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Ontario

M2N 6A6

## Revision to a Request for a Standing Offer

## Révision à une demande d'offre à commandes

Departmental Individual Standing Offer (DISO)

Offre à commandes individuelle du département(OCID)

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Offer remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'offre demeurent les mêmes.

### Comments - Commentaires

THIS DOCUMENT CONTAINS A SECURITY REQUIREMENT.

### 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>Title - Sujet</b> LaSalle Causeway Bridge Engineering		
<b>Solicitation No. - N° de l'invitation</b> EQ754-201337/A		<b>Date</b> 2019-12-10
<b>Client Reference No. - N° de référence du client</b> EQ754-201337		<b>Amendment No. - N° modif.</b> 003
<b>File No. - N° de dossier</b> PWL-9-42060 (034)	<b>CCC No./N° CCC - FMS No./N° VME</b>	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWL-034-2496		
<b>Date of Original Request for Standing Offer</b> Date de la demande de l'offre à commandes originale		2019-10-21
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-01-07</b>		<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Standard Time EST
<b>Address Enquiries to: - Adresser toutes questions à:</b> Somaratna, Chinthaka		<b>Buyer Id - Id de l'acheteur</b> pwl034
<b>Telephone No. - N° de téléphone</b> (416) 305-7369 ( )	<b>FAX No. - N° de FAX</b> (416) 952-1257	
<b>Delivery Required - Livraison exigée</b>		
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Lasalle Causeway Lift Bridge Kingston, ON		
<b>Security - Sécurité</b> This revision does not change the security requirements of the Offer. Cette révision ne change pas les besoins en matière de sécurité de la présente offre.		

Instructions: See Herein

Instructions: Voir aux présentes

<b>Acknowledgement copy required</b> <b>Accusé de réception requis</b>	<b>Yes - Oui</b> <input type="checkbox"/>	<b>No - Non</b> <input type="checkbox"/>
<b>The Offeror hereby acknowledges this revision to its Offer.</b> <b>Le proposant constate, par la présente, cette révision à son offre.</b>		
<b>Signature</b>	<b>Date</b>	
Name and title of person authorized to sign on behalf of offeror. (type or print) Nom et titre de la personne autorisée à signer au nom du proposant. (taper ou écrire en caractères d'imprimerie)		
<b>For the Minister - Pour le Ministre</b>		

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**Amendment No. 003**

This amendment is being raised to 1) incorporate revisions to the following sections of the Request for a Standing Offer: Submission Requirements and Evaluation (SRE) 3, 3.2 Rated Requirements, a) **3.2.4 Senior Personnel Expertise and Experience**, and b) **3.2.6 Hypothetical Projects** and 2) provide responses to Requests for Clarification.

**1) Revisions to the Request for a Standing Offer**

a)

**Reference: Submission Requirements and Evaluation (SRE) 3, 3.2 Rated Requirements, 3.2.4 Senior Personnel Expertise and Experience, article 2.II.b.**

**Proponents are instructed to:**

**Delete:** Short pertinent examples of at least 3 projects/inspection/evaluations on bridges that are pertinent to the range of services listed in the Required Services (RS) section. Eligible projects should have received substantial certificate of completion within the past five (5) years. Proponents will receive a lower score if examples are for projects that have no comparison in scope and scale to the type of project to be delivered under this Standing Offer, or are not related to the range of services listed in the Required Services; and

**Insert:** Short pertinent examples of at least 3 projects/inspection/evaluations on bridges that are pertinent to the range of services listed in the Required Services (RS) section. Eligible projects should have received substantial certificate of completion within the past **ten (10)** years. Proponents will receive a lower score if examples are for projects that have no comparison in scope and scale to the type of project to be delivered under this Standing Offer, or are not related to the range of services listed in the Required Services; and

