snow and ice, up to 145 cm in a 24 hour period, associated with winter weather in Canada can impact the reliability of track components and the ability to inspect them manually/visually. Data from the railways indicated that the cost of operation and maintenance significantly increases during the winter months as railways deal with increased incidences of equipment breakdowns and infrastructure failures. In order to better understand and manage these challenges, the research should address issues with the rails, joints, tie plates, switches, ties and when necessary, technologies used to assess their viability. Specifically, the research will address the following areas, but not be limited to:

- Rail breaks, crushed heads and rail pull-aparts are a common problem for railways and occur more frequently in the winter. One of the main causes of broken rail has been attributed to the thermal stresses induced by temperature changes, at times exceeding 40 degree Celsius fluctuations in a

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single day, in continuously welded rail. Broken rails often occur at locations where there is existing transverse defects in the railhead. Rails containing defects are also vulnerable to breakage from high impact wheel loads, from shelled wheels, and the fracture toughness of rail steel decreases at low temperatures, leaving rails even more susceptible to breaking.

- Switch performance during the winter as they can become frozen or clogged with snow that inhibits switch movement. Inoperable switches often occur during heavy snow, where switch heaters and blowers cannot effectively clear obstructions. Switch reliability is also affected by freezing rain, snow accumulation and pooling of water near switches in rail yards. A frozen switch disrupts operations and often needs to be cleared manually. Increased switch reliability is important for winter operability of Canadian railways.
- Tie plate icing is another issue that impacts rail infrastructure safety and integrity. When ice forms under the base of the rail, the rail is lifted above the tie plate and results in a loss of lateral restraint. This problem is difficult to detect especially under the cover of snow.
- Friction modifiers and their performance under extreme winter weather conditions.
- Evaluating Machine Visioning systems under extreme cold winter weather conditions which consists of line and area scan cameras that provide images of the undercarriage and sides of passing train vehicles at track speed in high resolution. These systems provide images of all externally visible components of a freight car and locomotive at track speed and need to have an acceptable level of performance in extreme weather conditions. Some components that can be scanned by this equipment are freight car and locomotive side walls, hand brake wheels, bearing end caps, and brake hoses

## 2.2. Geotechnical

Seasonally cold climate and resulting frost action set great demands to railway track substructure in order to maintain track geometry. Frost heave resulting from seasonal freeze-thaw cycles is a common occurrence in Canada and has the potential to pose risks to safe and efficient rail operations. Frost heave is the freezing of moisture in the sub-grade or ballast resulting in the lifting of the track. From an operational perspective, railways manage frost heave by reducing train speeds, which impacts service efficiency. Through this research there is a need to develop methods and technologies to better prevent, detect and remediate heave prone areas.

## 3. Scope of Work

The work to be carried out will include, but not be limited to:

- Conducting a literature review and gap analysis to identify the most relevant winter and cold weather issues impacting the engineering and geotechnical components of railways operating in cold weather climates in Canada, the United States and various relevant international jurisdictions identified through research;
- Annually, a review of this document will take place and be brought for discussion in March at the annual planning meeting;
- Test Projects will be identified through the gap analysis and/or selected by the Project Steering Committee to evaluate improved materials, procedures, and innovative technologies to address the cold weather issues having greatest priority for the improvement of safe and efficient rail operation, and;

- Once the Test Projects are selected for a Phase, the Test Program for that Phase must be developed. Test Programs are to include Test Plans for each Test Project; conducting research to evaluate improved materials, procedures, and innovative technologies; Milestone identification and reports upon completion of each major activity or milestone; and, a final report and presentation to stakeholders describing the work carried out, the findings, the conclusions and the recommendations from each Test Project.

#### 4. Contractor Asset Requirements

The Contractor must provide the following:

- a) A laboratory facility with a rail testing track that contains of variety of geometric track components, including tangents, spirals, curves, and special track work (turnouts, crossing diamonds, insulated joints and switch points), and is capable of conducting heavy-axle load testing of track components and subgrade;
- b) A revenue-service testing facility located in North America on the mainline of a Class 1 railway. The testing facility should feature seasonal climatic conditions typical of continental climates and a variety of geometric track components, including tangents, spirals, curves, and special track work (turnouts, crossing diamonds, insulated joints and switch points); and
- c) Immediate and ongoing access to the necessary qualified personnel (including but not limited to mechanical, civil, electrical, geotechnical, and metallurgical engineers), materials, supplies and equipment to perform and manage the requisite Test Programs.

#### 5. Phase Implementation

The work will be implemented in five (5) Phases. The initial three (3) Phases will have a period of three (3) full fiscal years followed by two (2) optional Phases of one (1) year each. Each Phase will consist of a Literature Review and Gap Analysis being conducted along with the completion of a Test Program. The Literature Review and Gap Analysis will be reviewed annually and presented to the Project Steering Committee allowing for the prioritization of the upcoming Phase's Test Program. Multiple Test Projects will be conducted concurrently within and across Phases, with a go/ no-go decision on continuation of each Test Program at the achievement of milestones. The research services to be provided under the Contract will be ordered by Transport Canada using a Task Authorization (TA).

The Technical Authority will convene a Project Steering Committee to review and comment on the progress of the work; provide advice; make decisions concerning scientific, technical, and managerial aspects of the work and its results; and serve as a forum for information exchange. Members will include project stakeholders and scientific or technical experts.

