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G1J 0C7

## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

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

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

### Comments - Commentaires

Vendor/Firm Name and Address  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution  
TPSGC-PWGSC  
601-1550, Avenue d'Estimauville  
Québec  
Québec  
G1J 0C7

<b>Title - Sujet</b> Photogrammétrie et arpentage	
<b>Solicitation No. - N° de l'invitation</b> T8010-130031/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> T8010-13-0031	<b>Date</b> 2013-07-29
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$QCM-009-15491	
<b>File No. - N° de dossier</b> QCM-3-36058 (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 2013-08-02</b>	<b>Time Zone</b> Fuseau horaire Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Thellend, François	<b>Buyer Id - Id de l'acheteur</b> qcm009
<b>Telephone No. - N° de téléphone</b> (418) 649-2889 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Voir au contrat	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> Raison sociale et adresse du fournisseur/de l'entrepreneur	
<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/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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## ADDENDUM 01 AND QUESTIONS/ANSWERS

### Amendment 001 to the Request for Proposal:

Included in the present amendment :

1. Addendum No. 1; and
  2. Questions and answers.
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### 1. ADDENDUM NO 1:

THIS ADDENDUM FORMS AN INTEGRAL PART OF THE REQUEST FOR PROPOSALS AND MODIFIES IT AS FOLLOW:

1. In Section 3 - "Reference Terms", Article 3.02.2.7 - "Working files, photographs and 2D and 3D modeling", on page 17 :

Delete: "a 3D digital terrain model (DTM) in DWG, ASK (ASCII) and PDF formats, as well as in paper format, at a scale of 1:500;"

Insert: "a 3D digital terrain model (DTM) in DWG, ASK (ASCII) and PDF formats;"

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### 2. QUESTIONS & ANSWERS:

#### Question 1

Would it be possible to get the project boundaries in digital vector format (DWG, DGN or Shapefile)?

#### Answer 1

See file " Extrait des zones 3 et 5 cm.dwg " supplied with this solicitation amendment.

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#### Question 2

Is a surveyor who is a member of the Ordre des arpenteurs géomètres du Québec considered equivalent to a land surveyor for the purposes of this project?

#### Answer 2

Yes, a " géomètre " who is member of the " ordre des arpenteurs géomètres du Québec " will be considered equivalent to a land surveyor "arpenteur-géomètre " for the purposes of this project.

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**Question 3**

You say that to be considered senior, a land surveyor must have 15 years of experience, while the Ordre des arpenteurs-géomètres du Québec (OAGQ) considers a land surveyor senior with 10 years of experience. Can we consider a land surveyor or surveyor with over 10 years of experience as senior as defined by the OAGQ?

**Answer 3**

For the purposes of this tender, a Land-Surveyor ("Arpenteur-Géomètre") or "Géometre" having less than fifteen (15) years of experience is not considered as "senior", subject to the treatment of years spent obtaining a Master's or Doctorate degrees pursuant to paragraph 3.01.4.2.

**Question 4****Reference:**

In the Reference Terms, section 3.02.1, page 9, it is indicated:

" in 2014 and/or 2015, carry out a total of two (2) updates to the data previously collected on the site, the files, the digital terrain models, the drawings and the bilingual report. This may be undertaken at the request of Canada only, when the construction of the Nuns' Island temporary bridge-causeway and the reconstruction of the N, V and Main Overpasses are fully or partially completed (see Item 3 of the Price Table and Payment Item description in the paragraphs of Article 3.03.16.3). "

**Question 4a)**

The structures affected by the work are set out in the reference terms, but the update will probably not be limited to structures. The surrounding areas will likely also be affected. Would it be possible to get approximate boundaries of the areas where an update will be necessary (particularly for the layout of the temporary causeway)?

**Question 4b)**

The first update will require new aerial photography of the structures identified by Canada. Are we to consider that the second update will require further aerial photography of the structures identified by Canada? With the main mandate and the two updates, this would indicate that the plane will be used three (3) different times on site. Can you please confirm?