**b) Reference: Submission Requirements and Evaluation (SRE) 3, 3.2 Rated Requirements, 3.2.6 Hypothetical Projects**

**i) Project 1 – Design and Supervision of a Bridge Rehabilitation Project**

**Proponents are instructed to:**

**Delete: Project 1 – Design and Supervision of a Bridge Rehabilitation Project:**

a) Scenario: PWGSC is planning a rehabilitation project of the Alexandra Bridge superstructure steel. The Alexandra Bridge is a steel truss cantilever bridge that was constructed from 1898 to 1901 and is an interprovincial crossing that connects the cities of Ottawa, Ontario and Gatineau, Quebec, lying on either side of the Ottawa River. The bridge carries 18,000 vehicles per day composed of a mix of some trucks, but mainly buses and light vehicles. The total length of bridge is 575 m and the bridge was rehabilitated at several occasions since it was put in service in 1901.

The Alexandra Bridge was painted entirely in 1995-96 and it has been observed over time that corrosion and deterioration does not progress at the same rate on the different parts of the structure because of the difference in environmental exposure conditions of the bridge components. Areas located below the travelled deck are prone to more exposure to road salt de-icing and debris accumulation. Therefore, the corrosion and deterioration rates progress more quickly below the deck than above the deck. Some parts of the

trusses upper structure are still quasi-intact from the 1995-96 paint project, while some parts of the structure below the deck now show important needs of steel replacement due to deterioration. In recent inspection reports, consultants have recommended that PSPC proceed with steel replacement with paint protection to re-establish the steel capacity of those components where deterioration has been identified.

A major rehabilitation was completed from 2009 to 2010 which included the following: replacement of the center lane concrete deck including guardrails, strengthening of the truss structure, retrofitting of the superstructure and substructure to live load and seismic capacity, addition of tuned mass dampers, addition of catwalks, replacement of the pedestrians wooden boardwalk and its railings and partial retrofit to the lighting system. The various components of a bridge all have different rates of wear and tear. During the establishment of the scope of work of this 2009-10 major rehabilitation, overall painting of the structure was excluded because PSPC wanted to evaluate the existing painting system and take on a recommended approach of zone coating as opposed to an overall painting.

In 2013-14, the 118 m long north Gatineau Trestle area was strengthened and fully painted through a zone painting contract. The area of Pier 3 along with other specific locations were partially strengthened as part of a contract completed in 2016-17.

The present project will concentrate on replacement, strengthening, and coating of steel components in the area of Pier 2, other specific components throughout the bridge and the components removed from the 2016-17 contract. Traffic interruptions on the bridge, on the loading dock of the museum, and on the bicycle/pedestrian path must be kept to a minimum during the contract. Access to the Alexandra Bridge needs to be coordinated with NCC, the city of Gatineau (marina operator), the Museum of History and PSPC. For this steel replacement contract, the scaffolding, enclosure and environmental protection system will need to be erected around and supported by the bridge structure. The area of work is over the Ottawa River. The goal of the present contract is to keep the structure in a safe state of service with a target start date of construction assumed to be Fall of 2021.

- b) **Engineering Services Required** — The services required would fall into RS 2.1 Pre-Design Services through to RS 2.7 Post Construction Warranty Review.
1. Your firm has been requested to prepare design for the: (1) Steel replacement to be completed for the steel structure below the roadway deck in the Pier 2 area from floor beam 5 to 14, as well as steel replacement from the tops of pier 2 to the height of the top HSS rail of the center lane deck parapet wall; (2) Within this zone of work, selected components of the steel structure will need to be identified and evaluated for deteriorations and will need to be replaced or strengthened due to loss of section, perforations, cracks and others; (3) Steel replacement or strengthening to specific locations of the structure; and (4) Prepare and administer a zone painting contract for the existing steel within the area of Pier 2.
  2. Provide a description of the studies required to complete rehabilitation to satisfy requirements of the CHBDC.
- c) Take into consideration phasing of project for Health and Safety reasons (time and space separation) in order to minimize traffic interruptions on the bridge, on the loading dock of the museum, and on the bicycle/pedestrian path.
- d) In addition, provide an analysis of issues, and list studies that would be required prior to proceeding with design development work. Prepare a preliminary Project Risk Management Plan (RMP) covering all phases of the project.