At a minimum, the Contractor must participate in quarterly meetings with the Technical Authority. Meetings may be face-to-face, electronically-mediated or on-site, as appropriate and at the discretion of the Technical Authority. A planning meeting will take place each Phase during the planning stages of the work, with the Technical Authority and the Project Steering Committee. Meetings will take place with the Technical Authority after the submission of proposed Test Plans, after the achievement of principal milestones for each Test Program, and upon review of draft final reports for each Test Project. A final meeting will take place upon the completion of each Test Program.

#### 6. Tasks

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The key tasks associated with the contract are as follows.

### 6.1. Literature Review and Gap Analysis

The literature review and gap analysis must include:

- Confirmation of the description of work, communication and project management protocols with the Technical Authority;
- Identification and review of relevant background documentation from external sources identified through research such as research completed by TC, FRA, AAR, AREMA, International railway/railroad research organizations and academia dedicated to Nordic countries. Documents will also be provided by the Project Steering Committee, including but not limited to: literature, railway winter plans, winter operations and industry maintenance data, and interviews with key railway personnel (approximately 6 to 8), as required and may be face-to-face, electronically-mediated or on-site in laboratory or test track, as appropriate;
- Identification of potential interviews and scheduling (if applicable);
- Analysis, documentation, and identification of the key findings from literature, data and interviews for key engineering (track components) and geotechnical challenges impacting winter railway operations in Canada;
- Preparation and submission of a report of all the findings to the Technical Authority for review, comments and approval. The draft report must include results, conclusions and recommendations. The Technical Authority will be given two (2) weeks to review and comment on the draft literature review and gap analysis; and
- The literature review and gap analysis must be revisited annually and adjusted to emerging priorities.

### 6.2. Test Programs

Based on the results and recommendations of the literature review and gap analysis, the Project Steering Committee will identify Test Projects to be researched within the defined resource level under a Test Program for each Phase. It is likely that each year's gap analysis will define multiple needs however a prioritizing process will take place through discussions and analysis within the Project Steering Committee. Each individual Test Project will then require a Test Plan to be developed and conducted by the Contractor at either the revenue-service research facility or in combination with work in a laboratory setting. The key tasks associated with each Test Program are as follows:

- 6.2.1. Development and submission of a Test Program and subsequent Test Plans to the Technical Authority for approval prior to the start of testing. The Test Plans should include, but not be limited to: objectives, scope, methodology, equipment requirements, test schedules, milestones, resources allocation and level of effort, resource schedules, and identified risks and mitigation strategies.
- 6.2.2. Submission of periodic status reports to the Technical Authority indicating which milestones of a Test Program have been completed. These status reports must be in written form and be sent by email.

- 6.2.3. Development and submission of a final report to the Technical Authority for review, comment and approval. The final report should document the methodology, results, conclusions and recommendations of each Test Project.

## 7. Deliverables

The work is to be performed on an “as and when required basis” to satisfy the requirements of the Technical Authority as defined in the Task Authorization.

The deliverables and reports must be submitted in electronic Microsoft Word format to the Technical Authority for review and acceptance.

The following chart details the typical deliverables and milestones required in each Phase:

Deliverable	Deliverable date
Kick-off Meeting	One (1) week after Contract Award
Literature Review and Gap Analysis Work Plan	Two (2) weeks after Contract Award
Status Report	As needed to support billing
Progress Report	Quarterly
Draft Literature Review and Gap Analysis	Two (2) months after Contract Award
Literature Review and Gap Analysis	Three (3) months after Contract Award
Presentation of Literature Review and Gap Analysis to Project Steering Committee and RRAB Technical Committee	Three (3) months after Contract Award
Provision of Test Program	Four (4) months after Contract Award
Provision of Test Plan(s)	As set out in Test Program
Milestone Report	As set out in Test Program
Draft Final Report	As set out in Test Program
Final Report	As set out in Test Program
Project Presentation(s)	As set out in Test Program

### 7.1. Meetings

#### 7.1.1. Kick-off meeting

A kick-off meeting will be held one week after the contract has been awarded via teleconference call to review and confirm project tasks, development schedule, and project participants and roles. The Contractor must provide an up-to-date work plan at the task level with resource allocation and schedule.

### **7.1.2. Review of Literature Review and Gap Analysis Meeting**

A Project Review Meeting (PRM) will be held annually to review the program elements, progress and work achieved and assign, if necessary new priorities and research elements for the following year. A conference call may be used to convene meeting participants if warranted. If required by the Technical Authority, additional review meetings will be called. For each PRM, the contractor will present the progress made and will prepare minutes including the written presentation notes/overheads, if required. These minutes will be prepared in electronic format and emailed to the TC/TDC Project Officer.

### **7.1.3. Presentation to RRAB technical committee**

A presentation will be made once a year on the progress of the work at one of the bi-annual RRAB Technical Committee meeting.

## **7.2. Detailed Work Plan**

### **7.2.1. Literature Review and Gap Analysis Work Plan**

The Literature Review and Gap Analysis Work Plan must include sufficient details and procedures to, when all work set out therein has been performed, conclude on the objectives. The Test Program must be approved by the Technical Authority.

