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Bid Fax: (819) 997-9776

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
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Consultant Services Division/Division des services d'experts-conseils
11 Laurier St./11 Rue Laurier
3C2, Place du Portage
Phase III
Gatineau, Québec K1A 0S5

Title - Sujet East Tunnel Replacement Phase 4	
Solicitation No. - N° de l'invitation EP758-130472/A	**Amendment No. - N° modif.** 002
Client Reference No. - N° de référence du client R.056358.007	**Date** 2013-01-25
GETS Reference No. - N° de référence de SEAG PW-$$FE-115-61726	
File No. - N° de dossier fe115.EP758-130472	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2013-02-05**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Bennett, Adrian	**Buyer Id - Id de l'acheteur** fe115
Telephone No. - N° de téléphone (819) 956-1793 ( )	**FAX No. - N° de FAX** (819) 956-3160
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Parliament Hill Ottawa, ON K1A 0S5	

Instructions: See Herein

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Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Canada

This amendment will form part of the contract documents.

AT SRE 2 PROPOSAL REQUIREMENTS, 2.1 Requirement fopr Proposal Format:

DELETE:

- Minimum font size - 11 point Times or equal, with 1.5 line spacing.

INSERT:

- Minimum font size - 11 point Times or equal

IN THE PROJECT BRIEF, SECTION RS 3 - DESIGN DEVELOPMENT, UNDER ITEM 3.3 - DELIVERABLES:

INSERT:

Geotechnical Baseline Report

- The Geotechnical Baseline Report (GBR) will serve to define and allocate risks associated with construction due to subsurface conditions expected to be encountered during construction. It establishes a contractual understanding of subsurface site conditions referred to as the baseline.
- At this stage, the GBR report should be considered a first draft. The final GBR is to form part of the Construction Documents, and must therefore contain clear and precise interpretation of geotechnical design data such that bidders can have a common understanding during tender process. It must be provided as a stand-alone document, in both official languages, as part of the Construction Documents deliverables (see section RS 4 - Construction Documents).
- The GBR will describe the geological conditions along the route and the influence that these anticipated geological conditions have on construction.
- It is intended to communicate to prospective bidders a contractual indication of anticipated subsurface conditions and the geotechnical risks allocated to the Construction Manager. It may be used by construction sub-trades in selecting construction methods and equipment.
- It will be used by the consultant as a basis for preparing construction cost estimates.
- It will be used by all parties during construction to assess subsurface conditions and to identify differing site conditions, and for the resolution of disputes related to encountered conditions that are claimed to be more adverse than those described in the baseline.
- The GBR must contain as a minimum the following:
    - Introduction
    - Project name, owner.
    - Design team.
    - Purpose and organization of report.
    - Project Description
    - Project location.
    - Project type and purpose.
    - Summary of key project features (geometry, alignment, support and lining types, required construction sequences, etc.).

- Cross references to specific construction drawings (to be added at next stage).
- Sources of Geologic Information
- Reference to the previous geotechnical reports.
- Citations from other geotechnical reports.
- Project Geologic Setting
- Brief overview of geologic and groundwater setting with cross reference to text, maps, and figures from other geotechnical reports.
- Brief overview of site exploration and testing programs.
- Surface development and topographic and environmental conditions affecting project layout.
- Description of typical exposures and outcrops.
- Geologic profile along tunnel alignment showing general stratigraphy and rock/soil units, and stick logs to indicate drill hole locations, depths and orientation.
- Previous Construction Experience
- Nearby relevant projects (e.g., Kent-Wellington and Archive tunnel constructed in the early 1990's).
- Relevant features of past projects with focus on excavation methods, ground behavior, groundwater conditions, vibration propagation, and ground support methods.
- Summary of problems during construction and how they were resolved.
- Nearby projects whose condition and circumstances may be misleading, and why.
- Ground Characterization
- Physical characteristics and occurrences of each distinguishable rock or soil unit, including fill, natural soils and bedrock.
- Laboratory and field test results presented in histogram (or similar) format, grouped according to each pertinent distinguishable rock or soil unit, referenced to tabular summaries contained in other geotechnical reports.
- Ranges and values for baseline purposes; explanations for why the histogram distributions should be considered representative of the range of properties to be encountered, and if not, why not; rationale for selecting the baseline values and ranges.
- Baseline statements of the various types or percentages of each pertinent distinguishable ground type to be encountered during excavation; cross references to information contained in Construction Documents.
- Values of ground mass permeability, including direct and indirect measurements of permeability, with reference to tabular summaries in other geotechnical reports; basis for potential occurrence of large localized inflows not indicated by ground mass permeability values; rationale for selecting baseline volumes; baseline volumes themselves.
- If applicable (i.e. for tunnel boring machine), interpretations of rock mass properties that will be relevant to boreability and cutter wear estimates, vibration propagation, for each of the distinguishable rock types, including rock performance, test results and results of petrographic analyses. Do not include penetration or advance rate estimates.
- Design Considerations