**Insert:**

**Project 1 – Design and Supervision of a Bridge Rehabilitation Project:**

- a) Scenario: PWGSC is planning a rehabilitation project of a 5 span superstructure where each 60 m span is simply supported on concrete piers. The bridge superstructure is comprised of steel box trusses with a concrete deck. The primary members of the steel box trusses are built-up sections of angles, batten plates, and lacing. The lateral wind bracing members are built-up section of angles and lacing. The concrete deck is supported by longitudinal w-shape stringers that are framed into transverse floor beams that are fabricated from plates. All connections are riveted construction. The bridge structure was constructed in 1920 and undergone a concrete deck replacement in 1990 where all existing steel stringers were replaced and localized reinforcing of the floor beams was completed. The bridge superstructure spans over an access road (below span 1), a major river (spans 2 and 3), and a major highway (spans 4 and 5). The bridge carries 25,000 vehicles per day composed of a mix of some trucks, but mainly buses and light vehicles. The bridge also contains a cantilevered sidewalk to accommodate a pedestrian lane that was part of the 1990 deck replacement to provide children with walking access to the nearby school. The bridge is also considered an emergency route to the nearby hospital. Thus bridge, sidewalk, or major highway closures or traffic disruptions are not permitted during peak traffic hours. During temporary bridge closures, the bridge closure must be coordinated with local authorities to ensure that the bridge remains active as an emergency route to the nearby hospital.

Since 2010, biannual comprehensive detailed inspections have been completed for the bridge structure. The inspection results of the box trusses have identified that corrosion and steel deterioration is active on the entire structure, however the lower portion of spans 4 and 5 have sustained higher corrosion and steel deterioration rates than the remainder of the structure. The most recent Comprehensive Detailed Inspection (CDI) has also indicated that pack rusting has been observed in the lower gusset plates of the primary truss members, where some of the bottom chord has sustained severe section loss in localized areas within the vicinity of the connection. There is also potential fatigue cracks in the truss bottom chord in the regions where the severe corrosion was identified.

Based on the 10 year management plan, the bridge structure is due to receive a complete structural steel coating, however based on recent inspection results it was recommended that the following should be completed:

- Condition survey of the deteriorated structural steel
- Structural load evaluation of the steel box trusses
- Structural steel replacement to re-establish the steel capacity of the components where deterioration has been identified

All work shall have minimal impact on bridge traffic, highway traffic, and pedestrian traffic.

- b) **Engineering Services Required.** — The services required would fall into RS 2.1 Pre-Design Services through to RS 2.7 Post Construction Warranty Review.

1. Your firm has been requested to conduct the following: (1) complete a condition survey of the entire bridge structure; (2) Using the results of the condition survey, conduct a structural load evaluation of the bridge structure; (3) Design and oversee emergency steel replacement or strengthening to specific locations of the structure to remove the load posting; (4) Assess how to control the rate of pack rusting or eliminate the pack rusting that is developing within the primary truss connections; and (5) Conduct a Fatigue Study to

determine remaining fatigue life of the structure to determine whether a bridge replacement or a full structural steel coating should be implemented.

Provide a description of the methodology that would be implemented to complete the tasks noted in the scope of work noted above. Also describe any additional studies or specialized expertise that would be required to complete the bridge rehabilitation to satisfy requirements of the CSA-S6-14 Canadian Highway Bridge Design Code (CHBDC).

- c) Take into consideration phasing of project field work for Health and Safety reasons (time and space separation) in order to minimize traffic interruptions on the bridge roadway, bridge sidewalk, and on the major highway below.
- d) In addition, provide an analysis of issues, and list studies that would be required prior to proceeding with fieldwork and design development work. Prepare a preliminary Project Risk Management Plan (RMP) covering all phases of the project.

ii) **Project 2 – Investigative Study and Conceptual Design of Electric Motor Rehabilitation**

**Proponents are instructed to:**

**Delete:**

**Project 2 – Investigative Study and Conceptual Design of Electric Motor Rehabilitation**

Scenario - A single leaf Strauss Heel Trunnion Bascule Bridge is the only crossing across an active waterway connecting two cities. There is a residential subdivision on the North side of the Bridge and a park and a community centre on the south side. The alternate crossing by land is a 45 km detour. The main span of the bridge consists of a Modified Warren through-truss with a span length of 80 metres long, weighs 1,500 tonnes and has a maximum height of about 30 metres. The bridge clearance is 4.5 metres above mean high water.