### **7.2.2. Test Program Work Plan**

The Contractor must provide the Technical Authority, a full work plan and Test Program based on the objectives and criteria outlined in the approved Task Authorization and in line with those described in this Statement of Work. The Test Program must include sufficient details and procedures to, when all work set out therein has been performed, conclude on the objectives. The Test Program must be approved by the Technical Authority.

## **7.3. Status Reports**

### **7.3.1. Progress Report for the Technical Authority**

The Contractor must periodically (on a quarterly basis) update the Progress Report for the Technical Authority with regards to the current status of the Test Program activities, the reasons for target dates not being met (if applicable), the next forecasted activities (including those not met in a previous period), problems encountered, changes in the direction of the Test Program and any important findings.

The Technical Authority must be made aware immediately of any serious issues or findings encountered in the course of the Test Program.

The Technical Authority must immediately be notified if work outside the scope of a contract resulting from this Request for Proposal is required in order to complete the Test Program. Prior to undertaking any work outside the scope, approval from the Contracting Authority must be sought.

### **7.3.2. Status Report to support billing**

In order to demonstrate the cost incurred under each task, the Contractor will need to provide the following evidence, but not limited to:

- 
- The Task Requisition number;
  - the budgeted fees for the identified tasks;
  - the fees invoiced;
  - the balances to be invoiced; and
  - the status of the Test Program (information that includes the most recent milestone accomplished in each Test Plan and any deviations from the approved Test Plan(s) in order for the Technical Authority to know where the file stands).

#### **7.4. Final Report accepted by Transport Canada**

The contractor must provide, by the deadline established in the approved Test Program, a Final Report which renders conclusions on each Test Project objective, including but not limited to:

- Objectives and scope;
- Results and conclusions for each Test Project objective; and
- Recommendations for additional requirements related to the Test Project objectives, including development and implementation steps for new materials, processes and/or technology.

#### **7.5. Illustrative Deliverables**

Suitable applications for visual materials will be identified. This would include high-resolution electronic images (minimum 300 dpi), slides, photographs, videos or drawings to illustrate the concepts and technical equipment being developed or tested.

At the conclusion of the work, and no later than submission of the Final Report, an electronic presentation (in PowerPoint format) on each Test Program must be delivered to the Technical Authority. It must describe the entire project including objectives, methodology, analysis and results, conclusions, and recommendations.

#### **7.6. Language**

The Contractor must provide all deliverables and reports to the Technical Authority in English.

#### **7.7. Confidentiality**

The contractor must not release, publish, permit to be published, or distribute for public consumption, any confidential information to which it may have access during the course of the contract, both for the duration of the contract and thereafter.

#### **7.8. Limitation of Views and Opinions**

In addition to credits for TC/IC support, the contractor will ensure that any presented and published work; including public conferences and workshops linked to the work carried out under this contract contain a TC/IC statement of limited views and expressions, as approved by the Technical Authority.

### **8. Project Management**

#### **8.1. Contractor Responsibilities**

Coordination of activities between the Contractor and participating organizations (Class 1 railway(s), railway suppliers, sub-contractors), including at the field level, will be the responsibility of the Contractor. The Technical Authority will, however, be kept informed of developments and activities and will be advised of any action it may take in order to expedite the work or to achieve the project objectives.

## 8.2. Technical Authority Responsibilities

The Technical Authority will be responsible for the following during the course of the work:

- Provision of electronic templates for reporting;
- Creation of a Project Steering Committee (“Committee”) that will include, among others, Transport Canada management and technical staff and principal stakeholders. Other organizations, including those providing specialized expertise, may be invited to join the Committee or attend specific project meetings and site visits should project requirements warrant;
- Convening Committee meetings for the beginning of each one-year period to discuss, plan and provide approvals for Test Plans.
- Distribution to Committee members of necessary reports or other materials delivered by the Contractor; and
- Providing feedback, as required, to the Contractor.

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## **ANNEX "B"**

### **BASIS OF PAYMENT**

Firm lot prices, all-inclusive in Canadian funds including Canadian customs duties, excise taxes, and F.O.B. Destination. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) is not included.

Note: *Upon issuance of the Contract, wording that is italicized will be deleted from Annex "B".*

#### **1.0 CONTRACT PERIOD**

**Year 1 - Date of Contract Award to March 31<sup>st</sup>, 2021**  
**Year 2 - April 1<sup>st</sup>, 2021 to March 31<sup>st</sup>, 2022**  
**Year 3 - April 1<sup>st</sup>, 2022 to March 31<sup>st</sup>, 2023**

### 1.1 FIRM REQUIREMENT

Milestone No.	Description	Due Date	Firm Price Year 1	Firm Price Year 2	Firm Price Year 3
1	Kick-off Meeting as described in article 7.1.1 in the Statement of Work	No later than one (1) week after Contract Award	\$	\$	\$
2	Detailed literature and gap analysis Work Plan as described in article 7.2.1 in the Statement of Work	No later than two (2) weeks after Contract Award	\$	\$	\$
3	Provision of Final Literature Review and Gap Analysis as described in article 6.1 in the Statement of Work	No later than three (3) months after Contract Award	\$	\$	\$
4	Presentation of Literature Review and Gap Analysis to Project Steering Committee and RRAB Technical Committee as described in article 7.1.2 and 7.1.3 in the Statement of Work	No later than 3 months after Contract Award	\$	\$	\$
<b>FIRM REQUIREMENT PER YEAR</b>			\$	\$	\$
<b>TOTAL FIRM REQUIREMENT (Year 1 + Year 2 + Year 3)</b>			\$		

