

INVITATION TO TENDER

RETURN BIDS TO:

Bid Receiving / Agriculture and Agri-Food Canada

Agriculture and Agri-Food Canada
 Eastern Service Centre
 Tender Receiving Unit
 2001 University Street., Suite 671-TEN
 Montréal, Quebec
 H3A 3N2

TENDER TO:

Agriculture and Agri-Food 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 construction listed herein and on any attached sheets at the price(s) set out therefor.

Comments

ISSUING OFFICE

Agriculture and Agri-Food Canada
 Eastern Service Centre
 Tender Receiving Unit
 2001 University Street., Suite 671-TEN
 Montréal, Quebec
 H3A 3N2

Title Laboratory Ventilation Control and Management Demand System				
Solicitation No. 01B46-14-0032			Date 2014-05-16	
Client Reference No. 1415-143510-P03				
File No. 01B46-14-0032				
Solicitation Closes:				
Day of Week wednesday	Month June	Day 4	Year 2014	Time 14:00
Time of Day <input type="radio"/> AM <input checked="" type="radio"/> PM			Time Zone EDT	
F.O.B <input type="radio"/> Plant <input checked="" type="radio"/> Destination <input type="radio"/> Other				
Address Enquiries to: Gabrielle Raina Plouffe				
Title: Contracting officer				
Email: gabrielle.plouffe@agr.gc.ca				
Telephone Number Ext. 514 315-6123		Fax Number 514 283-3143		
Destination Department of Agriculture and Agri-Food Canada Soils and Crops Research and Development Centre 2560 Hochelaga Boulevard Québec, QC, G1V 2J3, Canada				

Instructions: See Herein

Delivery Required August 29, 2014		Delivery Offered
Vendor / Firm Name and Address		
Telephone Number Ext.		Fax Number

Name and title of person authorized to sign on behalf of Vendor / Firm
(type or print)

Signature

Date



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Forms

- Bid Bond
- Certificate of Insurance
- T4-A Certification



Appendix "A"

GENERAL INSTRUCTIONS TO BIDDERS



GENERAL INSTRUCTIONS TO BIDDERS

- GI01 Completion of Bid
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Applicable Taxes
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- GI14 Conflict of Interest – Unfair Advantage

GI01 COMPLETION OF BID

- 1) The bid shall be:
 - (a) submitted on the BID AND ACCEPTANCE FORM provided by AAFC with the bid package or on a clear and legible reproduced copy of such BID AND ACCEPTANCE FORM that must be identical in content and format to the BID AND ACCEPTANCE FORM provided by AAFC;
 - (b) based on the Bid Documents listed in the Special Instructions to Bidders;
 - (c) correctly completed in all respects;
 - (d) signed, with an original signature, by a duly authorized representative of the Bidder; and
 - (e) accompanied by
 - (i) bid security as specified in GI07; and
 - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.
- 2) Subject to paragraph 6) of GI10, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Bid and Acceptance Form by the Bidder shall be initialed by the person or persons signing the bid. Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

GI02 IDENTITY OR LEGAL CAPACITY OF THE BIDDER

- 1) In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of
 - (a) such signing authority; and
 - (b) the legal capacity under which it carries on business;

prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

GI03 APPLICABLE TAXES

- 1) "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

GI04 CAPITAL DEVELOPMENT AND REDEVELOPMENT CHARGES

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the bid amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

GI05 REGISTRY AND PRE-QUALIFICATION OF FLOATING PLANT

- 1) Dredges or other floating plant to be used in the performance of the Work must be of Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada and this certificate must accompany the bid. Plant so qualified by Industry Canada may be accepted on this project.

GI06 LISTING OF SUBCONTRACTORS AND SUPPLIERS

- 1) Notwithstanding any list of Subcontractors that the Bidder may be required to submit as part of the bid, the Bidder shall, within 48 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so shall result in the disqualification of its bid.

GI07 BID SECURITY REQUIREMENTS

- 1) The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is \$2,000,000.00.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 2) A bid bond shall be in an approved form <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L: [Acceptable Bonding Companies](#).
- 3) A security deposit shall be an original, properly completed, signed where required and be either:
 - (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada;
- 4) For the purposes of subparagraph 3) (a) of GI07
 - (a) a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4.c. of GI07, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is:
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - (v) Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GI07 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 6) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.
- 7) An irrevocable standby letter of credit referred to in paragraph 6) of GI07 shall
 - (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - (i) is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by the Receiver General for Canada;
 - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
 - (b) state the face amount which may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600; pursuant to the ICC UCP; a credit is irrevocable even if there is no indication to that effect; and
 - (g) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 8) Bid security shall lapse or be returned as soon as practical following:
 - (a) the solicitation closing date, for those Bidders submitting non-compliant bids; and
 - (b) the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and
 - (c) the award of contract, for those Bidders submitting the second and third ranked bids; and
 - (d) the receipt of contract security, for the successful Bidder; or
 - (e) the cancellation of the solicitation, for all Bidders.
- 9) Notwithstanding the provisions of paragraph 8) of GI07 and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

GI08 SUBMISSION OF BID

- 1) The Bid and Acceptance Form, duly completed, and the bid security shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the INVITATION TO TENDER Form for the receipt of bids. The bid must be received on or before the date and time set for solicitation closing.
- 2) Unless otherwise specified in the Special Instructions to Bidders
 - (a) the bid shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the bid, the Bidder shall ensure that the following information is clearly printed or typed on the face of the bid envelope:
 - (a) Solicitation Number;
 - (b) Name of Bidder;
 - (c) Return address; and
 - (d) Closing Date and Time.
- 4) Timely and correct delivery of bids is the sole responsibility of the Bidder.

GI09 REVISION OF BID

- 1) A bid submitted in accordance with these instructions may be revised by letter or facsimile provided the revision is received at the office designated for the receipt of bids, on or before the date and time set for the closing of the solicitation. The letter or facsimile shall be on the Bidder's letterhead or bear a signature that identifies the Bidder;
- 2) A revision to a bid that includes unit prices must clearly identify the changes(s) in the unit price(s) and the specific item(s) to which each change applies.
- 3) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as a confirmation.
- 4) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The bid shall be evaluated based on the original bid submitted and all other compliant revision(s).