The bridge carries two lanes of vehicular traffic across the river. The roadway on the Bascule Bridge is 7.32 metres (24 feet) wide and carries one eastbound and one westbound vehicular traffic lane on an open steel deck grating. A 1.2 metre (4 feet) wide timber plank sidewalk is cantilevered on the exterior of the south truss. The posted vertical clearance is 4.2 metres. The speed limit on the approach roadway is 50km/hr, with speed reduced to 30km/hr at the bridge. The Average Annual Daily Traffic (AADT) is estimated at 28,000 vehicles. The bridge is lifted by two electric motor that are used alternately. The motor in the southern position have been changed in 2018.

Built in 1917, the Bascule Bridge is used to facilitate the movement of commercial and recreational marine traffic and lifts an average of 2800 times a year during the operating boating season from May to November. The Bascule Bridge lifts on the hour between 6 AM and 10 PM for pleasure craft to allow for rush hour road traffic and on demand for commercial vessels. The bridge operates by request during the offseason, weather and maintenance permitting. All projects have to minimize impact on marine traffic.

In keeping with PWGSC policy on bridge inspection, evaluation and operation, Real Property Branch (RPB), the real estate management arm of PSPC, is responsible to ensure that, in the interest of the preservation of our assets, and public safety, PSPC bridges are maintained to a level of service consistent with industry codes and standards. A number of studies have been completed over the last seven years to understand the structure's remaining useful life, as well as options to

reconfigure and divest the asset. Given the asset's age, PSPC has undertaken frequent and comprehensive inspections and assessments of the bridge's functionality and structural integrity. The 2019 Comprehensive Detailed Inspection has noted that the electric motor that lifts the bridge is in need of serious repair. The bearing of the shaft may have to be changed and the gear attached shows sign of fatigue. The shaft itself shows signs of fatigue too.

PWGSC is planning to replace or refurbish the South electric motor in the mechanical room. Access to the Bascule Bridge needs to be affected minimally, either on land or on water. The coordination shall be done with the marina, the local authority and PWGSC.

**Insert:**

**Project 2 – Investigative Study and Conceptual Design of Electric Motor Rehabilitation**

- a) Scenario - A single leaf Strauss Heel Trunnion Bascule Bridge is the only crossing across an active waterway connecting two cities. There is a residential subdivision on the North side of the Bridge and a park and a community centre on the south side. The alternate crossing by land is a 45 km detour. The main span of the bridge consists of a Modified Warren through-truss with a span length of 80 metres long, weighs 1,500 tonnes and has a maximum height of about 30 metres. The bridge clearance is 4.5 metres above mean high water.

The bridge carries two lanes of vehicular traffic across the river. The roadway on the Bascule Bridge is 7.32 metres (24 feet) wide and carries one eastbound and one westbound vehicular traffic lane on an open steel deck grating. A 1.2 metre (4 feet) wide timber plank sidewalk is cantilevered on the exterior of the south truss. The posted vertical clearance is 4.2 metres. The speed limit on the approach roadway is 50km/hr, with speed reduced to 30km/hr at the bridge. The Average Annual Daily Traffic (AADT) is estimated at 28,000 vehicles. The bridge is lifted by two electric motor that are used alternately. The motor in the southern position have been changed in 2018.