### 1.2 TASK AUTHORIZATION PORTION

For the Task Authorized Work described in Annex A - Statement of Work, the following rates will be utilized in the provision of the Work described at Articles 6.2, 7.1.3, 7.2.2, 7.3 and 8.1 of the Statement of Work:

*Bidders are requested to quote one rate per labour category per year.*

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A	B	C	D	E	F	G
Item No.	Labour Category	Yearly Estimated Quantity of Hours	Firm Hourly Rate Year 1	Firm Hourly Rate Year 2	Firm Hourly Rate Year 3	Extended Price
						$(Cx D) + (Cx E) + (Cx F)$
1	Project Manager	100	\$	\$	\$	\$
2	Principal Researcher	100	\$	\$	\$	\$
3	Senior Engineer	50	\$	\$	\$	\$
4	Senior Scientist	60	\$	\$	\$	\$
5	Engineer	100	\$	\$	\$	\$
6	Scientist	100	\$	\$	\$	\$
7	Technician	150	\$	\$	\$	\$
<b>Total Extended Price</b> <b>Authorization Portion Year 1 + Year 2 + Year 3)</b>						<b>(Task</b> <b>\$</b>

## 2.0 OPTIONAL PERIODS

**Year 4 - April 1<sup>st</sup>, 2023 to March 31, 2024**

**Year 5 - April 1<sup>st</sup>, 2024 to March 31, 2025**

## 2.1 OPTIONAL FIRM REQUIREMENT

Milestone No.	Description	Due Date	Firm Price Year 4 [Optional]	Firm Price Year 5 [Optional]
1	Kick-off Meeting as described in article 7.1.1 in the Statement of Work	No later than one (1) week after Contract Award	\$	\$
2	Detailed literature and gap analysis Work Plan as described in article 7.2.1 in the Statement of Work	No later than two (2) weeks after Contract Award	\$	\$
3	Provision of Final Literature Review and Gap Analysis as described in article 6.1 in the Statement of Work	No later than three (3) months after Contract Award	\$	\$
4	Presentation of Literature Review and Gap Analysis to Project Steering Committee and RRAB Technical Committee as described in article 7.1.2 and 7.1.3 in the Statement of Work	No later than 3 months after Contract Award	\$	\$
<b>OPTIONAL FIRM REQUIREMENT PER YEAR</b>			\$	\$
<b>TOTAL OPTIONAL FIRM REQUIREMENT (OPTIONAL Year 4 + Year 5)</b>			\$	

## 2.2 OPTIONAL TASK AUTHORIZATION PORTION

For the Task Authorized Work described in Annex A - Statement of Work, the following rates will be utilized in the provision of the Work described at Articles 6.2, 7.1.3, 7.2.2, 7.3 and 8.1 of the Statement of Work:

*Bidders are requested to quote one rate per labour category per year.*

A	B	C	D	E	F
Item No.	Labour Category	Yearly Estimated Quantity of Hours	Firm Hourly Rate Year 4 [Optional]	Firm Hourly Rate Year 5 [Optional]	Extended Price
					(Cx $D$ )+(Cx $E$ )
1	Project Manager	100	\$	\$	\$
2	Principal Researcher	100	\$	\$	\$
3	Senior Engineer	50	\$	\$	\$
4	Senior Scientist	60	\$	\$	\$
5	Engineer	100	\$	\$	\$
6	Scientist	100	\$	\$	\$
7	Technician	150	\$	\$	\$
<b>Total Extended Price (Optional Task Authorization Portion Year 4 + Year 5)</b>					\$

### 3.0 Total Evaluated Price

Description	Evaluated Price
1.1: Total Firm Requirement (Year 1 + Year 2 + Year 3)	\$
1.2: Total Extended Price (Task Authorization Portion Year 1 + Year 2 + Year 3)	\$
2.1: Total Optional Firm Requirement (Optional Year 4 + Year 5)	\$
2.2: Total Extended Price (Optional Task Authorization Portion Year 4 + Year 5)	\$
<b>Total Evaluated Price (sum of Section 1.1 + 1.2 + 2.1 + 2.2)</b>	<b>\$</b>

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## **4.0 Direct Charges**

### **4.1 Equipment**

4.1.1 All equipment must be charged at laid down cost with a maximum of five (5) percent markup.

4.1.2 The equipment and costs must be identified in the Task Authorization and claims for payment. At the completion of each Task Authorization, Transport Canada will decide if they want to receive any equipment, hardware, software or software licenses purchased as part of the deliverables.

### **4.2 Leases, Rentals and Other Direct Charges**

4.2.1 Must be charged at actual laid down cost with a maximum of five (5) percent markup.

## ANNEX "C"

### INSURANCE REQUIREMENTS

#### 1. Commercial General Liability Insurance

- 1.1 The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
- 1.2 The Commercial General Liability policy must include the following:
  - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g. Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
  - i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.