- Description of ground classification system(s) used for design purposes, including ground behavior, nomenclature.
- Criteria and methodologies used for the design of ground support (or stabilization) systems, including ground loadings.
- Criteria and bases for design of final linings.
- Environmental performance considerations (e.g. limitations on settlement, lowering of groundwater levels, noise, vibration, air blasts, etc.
- The rationale for different support requirements for different ground types, and the protocol to be followed during construction for determining ground support types for payment; refer to specification for detailed description.
- The need and rationale for ground performance instrumentation included in the contract documents.
- Construction Considerations
- Anticipated ground behavior in response to construction operations within each soil and rock unit.
- Anticipated vibration attenuation relationships for blast design.
- Required sequence of construction.
- Specific construction difficulties that are anticipated.
- Rationale for specification requirements that will either constrain the means and methods considered by the Construction Manager, or prescribe specific means and methods.
- Rationale for baseline estimates of groundwater inflows to be encountered during construction, with numerical values (cross reference with the specifications); baseline levels of sustained groundwater inflows at the heading, and cumulative inflows to be pumped at the portal or shaft.
- Rationale behind ground improvement techniques and groundwater control methods included in the contract.
- Potential sources of delay (e.g. groundwater inflows, shears and faults, boulders, noxious gases, contaminated soil, etc.)

IN THE PROJECT BRIEF, SECTION RS 4 - CONSTRUCTION DOCUMENTS, UNDER ITEM 4.3 - SCOPE OF SERVICES

ADD the following:

- Update and finalize the Geotechnical Baseline Report described in section RS 3.3.

The following is in response to inquiries received in relation to this solicitation.

Q1. Do the reference materials provided to the awarded Consultant include the following:

A1: Please refer to section PD 14 of the Project Brief.

Q1.1 - East Tunnel drawings from 1919; presume yes from Section 14.3?

A1.1: No, the original East Tunnel segments were constructed very differently than the Kent-Wellington Tunnel. The 1919 drawings have little relevance to the scope of this project.

Q1.2 - East tunnel major intervention records and drawings from 1966/1967?

A1.2: Yes, where pertinent to the scope of this project.

Q1.3 - New tunnel branch drawings from 1966/1967?

A1.3: Yes, where pertinent to the scope of this project.

Q1.4 - Existing building drawings, within the vicinity of the tunnel works?

A1.4: Yes, for the West Block Building, and potentially other buildings if it is deemed that they could be affected by the scope of this project.

Q.1.5 - Existing building condition survey? (or is this part of the awarded Consultant's scope?).

A1.5: Yes, for the West Block Building, and potentially other buildings if it is deemed that they could be affected by the scope of this project.

Q1.6 - Existing tunnel condition survey; assume its included in the feasibility study from Genivar in 2008?

A1.6: Yes

Q1.7 - Existing topographical surveys?

A1.7: Yes

Q1.8 - Existing utility surveys?

A1.8: Yes

Q1.9 - Existing utility test pit (SUE) reports?

A1.9: Yes

Q1.10 - Existing noise and vibration surveys?

A1.10: Yes

Q2. Are existing drawings, specs, reports etc of relevance from Phases 1, 2, 3 and 5 to be made available to awarded Consultant?

A2: Yes, documents from Phases 1, 2, 3 and 5 will be made available for reference where these are deemed relevant to the scope of this project. It is anticipated that the tunnel design approach for this project (Phase 4) will be different from that of other phases.