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In keeping with PWGSC policy on bridge inspection, evaluation and operation, Real Property Branch (RPB), the real estate management arm of PSPC, is responsible to ensure that, in the interest of the preservation of our assets, and public safety, PSPC bridges are maintained to a level of service consistent with industry codes and standards. A number of studies have been completed over the last seven years to understand the structure's remaining useful life, as well as options to reconfigure and divest the asset. Given the asset's age, PSPC has undertaken frequent and comprehensive inspections and assessments of the bridge's functionality and structural integrity. The 2019 Comprehensive Detailed Inspection has noted that the electric motor that lifts the bridge is in need of serious repair. The bearing of the shaft may have to be changed and the gear attached shows sign of fatigue. The shaft itself shows signs of fatigue too.

PWGSC is planning to replace or refurbish the **North** electric motor in the mechanical room. Access to the Bascule Bridge needs to be affected minimally, either on land or on water. The coordination shall be done with the marina, the local authority and PWGSC.

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## 2). REQUEST FOR CLARIFICATION

Q7. Will there be any reference material provided for the hypothetical projects for the LaSalle Causeway standing offer?

R7. No, there is no reference material.

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Q8. Section 3.2.6 Hypothetical Projects, Subsection - Project 2 – Investigative Study and Conceptual Design of Electric Motor Rehabilitation outlines the scenario of a hypothetical project

Paragraph one indicates that there “is a residential subdivision on the North side of the Bridge and a park and a community centre on the south side”. Paragraph two indicates that the bridge “carries one eastbound and one westbound vehicular traffic lane on an open steel deck grating”

Can PWGSC please clarify if the orientation of the hypothetical bridge, relative to the direction of traffic carried and the developments it services on either side of the crossing?

Paragraph two states “The motor in the southern position have been changed in 2018”. Paragraph six states that “PWGSC is planning to replace or refurbish the South electric motor in the mechanical room”.

Can PWGSC please clarify which motor was replaced in 2018? And what is the intended scope of work for motors as part of the hypothetical project

R8. The orientation of the bridge described in Project 2 is East-West

The text should be corrected to: “PWGSC is planning to replace or refurbish the North electric motor in the mechanical room”.

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Q09. Under GI 1 definitions, the Crown appears to require a JV between a parent, subsidiaries, affiliates to be considered as a Proponent. SRE 3.2.3, 3.2.4 and 3.2.5 states that PSPC will only consider the expertise of a proponent. The services required in this RFP are highly specialized with relevant experience needing to come from jurisdictions outside of Canada. In order to comply with GI 1 definitions, we would be forced to enter into a JV amongst our different operating companies (that are in place to comply with tax laws of different countries). We all effectively operate as one service provider. Please confirm that we do not need to enter into a JV with different operating companies of one service provider.

R09. "Proponent" is defined in GI 1 as:



The person or entity (or, in the case of a joint venture, the persons or entities) submitting a proposal to provide services under a call-up resulting from a standing offer. It does not include the parent, subsidiaries or other affiliates of the Proponent, or its sub-consultants.

For SRE 3.2.3 Past Experience, the projects must come from the Proponent's work as a Prime Consultant. The Proponent can submit projects where parts the work were performed by the parent, subsidiaries, affiliates or sub-consultants but the Proponent must have been the Prime Consultant on these projects. The Proponent can only use another consultant's (this includes parents, subsidiaries and affiliates) projects as Prime Consultant if the consultant is a joint venture member.

For SRE 3.2.4 Senior Personnel Expertise and Experience, only the Civil/Structural Movable Bridge Engineer must be in-house senior personnel, meaning personnel within the Proponent's organization. The senior Mechanical Movable Bridge Engineer and Electrical/Controls Movable Bridge Engineer may be in-house personnel within the Proponent's (or Joint Venture's) organization or from parent, subsidiaries, affiliates or sub-consultant firms.

For SRE 3.2.5 Project Personnel Expertise and Experience, project personnel may be in-house personnel within the Proponent's (or Joint Venture's) organization or from parent, subsidiaries, affiliates or sub-consultant firms.

Throughout the Request for Standing Offer document and specifically under Team Identification, "Proponent" referred here is the Prime Consultant. If the Proponent wishes to propose resources from another consulting firm (including subsidiary, parent or affiliate) as in-house personnel of the Proponent, they must submit the proposal with said consultant as a joint venture. For additional details on joint venture submissions, please see GI18 Joint Venture.