- 
- j. Notice of Cancellation: The Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.
  - k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
  - l. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
  - m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
  - r. Litigation Rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.
  - s. **For the province of Quebec, send to:**

*Director Business Law Directorate,  
Quebec Regional Office (Ottawa),  
Department of Justice,  
284 Wellington Street, Room SAT-6042,  
Ottawa, Ontario, K1A 0H8*

**For other provinces and territories, send to:**

*Senior General Counsel,  
Civil Litigation Section,  
Department of Justice  
234 Wellington Street, East Tower  
Ottawa, Ontario K1A 0H8*

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

## **2. Errors and Omissions Liability Insurance**

- 2.1 The Contractor must obtain Errors and Omissions Liability (a.k.a. Professional Liability) insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature but for not less than \$1,000,000 per loss and in the annual aggregate, inclusive of defence costs.

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- 
- 2.2 If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
- 2.3 The following endorsement must be included:  
Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.

### **3. Automobile Liability Insurance**

- 3.1 The Contractor must obtain Automobile Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence.
- 3.2 The policy must include the following:
- a. Third Party Liability - \$2,000,000 Minimum Limit per Accident or Occurrence
  - b. Accident Benefits - all jurisdictional statutes
  - c. Uninsured Motorist Protection
  - d. Notice of Cancellation: The Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.

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**ANNEX "D"**

**TASK AUTHORIZATION FORM PWGSC-TPSGC 572**

## Task Authorization Autorisation de tâche

**Instruction for completing the form PWGSC - TPSGC 572 - Task Authorization**  
*(Use form DND 626 for contracts for the Department of National Defence)*

**Instruction pour compléter le formulaire PWGSC - TPSGC 572 - Autorisation de tâche**  
*(Utiliser le formulaire DND 626 pour les contrats pour le ministère de la Défense)*

**Contract Number**

Enter the PWGSC contract number.

**Numéro du contrat**

Inscrire le numéro du contrat de TPSGC.

**Contractor's Name and Address**

Enter the applicable information

**Nom et adresse de l'entrepreneur**

Inscrire les informations pertinentes

**Security Requirements**

Enter the applicable requirements

**Exigences relatives à la sécurité**

Inscrire les exigences pertinentes

**Total estimated cost of Task (Applicable taxes extra)**

Enter the amount

**Coût total estimatif de la tâche (Taxes applicables en sus)**

Inscrire le montant

**For revision only**

**Aux fins de révision seulement**

**TA Revision Number**

Enter the revision number to the task, if applicable.

**Numéro de la révision de l'AT**

Inscrire le numéro de révision de la tâche, s'il y a lieu.

**Total Estimated Cost of Task (Applicable taxes extra) before the revision**

Enter the amount of the task indicated in the authorized TA or, if the task was previously revised, in the last TA revision.

**Coût total estimatif de la tâche (Taxes applicables en sus) avant la révision**

Inscrire le montant de la tâche indiquée dans l'AT autorisée ou, si la tâche a été révisée précédemment, dans la dernière révision de l'AT.

**Increase or Decrease (Applicable taxes extra), as applicable**

As applicable, enter the amount of the increase or decrease to the Total Estimated Cost of Task (Applicable taxes extra) before the revision.

**Augmentation ou réduction (Taxes applicables en sus), s'il y a lieu**

S'il y a lieu, inscrire le montant de l'augmentation ou de la réduction du Coût total estimatif de la tâche (Taxes applicables en sus) avant la révision.

**1. Required Work: Complete sections A, B, C, and D, as required.**

**1. Travaux requis : Remplir les sections A, B, C et D, au besoin.**

**A. Task Description of the Work required:**

**A. Description de tâche des travaux requis :**

Complete the following paragraphs, if applicable.  
Paragraph (a) applies only if there is a revision to an authorized task.

Remplir les alinéas suivants, s'il y a lieu : L'alinéa (a) s'applique seulement s'il y a révision à une tâche autorisée.

(a) Reason for revision of TA, if applicable:  
Include the reason for the revision; i.e. revised activities; delivery/completion dates; revised costs. Revisions to TAs must be in accordance with the conditions of the contract. See Supply Manual 3.35.1.50 or paragraph 6 of the Guide to Preparing and Administering Task Authorizations.

(a) Motif de la révision de l'AT, s'il y a lieu : Inclure le motif de la révision c.-à.-d., les activités révisées, les dates de livraison ou d'achèvement, les coûts révisés. Les révisions apportées aux AT doivent respecter les conditions du contrat. Voir l'article 3.35.1.50 du Guide des approvisionnements ou l'alinéa 6 du Guide sur la préparation et l'administration des autorisations de tâches.

(b) Details of the activities to be performed (include as an attachment, if applicable)

(b) Détails des activités à exécuter (joindre comme annexe, s'il y a lieu).

(c) Description of the deliverables to be submitted (include as an attachment, if applicable).

(c) Description des produits à livrer (joindre comme annexe, s'il y a lieu).

(d) Completion dates for the major activities and/or submission dates for the deliverables (include as an attachment, if applicable).

(d) Les dates d'achèvement des activités principales et (ou) les dates de livraison des produits (joindre comme annexe, s'il y a lieu).