**Answers**

**4a)** See drawing 125700-G04 attached to this solicitation amendment in pdf format.

**4b)** For the purposes of this tender, bidders shall in fact consider that the main survey and the two (2) follow-up surveys carried out to update the information will necessitate the mobilisation of a plane on three (3) occasions.

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**Question 5****Reference:**

In the Reference Terms , section 3.02.2.4.2, page 12, it is indicated:

" The Consultant shall, at minimum, do the following:

- a geodetic survey using stationary LiDAR (3D laser scanning) or other conventional ground method and production of a plan including all of the point (planimetric details, spot elevations, etc.) and linear elements (drainage network, road network, etc.) of the terrain within the study area where photogrammetry is not practicable or where LiDAR is considered more suitable. This includes surveys of the Champlain Bridge and of the Estacade (ice control structure);"

**Question**

The text mentions that complementary surveys are required for the Champlain Bridge and the ice control structure. In Appendix E to the reference terms, a complementary survey is requested for the approach/abutment on the "west" side. Is a complementary survey required for the "east" side? Also according to Appendix E, no complementary survey has been requested for the ice control structure. Can you please clarify?

**Answer 5**

The paragraphs of section 3.02.2.4.2, p.13, refer to LiDAR surveys at locations where modeling from aerial photography (photogrammetry) is not feasible or satisfactory, or where LiDAR is deemed more appropriate. Surveys by LiDAR or some other conventional method are required under any infrastructure located above land, including the land under the Champlain Bridge, under the Nuns' Island Bridge, under the overpasses, etc., in order to survey the outside curbs, the medians, the catch basins, the level of the undersides of girders and thus the clearance under them, the shorelines and anything else not surveyed in aerial photography. Thus, the Champlain Bridge over the St. Lawrence Seaway dyke must be surveyed by LiDAR or another conventional method because aerial photography cannot properly identify the ground characteristics and the level of the undersides of the bridge's girders.

The approach/abutment on the "west" side of the Champlain Bridge (at Nuns' Island) must be surveyed for the spans above land because modeling from aerial photography done for the temporary bridge-causeway project (see area shown on the drawing in Appendix F) did not allow to survey the land under the bridge or the level of the underside of the bridge's girders -information which is necessary for the NBSL project. Similarly, the "east" approach (at Brossard) must be surveyed for the spans above land.

With regard to the ice control structure (Estacade), LiDAR survey may be required, but only if aerial photography is not sufficient or satisfactory to allow complete modeling of the area. However, no specific area requiring LiDAR survey has yet been identified in the case of the ice control structure. For bid purposes, it should be assumed that none of the spans are situated above land, and consequently that no survey by LiDAR or other conventional method will be required for the ice control structure.

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**Question 6****Reference :**

In the Reference Terms, section 3.02.2.7, page 17, it is indicated:

" The Consultant shall provide, at minimum, the following terrain modeling working files:

- the project boundaries in DWG format;
- the 2D cartographic files with all the elements identified on the site, including their hypsometry (altitude), in DWG and paper format, at a scale of 1:500;
- the 3D cartographic files with all the elements identified on the site, including their hypsometry (altitude), in DWG format;
- a 3D digital terrain model (DTM) in DWG, ASK (ASCII) and PDF formats, as well as in paper format, at a scale of 1:500;
- site surveys by LiDAR (3D laser scan) or other conventional ground based method, when applicable, under overpasses, towers and any other structure or element surveyed, in DWG format."

**Question**

In the first item, the hypsometry (derived from the DTM) will be visible in the 2D mapping in paper format. In the fourth item, how will the digital terrain model (DTM) be represented in paper format?

**Answer 6**

The digital terrain model (DTM) does not have to be provided in paper format. See Addendum No. 1.

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**Question 7****Reference :**

In the Reference Terms, in section 3.02.4, page 18, it is indicated:

"all Consultant's Drawings shall be produced on 24-inch by 36-inch printable "D" paper or on 36-inch by 48-inch printable "E" paper, at Canada's choice. "

**Question**

Four copies of the preliminary and final plans must be printed. The number of sheets estimated for this project is not negligible. Can you please confirm the sheet size?

**Answer 7**

For the purposes of the tender, bidders may consider that the sheet will be size " E ", corresponding to dimensions 36 in. x 48 in.