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Q10. Section 3.2.4 Senior Personnel Expertise and Experience; Subsection 2 (b) requires that we provide three (3) pertinent projects for our senior personnel that have received a substantial certificate of completion within the past five (5) years.

Considering only one (1) Standing Offer for LaSalle Causeway has been in place since 2015, and that it has been extended into 2019, we request that the 5 (five) year requirement in section 3.2.4.2(b) be changed to ten (10) years, to enable our senior personnel to showcase their pertinent project work on projects completed within the past ten (10) years.

R10. The extension to ten (10) years is granted. However, the 3 (three) projects/inspections/evaluations demonstrating the expertise of the Senior Personnel should be on 3 (three) distinct bridges, 2 (two) of which can be distinct moveable bridges that are similar in scope and scale to the type of project to be delivered under this Standing Offer.

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Q11. The LaSalle Causeway Bridge Request for Standing Offer (RFSO) includes two 'hypothetical assignments' named Project 1: Design and Supervision of a Bridge Rehabilitation Project (Alexandra Bridge Rehabilitation 2019); and Project 2: 'Investigative Study and Conceptual Design of Electric Motor Rehabilitation (Strauss Heel Trunnion Bascule Bridge: e.g.: Ports Toronto Cherry Street Bridge, 2019)'.



Historically, PWGSC's use of hypothetical questions has been important venues for firms to demonstrate, in an unbiased forum, technical acumen, engineering wisdom gained from similar experiences, and an understanding and sensitivity to issues important to PWGSC.

However, it is our view that under this RFSO, in both test assignments, PWGSC has moved away from hypothetical scenarios that offer all firms equal footing in the competition; and instead has characterized bridge rehabilitations that draw heavily from current or recent real projects. Due to the use of recent or current bridge rehabilitations, engineering firms retained to undertake these engineering projects possess an unfair advantage in this competition, due to their familiarity with specific bridge rehab issues, and, more importantly, as they have been regularly and directly corresponding with PWGSC on technical and non-technical issues identification, as well the development and refinement of solutions preferable to PWGSC.

While we respect that PWGSC proposals have historically used hypothetical projects to level the playing field amongst competing, in this case, the use of actual bridge examples where competing firms can easily draw PSPC reports and consultations - represents an unreasonable competitive bias.

We therefore request that PWGSC modify the RFSO to replace the proposed hypothetical projects and provide new hypothetical scenarios to ensure transparency."

R11. For clarification purposes, the hypothetical scenarios are not related to recent or ongoing projects, and if it happens to have similarities to existing bridges or projects the intent of the author was to present an engineering challenge that would be similar in nature and magnitude to the current challenges experienced at LSC. The administration conducting the management of engineering services for LSC is actually separate from the Alexandra bridge in the National Capital Region. As per the scenario in Project 2, it is of a typical single leaf Strauss Heel Trunnion Bascule Bridge, to reflect the similar challenges in the Lasalle Causeway Bascule Bridge. Cherry Street Bridge is such a single leaf Strauss Heel Trunnion Bascule Bridge as well, and is owned and managed by City of Toronto. The evaluation of the answers given to the hypothetical projects will consider the technical merit, innovating techniques, and management approach of the Proponents in the problem solving of engineering challenges that would be similar to the tasks they might carry at LSC, regardless of their previous contracts with PSPC.

To avoid all possible confusion, Project 1 will be modified as such:

**Project 1 –Design and Supervision of a Bridge Rehabilitation Project:**

- e) Scenario: PWGSC is planning a rehabilitation project of a 5 span superstructure where each 60 m span is simply supported on concrete piers. The bridge superstructure is comprised of steel box trusses with a concrete deck. The primary members of the steel box trusses are built-up sections of angles, batten plates, and lacing. The lateral wind bracing members are built-up section of angles and lacing. The concrete deck is supported by longitudinal w-shape stringers that are framed into transverse floor beams that are fabricated from plates. All connections are riveted construction. The bridge structure was constructed in 1920 and undergone a concrete deck replacement in 1990 where all existing steel stringers were replaced and localized reinforcing of the floor beams was completed. The bridge superstructure spans over an access road (below span 1), a major river