GI10 REJECTION OF BID

- 1) Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 2) Without limiting the generality of paragraph 1) of GI10, Canada may reject a bid if any of the following circumstances is present:
- (a) the Bidder, or any employee or subcontractor included as part of the bid, has been convicted under Section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 "Selling or purchasing office"), 380 ("Fraud committed against Her Majesty") or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) ("False entry, certificate or return"), subsection 80 (2) ("Fraud against Her Majesty") or Section 154.01 ("Fraud against Her Majesty") of the *Financial Administration Act*;
 - (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;
 - (e) evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
 - (f) evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;
 - (g) with respect to current or prior transactions with Canada
 - (i) Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
 - (ii) Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
- 3) In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(g)(ii) of GI10, Canada may consider, but not be limited to, such matters as:
- (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;
 - (c) the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI10, Canada may reject any bid based on an unfavourable assessment of the:

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- (a) adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit or a combination of lump sum and prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
 - (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) Where Canada intends to reject a bid pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI10, other than subparagraph 2)(g) of IT10, the contracting authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before making a final decision on the bid rejection.
- 6) Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

GI11 BID COSTS

- 1) No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

GI12 COMPLIANCE WITH APPLICABLE LAWS

- 1) By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI12, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI12 shall result in disqualification of the bid.

GI13 APPROVAL OF ALTERNATIVE MATERIALS

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the bid shall be based on use of the named materials. During the solicitation period, alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least 10 calendar days prior to the solicitation closing date.

GI14 CONFLICT OF INTEREST - UNFAIR ADVANTAGE

- 1) In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- (a) if the Bidder, any of its subcontractors, any of their respective employees or former employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;
 - (b) if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.
- 2) The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.
- 3) Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.



Appendix "B"

SPECIAL INSTRUCTIONS TO BIDDERS



SPECIAL INSTRUCTIONS TO BIDDERS (SI)

- SI01 Bid Documents
- SI02 Enquiries during the Solicitation Period
- SI03 Non-Mandatory Site Visit
- SI04 Revision of Bid
- SI05 Bid Results
- SI06 Insufficient Funds
- SI07 Bid Validity Period
- SI08 Construction Documents
- SI09 Web Sites
- SI10 Personnel Security Requirements

SI01 BID DOCUMENTS

1) The following are the bid documents:

- (a) INVITATION TO TENDER - Page 1 form AAFC / AAC5323-E;
- (b) SPECIAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5301-E;
- (c) GENERAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5313-E;
- (d) Clauses and Conditions identified in "CONTRACT DOCUMENTS";
- (e) Drawings and Specifications;
- (f) BID AND ACCEPTANCE form AAFC / AAC5320-E and any Appendices attached thereto; and,
- (g) Any amendment issued prior to solicitation closing.

Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this bid must be submitted in writing to the Contracting Officer named on the INVITATION TO TENDER - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI13 of the GENERAL INSTRUCTIONS TO BIDDERS, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the INVITATION TO TENDER - Page 1. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

SI03 NON-MANDATORY SITE VISIT

- 1) There will be a site visit on wednesday, May, 28, 2014 at 10:30 AM PM EDT.

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

Interested bidders are to meet at:

Soils and Crops Research and Development Centre
2560 Hochelaga Boulevard
Québec, QC, G1V 2J3

SI04 REVISION OF BID

- 1) A bid may be revised by letter or facsimile in accordance with G109 of the GENERAL INSTRUCTIONS TO BIDDERS. The facsimile number for receipt of revisions is 514 283-3143

SI05 BID RESULTS

- 1) Following bid closing, bid results may be obtained from the bid receiving office by email at gabrielle.plouffe@agr.gc.ca

SI06 INSUFFICIENT FUNDING

- 1) In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may:
 - (a) cancel the solicitation; or
 - (b) obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
 - (c) negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Canada not be reached, Canada shall exercise option (a) or (b).

SI07 BID VALIDITY PERIOD

- 1) Canada reserves the right to seek an extension to the bid validity period prescribed in Clause 4 of the BID AND ACCEPTANCE Form. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.
- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.
- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either:
 - (a) continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
 - (b) cancel the invitation to bid.
- 4) The provisions expressed herein do not in any manner limit Canada's rights in law or under G110 of the GENERAL INSTRUCTIONS TO BIDDERS.

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

SI08 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, up to a maximum of four (4), will be provided free of charge upon request by the Contractor. Obtaining more copies shall be the responsibility of the Contractor including costs.

SI09 WEB SITES

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appl>

Canadian economic sanctions
<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

SI10 PERSONNEL SECURITY REQUIREMENTS

- 1) The successful Bidder's personnel, as well as any subcontractor and its personnel, who are required to perform any part of the work pursuant to the subsequent contract, must meet the following contract security requirements:
 - Personnel who are required to perform any part of the work must EACH hold a valid personnel security screening at the level of RELIABILITY STATUS, granted or approved by Agriculture and Agri-Food Canada. Until the security screening of the personnel has been completed satisfactorily by Agriculture and Agri-Food Canada, the Contractor/Subcontractor personnel MAY NOT perform contract work. Each of the proposed staff must complete "Security Clearance Form" (TBS 330-23E) upon request from Canada.



Appendix "C"

BID AND ACCEPTANCE FORM



BID AND ACCEPTANCE FORM
CONSTRUCTION CONTRACT - MAJOR WORKS

BA01 IDENTIFICATION					
Description of the Work Supply and installation of a Laboratory Ventilation Control and Management Demand System who will monitor in an on-going basis the air quality in each laboratory (parameters and concentrations) and modulate the number of air changes according to the ambient air quality. This system will improve the air renewal management of the SCRDC laboratories.					
Solicitation Number 01B46-14-0032			File / Project Number 1415-143510-P03		
BA02 BUSINESS NAME AND ADDRESS OF BIDDER					
Name					
Address					
Unit/Suite/Apt.	Street number	Number suffix	Street name	Street type	Street direction
PO Box or Route Number			Municipality (City, Town, etc.)	Province	Postal code
Phone number		Fax number		Email address	
BA03 THE OFFER					
1) The Bidder offers to Canada as represented by the Minister of Agriculture and Agri-food Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the Total Bid Amount of: \$ _____ excluding Applicable Taxes (GST/HST/QST). (to be expressed in numbers only)					
BA04 BID VALIDITY PERIOD					
1) The bid shall not be withdrawn for a period of <u>60</u> days following the date of solicitation closing.					
BA05 APPENDICES					
1) The following appendices are included in this Bid and Acceptance Form: <input checked="" type="checkbox"/> Appendix 2					
BA06 ACCEPTANCE AND CONTRACT					
1) Upon acceptance of the Bidder's offer by Canada, a binding Contract shall be formed between Canada and the resulting Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.					
BA07 CONSTRUCTION TIME					
1) The Contractor shall perform and complete the Work <u>on or before</u> <u>2014-08-29</u>					
BA08 BID SECURITY					
1) The Bidder shall enclose bid security with its bid in accordance with GI07 BID SECURITY REQUIREMENTS.					
2) If a security deposit is furnished as bid security, it shall be forfeited in the event that the bid is accepted by Canada and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that Canada may, if it is in the public interest, waive the right of Canada to forfeiture any or all of the security deposit.					