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**Question 8****Reference :**

In the Reference Terms, section 3.01.4.2.5 / 3.01.4.2.6 / 3.01.4.2.7, pages 7 and 8, it is indicated:

**"Senior Technician/Draftsman**

The Senior Technician or Senior Draftsman has at least ten (10) years of pertinent experience and an attestation of college studies in his specialization or any combination of training and experience that is at least equivalent. He plans, organizes and coordinates a part of a project requiring the application of in-depth technical knowledge. He designs and develops new ways of applying existing criteria in an economical and practical manner (on site and / or for computer assisted drawings).

**Intermediate Technician/Draftsman**

The Intermediate Technician or Intermediate Draftsman has at least five (5) years of pertinent experience and an attestation of college studies in his specialization or any other combination of training and experience that is at least equivalent. He performs various tasks and conducts various studies, of limited complexity, under the supervision of a senior technician or land surveyor. He makes decisions as part of established procedures and practices (on site and / or for computer assisted drawings).

**Junior Technician/Draftsman**

The Junior Technician or Junior Draftsman has an attestation of college studies in his specialization or construction or any other combination of training and experience that is at least equivalent. He performs tasks applying clearly defined procedures and practices (on site and / or for computer assisted drawings)."

**Question**

Are we to consider that the land surveying technician comes under this definition? If this is the case, based on the price table, are we to understand that the draftsman and technician will be paid at the same hourly rate?

**Answer 8**

Yes, it is to be considered that the draftsman and technician will be paid at the same rate.

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**Question 9**

Would it be possible to get KMZ, CAD or SHP file of the data collection area outlines (5cm vs 3cm and static scanner locations) - Appendix E - "Graphical Representation of the Photogrammetric and Modeling Work to be Performde" - Page 65-67 of Section 3 - Référence Terms"?

**Answer 9**

See file " Extrait des zones 3 et 5 cm.dwg " supplied with this solicitation amendment.

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**Question 10**

Would it be possible to get a CAD file of Appendix G - "Extract of Cartographical Drawings Stemming From Modeling Work Performed in Montreal (Verdun Area) and on Nuns' Island (2012-2013) - Page 73 of Section 3 - "Reference Terms"?

**Answer 10**

See file " 72818 Modélisation réalisée extrait-pour-RFP.dwg " supplied with this solicitation amendment. The data that this drawing contains is the property of JCCBI. The information is supplied only for the purposes of this Request for proposals and cannot be used for other purposes without the written consent of JCCBI or TC.

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**Question 11****Reference :**

In the Reference Terms, section 3.02.2.4.2, page 12, it is possible to read :

" a geodetic survey using stationary LiDAR (3D laser scanning) or other method and production of a plan and profile including all of the Hydro-Québec towers and conductors within the study area;"

**Question**

It is asked to produce a plan and profile of many electrical lines. Is it possible to get more details on this production of plan and profile (requested elements, etc.)? Is it possible to get an example of the plan? Can we understand that this production of plan and profile will be independent from the cartography one?

**Answer 11**

Refer to the following paragraph of Article 3.02.1 : geodetic surveys of Hydro-Québec towers and conductors using precision aerial photography, stationary LiDAR or other method if the survey by precision aerial photography is not sufficient for the needs of this Contract. In this regard, the survey technique must be able to trace out the conductors and their low point, at maximum 3m intervals, with a precision of +/-75mm in general and +/-50mm at its low point. For the towers, for both monotube and truss configurations, the survey technique used must be able to capture, at a minimum, the major changes in the shape. This includes, without being limited to, the location of the anchor bolts or the circumference at ground level, the top of the tower, the extremities of the overhanging crossmembers, etc., with a precision of +/-75mm; ".

Additionally, refer to drawing no. 72816 of Appendix E for the location of pylons and conductors to be surveyed.

The plan can be presented independently from the cartography, however it must be georeferenced and be able to be inserted into the cartography drawing file. Canada does not possess an example of a drafted layout nor does it have additional requirements related to the specifications indicated above.

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**END OF AMENDMENT 001**  
**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED**