



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions
- TPSGC

11 Laurier St./11 rue Laurier

Place du Portage, Phase III

Core 0B2 / Noyau 0B2

Gatineau, Québec K1A 0S5

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

Ce document comporte une exigence en matière de sécurité - 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

Construction Services Division/Division des services de construction

11 Laurier St./11 Rue Laurier

3C2, Place du Portage

Phase III

Gatineau, Québec K1A 0S5

Title - Sujet Compres. Replac. and Vent. Upgrade	
Solicitation No. - N° de l'invitation EP076-161390/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client 20161390	Date 2015-12-22
GETS Reference No. - N° de référence de SEAG PW-\$\$\$FG-358-68478	
File No. - N° de dossier fg358.EP076-161390	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-01-07	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Michaud, Jasmin	Buyer Id - Id de l'acheteur fg358
Telephone No. - N° de téléphone (819) 956-3921 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Environnement Canada, 335 chemin River, Ottawa, ON / Environment Canada, 335 River road, Ottawa, ON	

Instructions: See Herein

Instructions: Voir aux présentes

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

Solicitation No. - N° de l'invitation

EP076-161390

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

20161390

Amd. No. - N° de la modif.

002

File No. - N° du dossier

fg358EP076-161390

Buyer ID - Id de l'acheteur

fg358

CCC No./N° CCC - FMS No./N° VME

This amendment #002 is being issued for the following reason:

ISSUANCE OF ADDENDUM No. 01

All other terms and conditions remain the same.

TOUT AUTRES TERMES ET CONDITIONS DEMEURENT INCHANGÉS

The following changes in the bid documents are effective immediately. This addendum will form part of the contract documents.

1.1 DRAWINGS

1.1.1 Mechanical

- .1 M-300 – Mechanical Heating & Cooling Gr. Floor Lower Level: Revision 2 – Addendum No. 01 – 2015-12-22.
- .2 M-301 – Mechanical Heating & Cooling Gr. Floor Upper Level: Revision 2 – Addendum No. 01 – 2015-12-22.

1.1.2 Structure

- .1 S100:
 - .1 New note added to section D02.

1.2 SPECIFICATIONS

1.2.1 Section 01 00 10 – General Instructions

- .1 Add article 1.7 as follows:

1.7 COST BREAKDOWN

- .1 *Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.*
- .2 *As a minimum, the cost breakdown should list the following categories of work, with their respective cost. Materials and labour should also be broken down:*
 - .1 **General Conditions**
 - .2 **Mobilization**
 - .3 **Health and Safety requirements**
 - .4 **Temporary installations, egress, etc.**
 - .5 **Selective demolition: architectural, structural, mechanical and electrical**
 - .6 **Waste Management**
 - .7 **Shop drawings**
 - .8 **Structural Steel**
 - .9 **Roofing**
 - .10 **Door hardware**
 - .11 **Louvers**
 - .12 **Gypsum board assemblies**
 - .13 **Painting**
 - .14 **Lighting**
 - .15 **Services: distribution, heat trace**
 - .16 **Fire Alarm System**

- .17 *Fire extinguishers*
- .18 *Fire suppression*
- .19 *Plumbing*
- .20 *Mechanical piping*
- .21 *Mechanical ventilation*
- .22 *Hydronic pump skids*
- .23 *HVAC fans*
- .24 *Seismic controls*
- .25 *Integrated automation*
- .26 *Condensers*
- .27 *Packaged chiller plant*
- .28 *Rooftop units*
- .29 *Custom air-handling unit*
- .30 *Blast coolers*
- .31 *As-built drawings*
- .32 *Training*
- .33 *Commissioning*
- .34 *Close-out documents*

- .2 With the addition of article 1.7 the numbering of the following article will change as follows:

1.8 PRECEDENCE

1.2.2 Section 01 14 00 – Work Restrictions

- .1 Article 1.7.6 has been modified as follows:

- .6 The Contractor will have to give the Client an unrestricted access to the grounds located near the back entrance of Test Cell #1 for a consecutive period of 2 weeks (*between May 1st and August 30th*) as shown on Detail #2 M-002. This will permit the Client to complete scheduled paving work.