BA09 SIGNATURE

Name and title of person authorized
to sign on behalf of Bidder
(type or print)

Name

Title

Signature

Date

Name

Title

Signature

Date

BID AND ACCEPTANCE FORM
CONSTRUCTION CONTRACT - MAJOR WORKS
APPENDIX 2

LIST OF SUBCONTRACTORS

The Bidder will subcontract the parts of the work listed below to the subcontractor named for each part. The Bidder agrees not to make changes in the list of subcontractors without the written consent of the Departmental Representative. The Bidder understands that for each part of the work, if more than one subcontractor is named, or no subcontractor is named, or, the Bidder fails to state that the work will be done by its own forces where applicable, the bid will be subject to disqualification.

LIST OF EQUIPMENT

N/A

LIST OF MATERIALS

N/A



Appendix "D"

MAJOR WORKS - GENERAL CONDITIONS



MAJOR WORKS – GENERAL CONDITIONS

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MAJOR WORKS GENERAL CONDITIONS FORM AAFC 5321:

Revision Date

GC1	GENERAL PROVISIONS	Original
GC2	ADMINISTRATION OF THE CONTRACT	Original
GC3	EXECUTION AND CONTROL OF THE WORK	Original
GC4	PROTECTIVE MEASURES	Original
GC5	TERMS OF PAYMENT	Original
GC6	DELAYS AND CHANGES IN THE WORK	Original
GC7	DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT	Original
GC8	DISPUTE RESOLUTION	Original
GC9	CONTRACT SECURITY	Original
GC10	INSURANCE	Original

GC1 GENERAL PROVISIONS

- GC1.1 INTERPRETATION
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GC1.1 INTERPRETATION

GC1.1.1 Headings and References

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

GC1.1.2 Terminology

- 1) In the Contract

"Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013;

"Canada", "Crown", "Her Majesty" means Her Majesty the Queen in right of Canada;

"Contract" means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount" means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract, exclusive of Applicable Taxes;

"Contract Security" means any security given by the Contractor to Canada in accordance with the Contract;

"Contractor" means the person contracting with Canada to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.

"Certificate of Completion" means a certificate issued by Canada when the Work reaches Completion;

"Certificate of Measurement" means a certificate issued by Canada certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance" means a certificate issued by Canada when the Work reaches Substantial Performance;

"Departmental Representative" means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder" and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Lump Sum Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material" includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"person" also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant" includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Subcontractor" means a person having a direct contract with the Contractor, subject to GC3.6 SUBCONTRACTING, to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent" means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6 SUPERINTENDENT;

"Supplementary Conditions" means the part of the Contract that amends or supplements the General Conditions;

"Supplier" means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Total Estimated Cost", "Revised Estimated Cost", "Increase (Decrease)" on Page 1 of the Contract or Contract Amendment means an amount used for internal administrative purposes only that comprises the Contract Amount, or the revised Contract Amount, or the amount that would increase or decrease the Contract Amount and the Applicable Taxes as evaluated by the Contracting Authority, and does not constitute tax advice on the part of Canada;

"Unit Price Arrangement" means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table" means the table of prices per unit set out in the Contract;

"Work" means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

"Working Day" means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

GC1.1.3 Application of Certain Provisions

- 1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

GC1.1.4 Substantial Performance

- 1) The Work shall be considered to have reached Substantial Performance when
 - (a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of Canada, ready for use by Canada or is being used for the intended purposes; and
 - (b) the Work is, in the opinion of Canada, capable of completion or correction at a cost of not more than
 - (i) 3 percent of the first \$500,000;
 - (ii) 2 percent of the next \$500,000; and
 - (iii) 1 percent of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and

- (a) the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5 DELAYS AND EXTENSION OF TIME, for reasons beyond the control of the Contractor; or
- (b) Canada and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or Canada and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4 and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

GC1.1.5 Completion

- 1) The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of Canada.

GC1.2 CONTRACT DOCUMENTS

GC1.2.1 General

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.
- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between Canada and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

GC1.2.2 Order of Precedence

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - (a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (b) any amendment issued prior to tender closing;
 - (c) Supplementary Conditions;
 - (d) General Conditions;
 - (e) the duly completed Bid and Acceptance Form when accepted;
 - (f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
 - (a) specifications shall govern over drawings;
 - (b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawings; and
 - (c) drawings of larger scale govern over those of smaller scale.

GC1.2.3 Security and Protection of Documents and Work

- 1) The Contractor shall guard and protect contract documents, drawings, information, models and copies thereof, whether supplied by Canada or the Contractor, against loss or damage from any cause.
- 2) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of Canada in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of Canada, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that
 - (a) is publicly available from a source other than the Contractor; or
 - (b) is or becomes known to the Contractor from a source other than Canada, except any source that is known to the Contractor to be under an obligation to Canada not to disclose the information.
- 3) When the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by Canada.
- 4) Without limiting the generality of paragraphs 2) and 3) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential or protected by Canada, Canada shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by Canada dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.
- 5) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by Canada to the Contractor, and shall be liable to Canada for any loss or damage from any causes.

GC1.3 STATUS OF THE CONTRACTOR

- 1) The Contractor is engaged under the Contract as an independent contractor.

- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of Canada.
- 3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

GC1.4 RIGHTS AND REMEDIES

- 1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

GC1.5 TIME OF THE ESSENCE

- 1) Time is of the essence of the Contract.