Q3. Have any archaeological desks study and investigation works been carried out, or is the awarded Consultant team to include for this work? (an archaeologist is not listed in PD 15)

A3: Various archaeological investigations have been conducted in the surrounding area; these will be made available to the successful proponent. Archaeological investigations specific to this project have not yet been performed; these will be conducted by others during the design stages, and do not form part of this mandate.

Q4. Is the awarded Consultant to include the cost of completing utility test pits (SUEs)?

A4: No, the excavation of any additional utility test pits required for this project will be performed by others (arranged through the Construction Manager); however the successful proponent's mandate includes determining utility test pit locations, being present during the excavation of utility test pits, collecting all necessary information on site, preparing utility test pit reports, and incorporating all pertinent data into its design documents.

Q5. Is the awarded Consultant to carry out their own existing building / tunnel surveys, noise and vibration surveys to complete the construction vibration and blasting impact management plan?

A5: Yes.

Q6. Clarify the status of the environmental works - is an environmental consultant required to be part of the awarded Consultant's team? PD15 says to carry out testing, but PD5.3 indicates the Client will provide this report and consultant. The environmental works needs to include contamination testing of the ground, testing of deleterious materials within the tunnel (ie asbestos), and to provide consultancy advice on removal, specs and costings for the construction works?

A6: Environmental Technical Services are part of the consultant mandate - please refer to the RS sections in the Project Brief for details of the services required. Section PD5.3 of the Project Brief explains that high level recommendations will be provided by PWGSC's Environmental Services Division. The successful proponent's mandate will include converting these recommendations into specific requirements that will form part of the Construction Documents.

Q7. Clarify the scope of works and deliverables of PWGSC's retained geotechnical consultant; particularly:

A7: Please refer to section PD 5.2 of the Project Brief. PWGSC's Geotechnical Services Consultant will be retained to perform various data collection services. This may be in the form of multiple specific mandates, according to the evolution of the design needs.

Q7i. - Has a major GI been completed already, with a geotechnical data report and geotechnical interpretive report? PD5.2 indicates a supplementary GI may be require hence its assumed a major GI has already been completed.

A7i: Various geotechnical investigations have been conducted in the surrounding area; these will be made available to the successful proponent (see section PD14 of the Project Brief). Geotechnical investigations specific to this project are limited; additional investigations will be conducted by PWGSC's Geotechnical Services Consultant during the design stages. The successful proponent's mandate includes interpretation of these geotechnical investigation reports, identifying areas where additional investigations are required, applying geotechnical data to its design, and ensuring that report recommendations are converted into specific requirements that will form part of the Construction Documents.

Q7ii. - Is PWGSC's retained geo consultant to prepare the geotechnical data report and geotechnical interpretive report for any supplementary GI, based on the awarded Consultant's scope of the supplementary GI? We assume there is sufficient time to carry out any supplementary GI in time to inform the design, and so avoid re-design works.

A7ii: Yes.

Q7iii. - PD5.2 describes baselining the ground conditions, so are they to prepare a GBR and if so, is the awarded Consultant expected to contribute? If it exists for the present GI, is the awarded Consultant expected to assist in updating it with the supplementary GI/development of the tunnel design and methodology?

A7iii: This addendum includes the addition of the Geotechnical Baseline Report to the successful proponent's mandate.

Q7iv. - Does PWGSC's retained geotechnical engineer's scope of works include for meetings and providing advice to the Consultant throughout the project until its completion?

A7iv: PWGSC's Geotechnical Services Consultant will participate in some meetings with the Project Team to present and explain findings from their geotechnical investigations. PWGSC's Geotechnical Services Consultant's primary role will be data collection; they are not expected to assume an advisory role or to assume any of the successful proponent's design responsibilities.

Q8. Have PWGSC's Geotechnical and Environmental Consultants been selected, and if so, can the firm names be disclosed?

A8. The Geotechnical Consultant has not been selected for the sub-surface investigation

Q9. The tunnel mechanical systems must allow for current and future loads - will PWGSC provide the future projected loads to be added to the system?

A9. Yes.