1.2.3 Section 01 32 16.07 – Construction Progress Schedule – Bar (GANTT) Chart

- .1 Article 1.5.1 has been modified as follows:

- .1 Project milestones form interim targets for Project Schedule.
- .1 *Contract submittals including Health & Safety: 4 weeks after award*
 - .2 *Shop drawing submittals: 4 weeks after award*
 - .3 *Shut down of Test Cell #1: July 4th, 2016* (time at which Contractor will be able to mobilize on site, do the demolition, and install the first piece of equipment onto the mezzanine)*
 - .4 *First Commissioning Phase: October 31, 2016 to November 25, 2016**
 - .5 *Second Commissioning Phase: May 8, 2017 to June 2, 2017**

.6 Substantial completion: June 16, 2017*

** Note that these dates are tentative and may change if needed.*

- .2 Add article 1.7.2.5 as follows:

.5 Demolition

- .3 With the addition of article 1.7.2.5 the numbering of the following articles will change as follows:

- .6 Installation of enclosures**
- .7 Installation of AHU-1.**
- .8 Structural steel.**
- .9 Installation of roof unit and roofing.**
- .10 Installation of blast coolers.**
- .11 Interior Architecture (Walls, Floors and Ceiling).**
- .12 Plumbing.**
- .13 Lighting.**
- .14 Electrical.**
- .15 Piping.**
- .16 Controls.**
- .17 Heating, Ventilating, and Air Conditioning.**
- .18 Fire Systems.**
- .19 Testing and Commissioning (Both phases).**
- .20 Supplied equipment long delivery items.**
- .21 Engineer supplied equipment required dates.**

1.2.4 Section 01 91 13 – General Commissioning (CX) Requirements

- .1 Add article 1.13.3 as follows:

.3 Start-up, PV and Cx, manufacturer to:

- .1 Provide trained personnel to assist in start-up, PV and commissioning of equipment where specified.**

- .2 With the addition of article 1.13.3 the numbering of the following articles will change as follows:

.4 Integrity of warranties:

.5 Qualifications of manufacturer's personnel:

1.2.5 Section 01 91 31 – Commissioning (CX) Plan

- .1 Change article 1.6.4 as follows:

- .4 Construction Team: contractor, sub-contractors, **manufacturers** and support disciplines, is responsible for construction/installation in accordance with contract documents, including.

.2 Change article 1.7.2 as follows :

.2 Equipment manufacturer: *assist in start-up, PV and Cx of equipment where specified.*

.1 Cancelled.

1.2.6 Section 23 08 02 – Cleaning and Start-up of Mechanical Piping Systems

.1 Change article 1.1 as follows:

.1 Section 23 05 93 – Testing, Adjusting and Balancing for HVAC.

.2 Section 23 21 23 - Hydronic Pump Skids.

.3 Section 23 21 23.13 - In-Line Centrifugal Hydronic Pumps.

.4 Section 23 63 13 - Air-Cooled Refrigerant Condensers.

.5 Section 23 64 30 - Custom-Packaged, Outdoor, Chiller-Plant.

.6 Section 23 75 13 - Custom-Packaged, Outdoor, Central Station Air Handling Units.

.7 Section 23 82 18 - Blast Coolers.

.8 Section 23 84 13 – Humidifiers.

.2 Add article 3.3.1 as follows:

.1 Manufacturer shall assist in start-up for equipment specified under the following sections:

.1 Section 23 21 23 - Hydronic Pump Skids.

.2 Section 23 21 23.13 - In-Line Centrifugal Hydronic Pumps.

.3 Section 23 63 13 - Air-Cooled Refrigerant Condensers.

.4 Section 23 64 30 - Custom-Packaged, Outdoor, Chiller-Plant.

.5 Section 23 75 13 - Custom-Packaged, Outdoor, Central Station Air Handling Units.

.6 Section 23 82 18 - Blast Coolers.

.7 Section 23 84 13 – Humidifiers.

.3 With the addition of article 3.3.1 the numbering of the following article will change as follows:

.2 After cleaning is completed and system is filled:

1.2.7 Section 23 21 23 – Hydronic Pump Skids

.1 Change article 1.1 as follows:

.1 Section 23 05 05 – Installation of Pipework.