GC1.6 INDEMNIFICATION BY THE CONTRACTOR

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings against Canada charging or claiming that the Work or any part thereof provided or furnished by the Contractor to Canada infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.
- 2) The Contractor shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC1.7 INDEMNIFICATION BY CANADA

- 1) Subject to the [Crown Liability and Proceedings Act](#), the [Patent Act](#), and any other law that affects Canada's rights, powers, privileges or obligations, Canada shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to
 - (a) a lack of or a defect in Canada's title to the Work site if owned by Canada, whether real or alleged; or
 - (b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by Canada to the Contractor.

GC1.8 LAWS, PERMITS AND TAXES

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and labour conditions and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than Canada. The Contractor shall furnish evidence of compliance with such laws and regulations to Canada at such times as Canada may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than Canada.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify Canada of the amount properly tendered and whether or not the municipal authority has accepted that amount.
- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to Canada within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not Canada.
- 7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5 **SUBSTANTIAL PERFORMANCE OF THE WORK**, a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide Canada with proof of registration with the provincial sales tax authorities in the said province.
- 9) For the purpose of the payment of any Applicable Taxes or the furnishing of security for the payment of any Applicable Taxes arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of Canada after the time of purchase in accordance with GC3.10 **MATERIAL PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA**, the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any Applicable Taxes payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.
- 10) Federal government departments and agencies are required to pay Applicable Taxes.
- 11) Applicable Taxes will be paid by Canada as provided in the request for payment. It is the sole responsibility of the Contractor to charge Applicable Taxes at the correct rate in accordance with applicable legislation. The Contractor agrees to remit to appropriate tax authorities any amounts of Applicable Taxes paid or due.

- 12) The Contractor is not entitled to use Canada's exemptions from any tax, such as provincial sales taxes, unless otherwise specified by law. The Contractor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property.
- 13) In those cases where Applicable Taxes, customs duties, and excise taxes are included in the Contract Amount, the Contract Amount will be adjusted to reflect any increase, or decrease, of Applicable Taxes, customs duties, and excise taxes that will have occurred between bid submission and contract award. However, there will be no adjustment for any change to increase the Contract Amount if public notice of the change was given before bid submission date in sufficient detail to have permitted the Contractor to calculate the effect of the change.
- 14) Tax Withholding of 15 Percent – Canada Revenue Agency

Pursuant to the Income Tax Act, 1985, c. 1 (5th Supp.) and the Income Tax Regulations, Canada must withhold 15 percent of the amount to be paid to the Contractor in respect of services provided in Canada if the Contractor is not a resident of Canada, unless the Contractor obtains a valid waiver from the Canada Revenue Agency. The amount withheld will be held on account for the Contractor in respect to any tax liability which may be owed to Canada.

GC1.9 WORKERS' COMPENSATION

- 1) Prior to commencement of Work, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.
- 2) At any time during the term of the Contract, when requested by Canada, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

GC1.10 NATIONAL SECURITY

- 1) If Canada determines that the Work is of a class or kind that involves national security, Canada may order the Contractor to
 - (a) provide Canada with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
 - (b) remove any person from the site of the Work if, in the opinion of Canada, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

GC1.11 UNSUITABLE WORKERS

- 1) Canada shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of Canada, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

GC1.12 PUBLIC CEREMONIES AND SIGNS

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of Canada.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of Canada.

GC1.13 CONFLICT OF INTEREST

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

GC1.14 AGREEMENTS AND AMENDMENTS

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.
- 3) The Contract may be amended only as provided for in the Contract.

GC1.15 SUCCESSION

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16 ASSIGNMENT, permitted assigns.

GC1.16 ASSIGNMENT

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of Canada.

GC1.17 NO BRIBE

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of Canada or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC1.18 CERTIFICATION - CONTINGENCY FEES

- 1) In this clause
 - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
 - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
 - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the [Lobbying Act](#) R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.
- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, Canada may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

GC1.19 INTERNATIONAL SANCTIONS

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by Canada. As a result, the Government of Canada cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to [economic sanctions](#)
- 2) It is a condition of the Contract that the Contractor not supply to the Government of Canada any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

GC2 ADMINISTRATION OF THE CONTRACT

- GC2.1 DEPARTMENTAL REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

GC2.1 DEPARTMENTAL REPRESENTATIVE'S AUTHORITY

- 1) Canada shall designate a Departmental Representative and shall notify the Contractor of the name, address and telephone number of the Departmental Representative.
- 2) The Departmental Representative shall perform Canada's duties and functions under the contract.
- 3) The Departmental Representative shall be authorized to issue notices, instructions and directions to the Contractor and to accept on behalf of Canada any notice, order or other communication from the contractor relating to the Work.
- 4) The Departmental Representative shall, within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract.

GC2.2 INTERPRETATION OF CONTRACT

- 1) If, at any time before Canada has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about
 - (a) the meaning of anything in the drawings and specifications;
 - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;
 - (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
 - (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
 - (e) what quantity of any of the Work has been completed by the Contractor; or
 - (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by Canada.

- 2) The Contractor shall perform the Work in accordance with any decisions of Canada that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by Canada.
- 3) If the Contractor fails to comply with any instruction or direction issued by Canada pursuant to the Contract, Canada may employ such methods as Canada deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay Canada an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by Canada by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by Canada in doing what the Contractor failed to do.

GC2.3 NOTICES

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party
 - (a) if delivered personally, on the day that it was delivered;
 - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
 - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC2.4 SITE MEETINGS

- 1) In consultation with Canada, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

GC2.5 REVIEW AND INSPECTION OF WORK

- 1) Canada shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. Canada shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) Canada shall reject Work or Material which in Canada's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the

requirements of the Contract, the Contractor shall correct the Work and shall pay Canada, on demand, all reasonable costs and expenses that were incurred by Canada in having the examination performed.

- 3) The Contractor shall provide Canada with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by Canada and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, Canada shall be given access to such Work whenever it is in progress.
- 4) The Contractor shall furnish Canada with such information respecting the performance of the Contract as Canada may require, and render every possible assistance to enable Canada to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by Canada's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give Canada reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give Canada reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by Canada, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

GC2.6 SUPERINTENDENT

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify Canada of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.
- 3) Upon request of Canada, the Contractor shall remove any Superintendent who, in the opinion of Canada, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to Canada.
- 4) The Contractor shall not substitute a Superintendent without the written consent of Canada. If a Superintendent is substituted without such consent, Canada shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to Canada has been substituted.

GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site.

A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.