---

**B. Basis of Payment:**

Insert the basis of payment or bases of payment that form part of the contract that are applicable to the task description of the work; e.g. firm lot price, limitation of expenditure, firm unit price

**C. Cost of Task:****Insert Option 1 or 2:****Option 1:**

Total estimated cost of Task (Applicable taxes extra): Insert the applicable cost elements for the task determined in accordance with the contract basis of payment; e.g. Labour categories and rates, level of effort, Travel and living expenses, and other direct costs.

**Option 2:**

Total cost of Task (Applicable taxes extra): Insert the firm unit price in accordance with the contract basis of payment and the total estimated cost of the task.

**D. Method of Payment**

Insert the method(s) of payment determined in accordance with the contract that are applicable to the task; i.e. single payment, multiple payments, progress payments or milestone payments. For milestone payments, include a schedule of milestones.

**B. Base de paiement :**

Insérer la base ou les bases de paiement qui font partie du contrat qui sont applicables à la description du travail à exécuter : p. ex., prix de lot ferme, limitation des dépenses et prix unitaire ferme.

**C. Coût de la tâche :****Insérer l'option 1 ou 2****Option 1 :**

Coût total estimatif de la tâche (Taxes applicables en sus) Insérer les éléments applicables du coût de la tâche établies conformément à la base de paiement du contrat. p. ex., les catégories de main d'œuvre, le niveau d'effort, les frais de déplacement et de séjour et autres coûts directs.

**Option 2 :**

Coût total de la tâche (Taxes applicables en sus) : Insérer le prix unitaire ferme conformément à la base de paiement du contrat et le coût estimatif de la tâche.

**D. Méthode de paiement**

Insérer la ou les méthode(s) de paiement établit conformément au contrat et qui sont applicable(s) à la tâche; c.-à.-d., paiement unique, paiements multiples, paiements progressifs ou paiements d'étape. Pour ces derniers, joindre un calendrier des étapes.

---

**2. Authorization(s):**

The client and/or PWGSC must authorize the task by signing the Task Authorization in accordance with the conditions of the contract. The applicable signatures and the date of the signatures is subject to the TA limits set in the contract. When the estimate of cost exceeds the client Task Authorization's limits, the task must be referred to PWGSC.

**3. Contractor's Signature**

The individual authorized to sign on behalf of the Contractor must sign and date the TA authorized by the client and/or PWGSC and provide the signed original and a copy as detailed in the contract.

**2. Autorisation(s) :**

Le client et (ou) TPSGC doivent autoriser la tâche en signant l'autorisation de tâche conformément aux conditions du contrat. Les signatures et la date des signatures appropriées sont assujetties aux limites d'autorisation de tâche établies dans le contrat . Lorsque l'estimation du coût dépasse les limites d'autorisation de tâches du client, la tâche doit être renvoyée à TPSGC.

**3. Signature de l'entrepreneur**

La personne autorisée à signer au nom de l'entrepreneur doit signer et dater l'AT, autorisée par le client et (ou) TPSGC et soumettre l'original signé de l'autorisation et une copie tel que décrit au contrat.



## Task Authorization Autorisation de tâche

Contract Number - Numéro du contrat

Contractor's Name and Address - Nom et l'adresse de l'entrepreneur	Task Authorization (TA) No. - N° de l'autorisation de tâche (AT)
	Title of the task, if applicable - Titre de la tâche, s'il y a lieu
	Total Estimated Cost of Task (Applicable taxes extra) Coût total estimatif de la tâche (Taxes applicables en sus) \$

Security Requirements: This task includes security requirements  
Exigences relatives à la sécurité : Cette tâche comprend des exigences relatives à la sécurité

No - Non     Yes - Oui    If YES, refer to the Security Requirements Checklist (SRCL) included in the Contract  
Si OUI, voir la Liste de vérification des exigences relative à la sécurité (LVERS) dans le contrat

### For Revision only - Aux fins de révision seulement

TA Revision Number, if applicable Numéro de révision de l'AT, s'il y a lieu	Total Estimated Cost of Task (Applicable taxes extra) before the revision Coût total estimatif de la tâche (Taxes applicables en sus) avant la révision \$	Increase or Decrease (Applicable taxes extra), as applicable Augmentation ou réduction (Taxes applicables en sus), s'il y a lieu \$
--	--	---

**Start of the Work for a TA : Work cannot commence until a TA has been authorized in accordance with the conditions of the contract.**

**Début des travaux pour l'AT : Les travaux ne peuvent pas commencer avant que l'AT soit autorisée conformément au contrat.**

### 1. Required Work: - Travaux requis :

A. Task Description of the Work required - Description de tâche des travaux requis	See Attached - Ci-joint <input type="checkbox"/>
B. Basis of Payment - Base de paiement	See Attached - Ci-joint <input type="checkbox"/>
C. Cost of Task - Coût de la tâche	See Attached - Ci-joint <input type="checkbox"/>
D. Method of Payment - Méthode de paiement	See Attached - Ci-joint <input type="checkbox"/>

Contract Number - Numéro du contrat

## 2. Authorization(s) - Autorisation(s)

By signing this TA, the authorized client and (or) the PWGSC Contracting Authority certify(ies) that the content of this TA is in accordance with the conditions of the contract.

En apposant sa signature sur l'AT, le client autorisé et (ou) l'autorité contractante de TPSGC atteste(nt) que le contenu de cette AT respecte les conditions du contrat.