.2 Section 23 05 16 – Expansion Fittings and Loops for HVAC Piping

.3 Section 23 05 19.01 – Thermometers and Pressure Gauges – Piping Systems

.4 Section 23 05 23.01 – Valves - Bronze

.5 Section 23 05 22.05 – Butterfly Valves

.6 Section 23 08 02 - Cleaning and Start-up of Mechanical Piping Systems

.7 Section 23 21 13.02 – Hydronic Systems: Steel

.8 Section 23 21 14 – Hydronic Specialties

- .9 Section 25 30 02 – EMCS: Field Control Devices
- .2 Add article 2.1.2.12 as follows :
- 2.1.2.12 Control valves (furnished by Division 25 and factory installed by Division 23)**
- .3 Add article 3.4 as follows:
- 3.4 FIELD QUALITY CONTROL**
- .1 Manufacturer's Field Services:**
- .1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.**
- .2 Provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.**
- .3 Schedule site visits to review work at stages listed:**
- .1 After delivery and storage of products, and when preparatory work on which work of this Section depends is complete, but before installation begins.**
- .2 Twice during progress of work at 25% and 60% complete.**
- .3 Upon completion of work, after cleaning is carried out.**
- .2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.**
- .4 With the addition of article 3.4 the numbering of the following articles will change as follows:
- 3.5 START-UP**
- 3.6 PERFORMANCE VERIFICATION (PV)**
- 3.7 CLEANING**
- .5 Add article 3.5.1.1 as follows:
- .1 In accordance with Section 23 08 02 - Cleaning and Start-up of Mechanical Piping Systems**
- .6 With the addition of article 3.5.1.1 the numbering of the following articles will change as follows:
- .2 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: General Requirements; supplemented as specified herein.**
- .3 In accordance with manufacturer's recommendations.**

1.2.8 Section 23 21 23.13 – In-Line Centrifugal Hydronic Pumps

- .1 Add article 3.4 as follows:

3.4 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

.1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

.2 Provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.

.3 Schedule site visits to review work at stages listed:

.1 After delivery and storage of products, and when preparatory work on which work of this Section depends is complete, but before installation begins.

.2 Twice during progress of work at 25% and 60% complete.

.3 Upon completion of work, after cleaning is carried out.

.2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

.3 Performance Verification:

.1 General:

.1 In accordance with Section 23 08 01 – Performance Verification and mechanical Piping Systems.

.2 Start-Up:

.1 General: in accordance with Section 23 08 02 - Cleaning and Start-up of Mechanical Piping Systems.

.3 Verify accessibility, serviceability of components including motorized dampers, filters coils, fans, motors, operators, humidifiers, sensors, electrical disconnects.

.4 Verify accessibility, clean ability, drainage of drain pans for coils, humidifiers.

.4 Commissioning Reports:

.1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: reports supplemented as specified herein. Include:

.1 Report forms as specified Section 01 91 13 - General Commissioning (Cx) Requirements: Report Forms and Schematics.

- .2 With the addition of article 3.4 the numbering of the following article will change as follows:

3.5 CLEANING

1.2.9 Section 23 75 13 – Custom-Packaged, Outdoor, Central Station Air Handling Units

- .1 Add article 3.3 as follows:

3.3 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

.1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

.2 Provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.

.3 Schedule site visits to review work at stages listed:

.1 After delivery and storage of products, and when preparatory work on which work of this Section depends is complete, but before installation begins.

.2 Twice during progress of work at 25% and 60% complete.

.3 Upon completion of work, after cleaning is carried out.

.2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

.3 Performance Verification:

.1 General:

.1 In accordance with Section 23 08 01 – Performance Verification and mechanical Piping Systems.

.2 Start-Up:

.1 General: in accordance with Section 23 08 02 - Cleaning and Start-up of Mechanical Piping Systems.

.3 Verify accessibility, serviceability of components including motorized dampers, filters coils, fans, motors, operators, humidifiers, sensors, electrical disconnects.

.4 Verify accessibility, clean ability, drainage of drain pans for coils, humidifiers.

.4 Commissioning Reports:

.1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: reports supplemented as specified herein. Include:

.1 Report forms as specified Section 01 91 13 - General Commissioning (Cx) Requirements: Report Forms and Schematics.

- .2 With the addition of article 3.3 the numbering of the following article will change as follows:

3.4 CLEANING

1.2.10 Section 23 82 18 – Blast Coolers

- .1 Article 3.3 has been modified as follows:

3.3 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

.1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

.2 Provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.

.3 Schedule site visits to review work at stages listed:

.1 After delivery and storage of products, and when preparatory work on which work of this Section depends is complete, but before installation begins.

.2 Twice during progress of work at 25% and 60% complete.

.3 Upon completion of work, after cleaning is carried out.

.2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

.3 Performance Verification:

.1 General:

.1 In accordance with Section 23 08 01 – Performance Verification and mechanical Piping Systems.

.2 Start-Up:

.1 General: in accordance with Section 23 08 02 - Cleaning and Start-up of Mechanical Piping Systems.

.3 Verify accessibility, serviceability of components including motorized dampers, filters coils, fans, motors, operators, humidifiers, sensors, electrical disconnects.

.4 Verify accessibility, clean ability, drainage of drain pans for coils, humidifiers.

.4 Commissioning Reports:

.1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: reports supplemented as specified herein. Include:

.1 Report forms as specified Section 01 91 13 - General Commissioning (Cx) Requirements: Report Forms and Schematics.