- 2) Without restricting the provisions of paragraph 3) of GC2.6, SUPERINTENDENT, the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because
 - (a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;
 - (b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or
 - (c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (a) or (b).
- 3) Within two working days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall
 - (a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
 - (b) forward a copy of the complaint to Canada by registered mail or courier service; and
 - (c) when the Labour Conditions are applicable under the circumstances of the complaint, forward a copy of the complaint to HRSDC - Labour to the attention of the appropriate Director as described in the Labour Conditions ("HRSDC - Labour" means the labour component of the federal Department of Human Resources and Social Development).
- 4) Within twenty four (24) hours immediately following receipt of a direction from Canada to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom Canada believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than thirty (30) days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, Canada may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9 RIGHT OF SETOFF, whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.
- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, Canada shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by Canada as a result.
- 8) Canada may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of
 - (a) a written award issued pursuant to the federal [Commercial Arbitration Act](#), R.S.C. 1985, c. 17 (2nd Supp.);

- (b) a written award issued pursuant to the Canadian Human Rights Act, R.S.C. 1985, c. H-6;
 - (c) a written award issued pursuant to provincial or territorial human rights legislation; or
 - (d) a judgement issued by a court of competent jurisdiction.
- 9) If Canada is of the opinion that the Contractor has breached any of the provisions of this clause, Canada may take the Work out of the Contractor's hands pursuant to GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS.
- 10) Subject to paragraph 7) of GC3.6 SUBCONTRACTING, the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

GC2.8 ACCOUNTS AND AUDITS

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4 EXECUTION OF THE WORK, maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by Canada and the Deputy Receiver General for Canada or by persons designated to act on behalf of either or both of them.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of two years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as Canada may direct.
- 4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

GC3 EXECUTION AND CONTROL OF THE WORK

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR
- GC3.9 TRUCK HAULAGE RATES (CANCELLED)
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

GC3.1 PROGRESS SCHEDULE

- 1) The Contractor shall
 - (a) prepare and submit to Canada, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
 - (b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
 - (c) advise Canada of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by Canada; and
 - (d) prepare and submit to Canada, at the time of issuance of a Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to Canada for the completion of any unfinished Work and the correction of all listed defects.

GC3.2 ERRORS AND OMISSIONS

- 1) The Contractor shall report promptly to Canada any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to Canada for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of Canada that the Contractor did not discover.

GC3.3 CONSTRUCTION SAFETY

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.

- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC3.4 EXECUTION OF THE WORK

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by Canada, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time Canada considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to Canada.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

GC3.5 MATERIAL

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to Canada to substitute a similar item for the one specified.
- 3) If Canada agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to

that specified and is suitable for the intended purpose, Canada may approve the substitution, subject to the following:

- (a) the request for substitution shall be made in writing to Canada and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by Canada;
- (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;
- (c) substitution of Material shall be permitted only with the prior written approval of Canada, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to Canada; and
- (d) the Contractor shall be responsible for all additional expenses incurred by Canada, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

GC3.6 SUBCONTRACTING

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify Canada in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) Canada may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by Canada of a notification referred to in paragraph 2) of GC3.6.
- 5) If Canada objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of Canada.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor Canada's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon Canada.

GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

- 1) Canada reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.

- 2) When other contractors or workers are sent on to the site of the Work, Canada shall
 - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
 - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
 - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall
 - (a) co-operate with them in the carrying out of their duties and obligations;
 - (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
 - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to Canada in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against Canada by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
 - (e) when designated as being responsible for construction safety at the place of work in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor
 - (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
 - (b) gives Canada written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site;

Canada shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

GC3.8 LABOUR

- 1) To the extent to which they are available, consistent with proper economy and the expeditious carrying out of the Work, the Contractor shall, in the performance of the Work, employ a reasonable number of persons who have been on active service with the Armed Forces of Canada and have been honourably discharged therefrom.

- 2) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work and shall not employ on the site of the Work anyone not skilled in the tasks assigned.

GC3.9 TRUCK HAULAGE RATES

CANCELLED

GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of Canada for the purposes of the Work and they shall continue to be the property of Canada
 - (a) in the case of Material, until Canada indicates that the Materials shall not be required for the Work; and
 - (b) in the case of Plant, real property, licences, powers and privileges, until Canada indicates that the interest vested in Canada therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of Canada by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of Canada.
- 3) Canada is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of Canada.

GC3.11 DEFECTIVE WORK

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of Canada, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, Canada may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the contract documents.
- 4) The failure of Canada to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

GC3.12 CLEANUP OF SITE

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by Canada.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by Canada's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense
 - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and
 - (b) rectify and make good any defect or fault that appears in or comes to the attention of Canada in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion.
 - (c) transfer and assign, to Canada, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada.
 - (d) provide, to Canada prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) Canada may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
- 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

GC4 PROTECTIVE MEASURES

GC4.1 PROTECTION OF WORK AND PROPERTY

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

GC4.4 CONTAMINATED SITE CONDITIONS

GC4.1 PROTECTION OF WORK AND PROPERTY

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by Canada to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by Canada to inspect or to take security measures in respect of the Work and its site.
- 3) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

- 1) The Contractor shall do whatever is necessary to ensure that
 - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
 - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
 - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - (f) adequate sanitation measures are taken in respect of the Work and its site; and
 - (g) all stakes, buoys and marks placed on the Work or its site by Canada are protected and are not removed, defaced, altered nor destroyed.
- 2) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of Canada.

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to Canada for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by Canada for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 2) The Contractor is not liable to Canada for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by Canada except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, Canada may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Canada for the cost thereof and shall, on demand, pay to Canada an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by Canada as Canada requires and shall satisfy Canada, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC4.4 CONTAMINATED SITE CONDITIONS

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall
 - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, Canada shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of Canada's determination.
- 4) If the Contractor's services are required by Canada, the Contractor shall follow the direction of Canada with regard to any excavation, treatment, removal and disposal of any polluting substance or material.