(spans 2 and 3), and a major highway (spans 4 and 5). The bridge carries 25,000 vehicles per day composed of a mix of some trucks, but mainly buses and light vehicles. The bridge also contains a cantilevered sidewalk to accommodate a pedestrian lane that was part of the 1990 deck replacement to provide children with walking access to the nearby school. The bridge is also considered an emergency route to the nearby hospital. Thus bridge, sidewalk, or major highway closures or traffic disruptions are not permitted during peak traffic hours. During temporary bridge closures, the bridge closure must be coordinated with local authorities to ensure that the bridge remains active as an emergency route to the nearby hospital.

Since 2010, biannual comprehensive detailed inspections have been completed for the bridge structure. The inspection results of the box trusses have identified that corrosion and steel deterioration is active on the entire structure, however the lower portion of spans 4 and 5 have sustained higher corrosion and steel deterioration rates than the remainder of the structure. The most recent Comprehensive Detailed Inspection (CDI) has also indicated that pack rusting has been observed in the lower gusset plates of the primary truss members, where some of the bottom chord has sustained severe section loss in localized areas within the vicinity of the connection. There is also potential fatigue cracks in the truss bottom chord in the regions where the severe corrosion was identified.

Based on the 10 year management plan, the bridge structure is due to receive a complete structural steel coating, however based on recent inspection results it was recommended that the following should be completed:

- Condition survey of the deteriorated structural steel
- Structural load evaluation of the steel box trusses
- Structural steel replacement to re-establish the steel capacity of the components where deterioration has been identified

All work shall have minimal impact on bridge traffic, highway traffic, and pedestrian traffic.

- f) **Engineering Services Required.** — The services required would fall into RS 2.1 Pre-Design Services through to RS 2.7 Post Construction Warranty Review.

1. Your firm has been requested to conduct the following: (1) complete a condition survey of the entire bridge structure; (2) Using the results of the condition survey, conduct a structural load evaluation of the bridge structure; (3) Design and oversee emergency steel replacement or strengthening to specific locations of the structure to remove the load posting; (4) Assess how to control the rate of pack rusting or eliminate the pack rusting that is developing within the primary truss connections; and (5) Conduct a Fatigue Study to determine remaining fatigue life of the structure to determine whether a bridge replacement or a full structural steel coating should be implemented.

Provide a description of the methodology that would be implemented to complete the tasks noted in the scope of work noted above. Also describe any additional studies or specialized expertise that would be required to complete the bridge rehabilitation to satisfy requirements of the CSA-S6-14 Canadian Highway Bridge Design Code (CHBDC).

- g) Take into consideration phasing of project field work for Health and Safety reasons (time and space separation) in order to minimize traffic interruptions on the bridge roadway, bridge sidewalk, and on the major highway below.

N° de l'invitation - Solicitation No.  
EQ754-201337/A

N° de la modif - Amd. No.  
003

Id de l'acheteur - Buyer ID  
pwl034

N° de réf. du client - Client Ref. No.  
EQ754-201337

File No. - N° du dossier  
PWL-9-42060

N° CCC / CCC No. / N° VME - FMS

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- h) In addition, provide an analysis of issues, and list studies that would be required prior to proceeding with fieldwork and design development work. Prepare a preliminary Project Risk Management Plan (RMP) covering all phases of the project.

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Q12. In Section 3.2.6 Hypothetical Projects, it is our understanding that sections 2.c) and 2.i) are requesting the same information. Could you confirm? If not, could you clarify the difference in requirements for each?

R12. Section 3.2.6.2 i) can be the clarification text for the table of Work Breakdown Structure requested in 3.2.6.2 c). There is an opportunity to provide a time schedule and justifications for the time schedule identified in 3.2.6.2 c) that is not available in Section 3.2.6.2 i)

**All other terms and conditions of the solicitation remain the same.**