D01) GENERAL

1. THE INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN DESIGNED AND ANALYZED IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE & 2010 NATIONAL BUILDING CODE OF CANADA. CONSTRUCTION IS TO BE PERFORMED IN ACCORDANCE WITH THIS AND ALL OTHER APPLICABLE CODES.
 - 1.1 CONCRETE STRUCTURE DESIGNED IN ACCORDANCE WITH CSA A23.3-14
 - 1.2 STEEL STRUCTURE DESIGNED IN ACCORDANCE WITH CAN/CSA-S16-14
2. CONTRACTOR IS TO VERIFY/COORDINATE ALL DIMENSIONS/PENETRATIONS WITH ARCHITECTURAL/MECHANICAL/ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION. REPORT INCONSISTENCIES BEFORE PROCEEDING WITH WORK. ANY OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS ARE TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.
3. SEISMIC RESTRAINT OF ARCH/MECH/ELECT ELEMENTS NOT NOTED ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER. RESTRAINT DETAILS ARE TO BE DEVELOPED IN ACCORDANCE WITH THE 2012OBC/2010 NBC. CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF SEISMIC RESTRAINTS AND ISOLATIONS AS REQUIRED BY SPECIFICATIONS INCLUDING THE VERIFICATION THAT THE EXISTING/NEW STRUCTURE IS CAPABLE OF SAFELY SUPPORTING THE IMPOSED LOADS IN ACCORDANCE WITH THE 2012 OBC/2010 NBC. NO ELEMENTS MAY BE CONSTRUCTED WITHOUT WRITTEN CONFIRMATION OF THESE CONDITIONS BY CONTRACTOR'S ENGINEER.
4. CONTRACTOR TO PROVIDE PRE-ENGINEERED SHORING AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S CONSTRUCTION ACTIVITIES AND TO PREVENT DAMAGE TO ANY ADJACENT PROPERTY. ALL CONSTRUCTION ACTIVITIES TO BE LIMITED TO THE LIMITS OF THE CONSTRUCTION SITE AND ALL DAMAGE TO EXISTING PROPERTIES MUST BE REINSTATED.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION

D02) STRUCTURAL STEEL

1. ALL STEEL WORK SHALL BE GIVEN ONE COAT OF APPROVED PRIMER.
2. FIELD AND SHOP CONNECTIONS SHALL BE WELDED OR HIGH TENSILE BOLTED (ASTM STANDARD A325).
3. WELDING SHALL CONFORM TO LATEST CSA SPECIFICATION W59 AND BE UNDERTAKEN BY A FABRICATOR APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA SPECIFICATION W47.1.
4. ALL EXPOSED WELDS SHALL BE CONTINUOUS AND BE GROUND SMOOTH.
5. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED UNLESS APPROVED BY THE DEPARTMENTAL REPRESENTATIVE IN WRITING.
6. WHERE STRUCTURAL STEEL MEMBERS SPECIFIED ON THE STRUCTURAL DRAWINGS ARE UNAVAILABLE TO THE CONTRACTOR, THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE MEMBERS HAVING ALL SECTION PROPERTIES EQUAL TO OR BETTER THAN THAT OF THE SPECIFIED MEMBERS AT NO ADDITIONAL COST. CONTACT DEPARTMENTAL REPRESENTATIVE FOR ACCEPTANCE OF ANY AND ALL SUBSTITUTIONS.
7. SUBMIT PRODUCT INFORMATION SHEET TO DEPARTMENTAL REPRESENTATIVE FOR SEISMIC WEDGE ANCHORS. ANCHORS ARE TO BE RATED FOR SEISMIC USE AND HAVE THE FOLLOWING MINIMUM ALLOWABLE LOAD RATINGS:
 - Vr = 15.6 kN
 - Tr = 11.4 kN
8. DESIGN BEAM END CONNECTION FOR THE FOLLOWING FACTORED SHEAR FORCE:
 - W250x58: Vf = 80kN
 - W150x37: Vf = 50kN
9. CONTRACTOR IS TO CREATE OPENINGS THROUGH EXISTING STEEL GRATING ON EXTERIOR MECHANICAL PLATFORM. REFER TO MECHANICAL DRAWINGS FOR OPENING LOCATIONS. OPENINGS ARE TO BE BANDED ALL AROUND.



**CLELAND
JARDINE**
ENGINEERING LTD.

200-580 TERRY FOX DR.
KANATA, ON K2L 4B9
(613) 591-1533

PROJECT
**ENVIRONMENT CANADA
COMPRESSOR REPLACEMENT &
VENTILATION UPGRADE**

DRAWING
GENERAL NOTES

DRAWN:	S. MACBRIDE
DESIGNED:	C. FLUDE
DATE:	15/12/22
SCALE:	N.T.S.
PROJECT No:	14-2173A

DRAWING No.

**ADD-S1
SK1**