- 5) Canada, at Canada's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

GC5 TERMS OF PAYMENT

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON CANADA
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

GC5.1 INTERPRETATION

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and Canada.
- 2) An amount is "due and payable" when it is due and payable by Canada to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is "overdue" when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Eastern Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

GC5.2 AMOUNT PAYABLE

- 1) Subject to any other provisions of the Contract, Canada shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by Canada to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to Canada, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of Canada to deduct an amount payable to Canada by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

- 3) Should any payment be made by Canada in excess of what is owed to the Contractor for the actual work performed, the Contractor will reimburse Canada the excess immediately, with or without demand, and any amounts outstanding shall bear simple interest at the Average Bank rate plus 3 percent per annum from the date of overpayment until the day prior to the date of repayment by the Contractor.
- 4) No payment other than a payment that is expressly stipulated in the Contract shall be made by Canada to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

GC5.3 INCREASED OR DECREASED COSTS

- 1) The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment arising pursuant to the Labour Conditions.
- 2) Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs
 - (a) after the date of submission by the Contractor of its bid; or
 - (b) after the date of submission of the last revision, if the Contractor's bid was revised;the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
- 3) If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by Canada of the relevant records of the Contractor referred to in GC2.8 ACCOUNTS AND AUDITS to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
- 4) For the purpose of paragraph 2) of GC5.3, if a tax is changed after the solicitation closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
- 5) Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

GC5.4 PROGRESS PAYMENT

- 1) On the expiration of a payment period, the Contractor shall deliver to Canada
 - (a) a written progress claim in a form acceptable to Canada that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period, and
 - (b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations with

respect to the Labour Conditions and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.

- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, Canada shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the Material described in the progress claim that, in the opinion of Canada
 - (a) is in accordance with the Contract; and
 - (b) was not included in any other progress report relating to the Contract.
- 3) Subject to GC5.2 AMOUNT PAYABLE, and paragraph 5) of GC5.4, Canada shall pay the Contractor an amount that is equal to
 - (a) 95 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has been furnished by the Contractor; or
 - (b) 90 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Canada shall pay the amount referred to in paragraph 3) of GC5.4 not later than
 - (a) 30 days after receipt by Canada of both a progress claim and a statutory declaration referred to in paragraph 1) of GC5.4; or
 - (b) 15 days after receipt by Canada of the Contractor's progress schedule or updated progress schedule, in accordance with GC3.1 PROGRESS SCHEDULE,whichever is later.
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to Canada's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim.

GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK

- 1) If, at any time before the issuance of a Certificate of Completion, Canada determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4 SUBSTANTIAL PERFORMANCE, Canada shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe
 - (a) the date of Substantial Performance;
 - (b) the parts of the Work not completed to the satisfaction of Canada; and
 - (c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK commences for the said parts and all the said things.

- 2) The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11 DEFECTIVE WORK.
- 3) Subject to GC5.2 AMOUNT PAYABLE and paragraph 4) of GC5.5, Canada shall pay the Contractor the amount referred to in paragraph 1) of GC5.2 AMOUNT PAYABLE, less the aggregate of
 - (a) the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT;
 - (b) an amount that is equal to Canada's estimate of the cost to Canada of rectifying defects described in the Certificate of Substantial Performance; and
 - (c) an amount that is equal to Canada's estimate of the cost to Canada of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
- 4) Canada shall pay the amount referred to in paragraph 3) of GC5.5 not later than
 - (a) 30 days after the date of issue of a Certificate of Substantial Performance, or
 - (b) 15 days after the Contractor has delivered to Canada
 - (i) a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations with respect to the Labour Conditions, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8 LAWS, PERMITS AND TAXES;
 - (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION; and
 - (iii) an update of the progress schedule in accordance with the requirements of GC3.1 PROGRESS SCHEDULE;

whichever is later.

GC5.6 FINAL COMPLETION

- 1) When Canada is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, Canada shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, Canada shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between Canada and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, Canada shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) Canada shall pay the amount referred to in paragraph 2) of GC5.6 not later than
 - (a) 60 days after the date of issue of a Certificate of Completion; or

- (b) 15 days after the Contractor has delivered to Canada
 - (i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and
 - (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

GC5.7 PAYMENT NOT BINDING ON CANADA

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by Canada under the Contract, nor partial or entire use or occupancy of the Work by Canada shall constitute an acceptance by Canada of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

GC5.8 CLAIMS AND OBLIGATIONS

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires Canada to pay the Contractor.
- 2) Whenever requested to do so by Canada, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, Canada may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of Canada's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by
 - (a) a court of legal jurisdiction;
 - (b) an arbitrator duly appointed to arbitrate the claim; or
 - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than Canada
 - (a) such amount as may be paid by Canada pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;

- (b) a claimant need not comply with the provisions of such legislation, setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had; and
 - (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and Canada shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
- 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations
- (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by Canada in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant
 - (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
 - (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by Canada.
- 8) Upon receipt of a notice of claim, Canada may withhold, from any amount that is due and payable to the Contractor pursuant to the Contract, the full amount of the claim or any portion thereof.
- 9) Canada shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of Canada to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with Canada, security in a form acceptable to Canada in an amount equal to the value of the claim, and upon receipt of such security Canada shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

GC5.9 RIGHT OF SETOFF

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, Canada may set off any amount payable to Canada by the Contractor under the

- Contract, or under any current contract, against any amount payable to the Contractor under the Contract.
- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between Canada and the Contractor
 - (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
 - (b) in respect of which Canada has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 1) For the purposes of this clause
 - (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
 - (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of Canada, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay Canada an amount equal to the aggregate of
 - (a) all salaries, wages and travelling expenses incurred by Canada in respect of persons overseeing the performance of the Work during the period of delay;
 - (b) the cost incurred by Canada as a result of the inability to use the completed Work for the period of delay; and
 - (c) all other expenses and damages incurred or sustained by Canada during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) Canada may waive the right of Canada to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of Canada, it is in the public interest to do so.

GC5.11 DELAY IN MAKING PAYMENT

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by Canada in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by Canada.
- 2) Subject to paragraph 3) of GC5.11, Canada shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.

- 3) Interest shall be paid without demand by the Contractor except that
 - (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days unless the Contractor so demands after such amounts have become due and payable; and
 - (b) interest shall not be payable or paid on overdue advance payments, if any.

GC5.12 INTEREST ON SETTLED CLAIMS

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between Canada and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by Canada and the Contractor setting out the amount of the claim to be paid by Canada and the items of work for which the said amount is to be paid.
- 3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.
- 4) Canada shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 percent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

GC5.13 RETURN OF SECURITY DEPOSIT

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, Canada shall return to the Contractor all or any part of a Security Deposit that, in the opinion of Canada, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, Canada shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid into the Consolidated Revenue Fund of Canada, Canada shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the [Financial Administration Act \(FAA\)](#).