The client's authorization limit is identified in the contract. When the value of a TA and its revisions is in excess of this limit, the TA must be forwarded to the PWGSC Contracting Authority for authorization.

La limite d'autorisation du client est précisée dans le contrat. Lorsque la valeur de l'AT et ses révisions dépasse cette limite, l'AT doit être transmise à l'autorité contractante de TPSGC pour autorisation.

\_\_\_\_\_  
Name and title of authorized client - Nom et titre du client autorisé à signer

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
PWGSC Contracting Authority - Autorité contractante de TPSGC

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## 3. Contractor's Signature - Signature de l'entrepreneur

\_\_\_\_\_  
Name and title of individual authorized - to sign for the Contractor  
Nom et titre de la personne autorisée à signer au nom de l'entrepreneur

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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## ANNEX "E"

### NON-DISCLOSURE AGREEMENT

I, \_\_\_\_\_, recognize that in the course of my work as an employee or subcontractor of \_\_\_\_\_, I may be given access to information by or on behalf of Canada in connection with the Work, pursuant to Contract Serial No \_\_\_\_\_ between Her Majesty the Queen in right of Canada, represented by the Minister of Public Works and Government Services and \_\_\_\_\_, including any information that is confidential or proprietary to third parties, and information conceived, developed or produced by the Contractor as part of the Work. For the purposes of this agreement, information includes but not limited to: any documents, instructions, guidelines, data, material, advice or any other information whether received orally, in printed form, recorded electronically, or otherwise and whether or not labeled as proprietary or sensitive, that is disclosed to a person or that a person becomes aware of during the performance of the Contract.

I agree that I will not reproduce, copy, use, divulge, release or disclose, in whole or in part, in whatever way or form any information described above to any person other than a person employed by Canada on a need to know basis. I undertake to safeguard the same and take all necessary and appropriate measures, including those set out in any written or oral instructions issued by Canada, to prevent the disclosure of or access to such information in contravention of this agreement.

I also acknowledge that any information provided to the Contractor by or on behalf of Canada must be used solely for the purpose of the Contract and must remain the property of Canada or a third party, as the case may be.

I agree that the obligation of this agreement will survive the completion of the Contract Serial

No: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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## **ANNEX "1" to PART 3 OF THE BID SOLICITATION**

### **ELECTRONIC PAYMENT INSTRUMENTS**

The Bidder accepts to be paid by any of the following Electronic Payment Instrument(s):

- VISA Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);
- Wire Transfer (International Only);
- Large Value Transfer System (LVTS) (Over \$25M)

## ANNEX "2" to PART 4 OF THE BID SOLICITATION

### TECHNICAL EVALUATION CRITERIA

#### **A. Mandatory Technical Criteria**

Bidders must demonstrate in their proposals how they meet each of the mandatory requirements.

Bids not meeting all of the mandatory requirements will be given no further consideration and will be declared non-responsive.

Criteria #	Description	Page # corresponding to information in Proposal
<b>M1</b>	The Bidder must have unfettered access to a revenue-service testing facility located in North America on the mainline of a Class 1 railway. The testing facility must feature seasonal climatic conditions typical of continental climates with the potential of exposure to extreme winter weather conditions.	
<b>M2</b>	The Bidder must have unfettered access to a laboratory facility with a rail testing track that contains a variety of geometric track components including tangents, spirals, curves, and special track work, and capable of conducting heavy-axle load testing of track components and subgrade.	
<b>M3</b>	Project Manager (Project Manager must not be the same individual as the principle researcher) must have a minimum of thirty-six (36) months experience within ten (10) years from the date of bid closing in project management.  To demonstrate compliance, the Bidder should provide a curriculum vitae for the proposed Project Manager that clearly demonstrates; where, the month and year commenced and completed, and how (through what activities and responsibilities) the stated experience was acquired.	
<b>M4</b>	Principal Researcher must have a minimum of sixty (60) months experience within ten (10) years from the date of bid closing in conducting research related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments	

	To demonstrate compliance, the Bidder should provide a curriculum vitae for the proposed Principal Researcher that clearly demonstrates; where, the month and year commenced and completed, and how (through what activities and responsibilities) the stated experience was acquired.	
<b>M5</b>	<p>Principal Researcher must be a professional engineer, in good standing with a recognized professional engineering association, with an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Principal Researcher, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	
<b>M6</b>	<p>Mechanical Engineer must have an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Mechanical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	
<b>M7</b>	<p>Civil Engineer must have an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Civil Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	
<b>M8</b>	<p>Geotechnical Engineer must have an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Geotechnical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter</p>	

	<p>from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	
<b>M9</b>	<p>Metallurgical Engineer must have an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Metallurgical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	
<b>M10</b>	<p>Electrical Engineer must have an undergraduate degree in Engineering. The bidder should submit evidentiary documents demonstrating the Education of the Electrical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University). Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service, if obtained outside Canada, will be considered.</p> <p>The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	

Only bids meeting the mandatory technical criteria will go on to be evaluated for the point-rated criteria.

**B. Point Rated Technical Criteria**

<b>Criteria #</b>	<b>Description</b>	<b>Page # corresponding to information in Bid.</b>
<b>R1</b>	<p><b><u>Mechanical Engineer</u></b></p> <p>a) <b>Education and Qualification - Max Score 5</b></p> <p>The Bidder should submit evidentiary documents demonstrating the Qualifications and Education of the Mechanical Engineer, including copies</p>	

	<p>of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University).</p> <p>For each evidentiary document provided the Bidder should clearly demonstrate; where, when, and how (through what activities and responsibilities) the stated education was acquired.</p> <p><b>b) Experience - Max Score 5</b></p> <p>The Bidder should demonstrate by project descriptions that the proposed resource as the Mechanical Engineer has twenty-four (24) months experience within the past ten (10) years working on projects related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments.</p>	
<p><b>R2</b></p>	<p><b><u>Civil Engineer</u></b></p> <p><b>a) Education and Qualification - Max Score 5</b></p> <p>The Bidder should submit evidentiary documents demonstrating the Qualifications and Education of the Civil Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University).</p> <p>For each evidentiary document provided the Bidder should clearly demonstrate; where, when, and how (through what activities and responsibilities) the stated education was acquired.</p> <p><b>b) Experience - Max Score 5</b></p> <p>The Bidder should demonstrate by project descriptions that the proposed resource as the Civil Engineer has twenty-four (24) months experience within the past ten (10) years working on projects related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments.</p>	
<p><b>R3</b></p>	<p><b><u>Geotechnical Engineer</u></b></p> <p><b>a) Education and Qualification - Max Score 5</b></p> <p>The Bidder should submit evidentiary documents demonstrating the Qualifications and Education of the Geotechnical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University).</p>	

	<p>For each evidentiary document provided the Bidder should clearly demonstrate; where, when, and how (through what activities and responsibilities) the stated education was acquired.</p> <p><b>b) Experience - Max Score 5</b></p> <p>The Bidder should demonstrate by project descriptions that the proposed resource as the Geotechnical Engineer has twenty-four (24) months experience within the past ten (10) years working on projects related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments.</p>	
<p><b>R4</b></p>	<p><b><u>Metallurgical Engineer</u></b></p> <p><b>a) Education and Qualification - Max Score 5</b></p> <p>The Bidder should submit evidentiary documents demonstrating the Qualifications and Education of the Metallurgical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University).</p> <p>For each evidentiary document provided the Bidder should clearly demonstrate; where, when, and how (through what activities and responsibilities) the stated education was acquired.</p> <p><b>b) Experience - Max Score 5</b></p> <p>The Bidder should demonstrate by project descriptions that the proposed resource as the Metallurgical Engineer has twenty-four (24) months experience within the past ten (10) years working on projects related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments.</p>	
<p><b>R5</b></p>	<p><b><u>Electrical Engineer</u></b></p> <p><b>a) Education and Qualification - Max Score 5</b></p> <p>The Bidder should submit evidentiary documents demonstrating the Qualifications and Education of the Electrical Engineer, including copies of Qualifications, Diplomas, Certifications, or Degrees (or a letter from the University).</p> <p>For each evidentiary document provided the Bidder should clearly demonstrate; where, when, and how (through what activities and responsibilities) the stated education was acquired.</p>	

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	<p><b>b) Experience - Max Score 5</b></p> <p>The Bidder should demonstrate by project descriptions that the proposed resource as the Electrical Engineer has twenty-four (24) months experience within the past ten (10) years working on projects related to testing and evaluation of track infrastructure materials, procedures and innovative technologies, which includes researching, developing or producing and collecting data or products to improve the safety and efficient operation of railways and transportation engineering technology assessments.</p>	
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**ANNEX "3" to PART 4 OF THE BID SOLICITATION**

**RATED CRITERIA EVALUATION GRIDS**

Bidders' responses to the rated criteria detailed in Annex "2" to Part 4 of the Bid Solicitation will be evaluated as follows:

**1. Point Rated – Education and Qualification by Type of Resource**

**Maximum points per Type of resource: 5**

Criteria	Points Allocated	Description of Points Assigned
<b>R1 a), R2 a), R3 a), R4 a)</b> <b>Education and Qualification</b>	<b>2 points (criterion is partially met)</b>	The resource has a University Undergraduate Degree and a Professional Qualification (such as, member in a professional association).
	<b>3 points (criterion is partially met)</b>	The resource has a University Graduate Degree.
	<b>5 points (criterion is fully met)</b>	The resource has a University Graduate Degree and Professional Qualifications (such as, member in a professional association).

**2. Point Rated – Experience by Type of Resource**

**Maximum points per type of Resource: 5**

Criteria	Points Allocated	Description of Points Assigned
<b>R1 b), R2 b), R3 b), R4 b)</b> <b>Experience</b>	<b>1 points (criterion is partially met)</b>	A minimum of 24 months of related experience within the past ten years on a single project
	<b>2 points (criterion is partially met)</b>	A minimum of 24 months of related experience within the past ten years on two (2) projects
	<b>3 points (criterion is partially met)</b>	A minimum of 24 months of experience within the past ten years with more than two (2) related projects
	<b>5 points (criterion is fully met)</b>	A Minimum of 24 months experience within the past ten years with more than four (4) related projects

## ANNEX "4" to PART 5 OF THE BID SOLICITATION

### FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

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

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

Date: \_\_\_\_\_(YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

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

**OR**

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

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.

**OR**

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