GC6 DELAYS AND CHANGES IN THE WORK

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
 - GC6.4.1 Price Determination Prior to Undertaking Changes
 - GC6.4.2 Price Determination Following Completion of Changes
 - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME

GC6.1 CHANGES IN THE WORK

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

GC6.2 CHANGES IN SUBSURFACE CONDITIONS

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.
- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

- 1) For the purposes of this clause
 - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
 - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
 - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
 - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

GC6.4 DETERMINATION OF PRICE

GC6.4.1 Price Determination Prior to Undertaking Changes

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus a negotiated allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus a negotiated allowance.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the negotiated allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

GC6.4.2 Price Determination Following Completion of Changes

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of
 - (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
 - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10 percent of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
 - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;

- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
 - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and Applicable Taxes collection costs;
 - (d) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
 - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
 - (f) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - (g) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
 - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC6.4.3 Price Determination - Variations in Tendered Quantities

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with
 - (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and

- (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
- 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
 - (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
 - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
 - (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85 percent of the tendered quantity actually been performed or supplied.

GC6.5 DELAYS AND EXTENSION OF TIME

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.
- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.

- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

GC7 DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT

- GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS
- GC7.2 SUSPENSION OF WORK
- GC7.3 TERMINATION OF CONTRACT
- GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, Canada, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as Canada sees fit to have the Work completed if the Contractor:
 - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of Canada within six days of Canada giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
 - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
 - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the [*Bankruptcy and Insolvency Act*](#);
 - (d) abandons the work;
 - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT; or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay Canada, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Canada in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by Canada, Canada may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by Canada that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating Canada for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of Canada without compensation.

- 6) When Canada certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of Canada to retain that Plant, Material, or interest, it shall revert to the Contractor.
- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the [Bankruptcy and Insolvency Act](#), the Contractor shall immediately forward a copy of the proposal or the notice of intention to Canada.

GC7.2 SUSPENSION OF WORK

- 1) When, in Canada's opinion, it is in the public interest to do so, Canada may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that Canada determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of Canada.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, Canada and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by Canada and the Contractor. If Canada and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

GC7.3 TERMINATION OF CONTRACT

- 1) Canada may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, Canada shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by Canada and all amounts that are due to Canada from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by Canada to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.

- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, Canada may convert a security deposit to Canada's own use.
- 2) If Canada converts a security deposit, the amount realized shall be deemed to be an amount due from Canada to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of Canada and others shall be paid by Canada to the Contractor if, in the opinion of Canada, it is not required for the purposes of the Contract.

GC8 DISPUTE RESOLUTION

GC8.1	INTERPRETATION
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GC8.3	NOTICE OF DISPUTE
GC8.4	NEGOTIATION
GC8.5	MEDIATION
GC8.6	CONFIDENTIALITY
GC8.7	SETTLEMENT
GC8.8	RULES FOR MEDIATION OF DISPUTES
GC8.8.1	Interpretation
GC8.8.2	Application
GC8.8.3	Communication
GC8.8.4	Appointment of Project Mediator
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GC8.8.6	Time and Place of Mediation
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GC8.8.8	Procedure
GC8.8.9	Settlement Agreement
GC8.8.10	Termination of Mediation
GC8.8.11	Costs
GC8.8.12	Subsequent Proceedings

GC8.1 INTERPRETATION

- 1) "dispute" means any disagreement regarding any issue identified by the Contractor in the notice submitted to Canada in accordance with paragraph 2 of GC8.3 NOTICE OF DISPUTE, and includes any claim by the Contractor arising from such disagreement and any counterclaim by Canada, but does not include any claim by either party for punitive or exemplary damages, injury to persons, death, or any claim based on an allegation of libel or slander.
- 2) The alternative dispute resolution procedures set out in GC8, do not apply to any claim by Canada against the Contractor except any counterclaim in a dispute as defined in paragraph 1 of GC8.1, including, but not limited to, any claim of setoff regarding any amount due to Canada under GC5.10 ASSESSMENT AND DAMAGES FOR LATE COMPLETION.

GC8.2 CONSULTATION AND CO-OPERATION

- 1) The parties agree to maintain open and honest communication throughout the performance of the Contract.
- 2) The parties agree to consult and co-operate with each other in the furtherance of the Work and the resolution of problems or differences that may arise.

GC8.3 NOTICE OF DISPUTE

- 1) Any difference between the parties to the Contract of any nature arising out of or in connection with the Contract which could result in a claim by the Contractor against Canada, and which is not settled by consultation and co-operation as envisaged in GC8.2 CONSULTATION AND CO-OPERATION, shall be resolved in the first instance by Canada, whose written decision or direction shall be final and binding subject only to the provisions of

GC8. Such written decision or direction includes, but is not limited to, any written decision or direction by Canada under any provision of the General Conditions.

- 2) The Contractor shall be deemed to have accepted the decision or direction of Canada referred to in paragraph 1) of GC8.3 and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction unless, within 15 working days after receipt of the decision or direction, the Contractor submits to Canada a written notice of dispute requesting formal negotiation under GC8.4 NEGOTIATION. Such notice shall refer specifically to GC8.4 NEGOTIATION, and shall specify the issues in contention and the relevant provisions of the Contract.
- 3) The giving of a written notice in accordance with paragraph 2) of GC8.3 shall not relieve the Contractor from complying with the decision or direction that is the subject of the dispute. Such compliance, however, shall not be construed as an admission by the Contractor of the correctness of such decision or direction.
- 4) If a dispute is not resolved promptly, Canada shall give such instructions as, in Canada's opinion, are necessary for the proper performance of the Work and to prevent delays pending a resolution of the matter. Unless Canada terminates the Contract, orders the Contractor to suspend the Work, or takes the Work out of the hands of the Contractor, the Contractor shall continue to perform the Work in accordance with the provisions and requirements of the Contract and the instructions of Canada. Such performance shall not prejudice any claim that the Contractor may have.
- 5) Nothing in GC8 relieves the Contractor from its obligation to provide any other notice required by the Contract within the time specified in the Contract, including but not limited to, any notice required under GC6.2 CHANGES IN SUBSURFACE CONDITIONS.

GC8.4 NEGOTIATION

- 1) Within 10 working days after receipt by Canada of a notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such other period of time as may be mutually agreed to, the parties shall commence formal negotiations in order to resolve the dispute. Negotiations shall occur initially between representatives of the Contractor and Canada who play a direct supervisory role in the performance, administration or management of the Contract.
- 2) If the representatives referred to in paragraph 1) of GC8.4 are unable to resolve some or all of the issues which are the subject of the negotiations within 10 working days, the parties shall refer the remaining issues which are in dispute to a second level of negotiation between a principal or principals of the Contractor and a senior level manager or senior level managers representing Canada.
- 3) If negotiations fail to resolve the dispute within 30 working days from the date of delivery of the notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such longer period as may have been agreed to by the parties, the Contractor may, by giving written notice to Canada, in accordance with GC2.3 NOTICES, within 10 working days from the end of such period, request that mediation be undertaken to assist the parties to reach agreement on the outstanding issues.
- 4) If the Contractor does not request mediation within the period permitted by paragraph 3) of GC8.4, the Contractor shall be deemed to have accepted the decision or direction of Canada under paragraph 1) of GC8.3 NOTICE OF DISPUTE and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction.

GC8.5 MEDIATION

- 1) If the Contractor has requested mediation in accordance with paragraph 3) of GC8.4 NEGOTIATION, mediation shall be conducted in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES.
- 2) If a Project Mediator has not previously been appointed for the purposes of the Contract, a Project Mediator shall be appointed in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES forthwith after delivery of a notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, requesting mediation.
- 3) If the dispute has not been resolved within
 - (a) Ten (10) working days following the appointment of a Project Mediator in accordance with paragraph 2) of GC8.5, if a Project Mediator was not previously appointed;
 - (b) Ten (10) working days following receipt by Canada of a written notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, if a Project Mediator was previously appointed; or
 - (c) such other longer period as may have been agreed to by the parties;

the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.6 CONFIDENTIALITY

- 1) All information exchanged during alternative dispute resolution procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law. However, evidence that is independently admissible or discoverable shall not be rendered inadmissible or non-discoverable by virtue of its use during an alternative dispute resolution process.

GC8.7 SETTLEMENT

- 1) Any agreement to settle all or any part of a dispute, by whatever means, shall be in writing and be signed by the parties or their authorized representatives.

GC8.8 RULES FOR MEDIATION OF DISPUTES

GC8.8.1 Interpretation

In these Rules

- 1) "Coordinator" means the person designated by Canada to act as the Dispute Resolution Coordinator.

GC8.8.2 Application

- 1) By mutual agreement, the parties may change or make additions to the Rules.

GC8.8.3 Communication

- 1) Written communications pursuant to these Rules shall be given in accordance with GC2.3 NOTICES.

GC8.8.4 Appointment of Project Mediator

- 1) The parties to the Contract may, by mutual consent, at any time after entry into the Contract, appoint a mediator (the "Project Mediator") to conduct mediation proceedings in accordance with these Rules for Mediation of Disputes, in regard to any dispute that may arise with regard to the interpretation, application or administration of the Contract. In this case, they shall jointly enter into a contract with the appointed Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 2) If the parties do not appoint a Project Mediator pursuant to paragraph 1) of GC8.8.4, the parties shall appoint a Project Mediator within 17 working days following receipt of a written notice from the Contractor, in accordance with GC2.3 NOTICES, requesting that mediated negotiations be undertaken in accordance with these Rules to assist the parties to reach agreement on any outstanding issues that may be in dispute. Any contract entered into with the appointed Project Mediator shall meet the requirements as set out for the contract described in paragraph 1) of GC8.8.4.
- 3) When mediation is requested by the Contractor pursuant to paragraph 3) of GC8.4 NEGOTIATION, if the parties have previously entered into a contract with a Project Mediator, the parties shall within 2 days send to both the Project Mediator and the Coordinator
 - (a) a copy of the notice requesting negotiation under paragraph 2) of GC8.3 NOTICE OF DISPUTE;
 - (b) a copy of Canada's written position in relation to the notice, the issues in contention and the relevant provisions of the contract; and
 - (c) a copy of the Contractor's written request for mediation required under paragraph 3) of GC8.4 NEGOTIATION.
- 4) If the parties have not agreed on a Project Mediator, the parties shall forthwith provide the Coordinator with the written materials referred to in subparagraphs 3)(a), 3)(b) and 3)(c) of GC8.8.4 together with a request that the Coordinator assist in the appointment of a mutually acceptable Project Mediator in accordance with these Rules.
- 5) Within 5 working days following receipt of the request and materials referred to in paragraph 4) of GC8.8.4, the Coordinator shall provide the parties with a list of qualified private sector mediators obtained from an independent and impartial entity, together with instructions to each party to individually and confidentially select and rank their preferred and fully acceptable choices of mediator in descending order. Each mediator listed shall be impartial and independent of the parties, and shall be an experienced and skilled commercial mediator, preferably with knowledge of the subject matter of the dispute.
- 6) Within 10 working days of receipt of the list referred to in paragraph 5) of GC8.8.4 each party shall comply with the instructions accompanying the list(s) and shall deliver the completed listing to the Coordinator.

- 7) Within 2 working days following receipt of the completed listings, the Coordinator shall select the highest common ranked mediator to act as Project Mediator for the purposes of the contract.
- 8) In the event of a tie, the Coordinator shall consult both parties to re-evaluate their rankings in order to assist the Coordinator in selecting a Project Mediator acceptable to both parties. If the parties cannot agree upon a Project Mediator, the Coordinator shall forthwith provide the parties with a second list of mediators and the procedure shall be repeated.
- 9) If the parties have not previously entered into a contract with a mutually acceptable Project Mediator, the Coordinator shall use reasonable efforts to negotiate a contract with a mutually acceptable Project Mediator on behalf of the parties, which contract shall incorporate or otherwise comply with the provisions of these Rules. If negotiations are unsuccessful, or if for other reason the individual is unwilling or unable to enter into a contract to act as Project Mediator, the Coordinator shall repeat the process with the second-highest common ranked mediator.
- 10) The parties agree that, upon successful completion of the negotiations referred to in paragraph 9) of GC8.8.4, they shall jointly enter into a contract with the selected Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 11) Upon execution of the contract with the Project Mediator referred to in paragraph 10) of GC8.8.4 the Coordinator shall provide the Project Mediator with copies of the documents referred to in paragraph 3) of GC8.8.4.

GC8.8.5 Confidentiality

- 1) Subject to paragraph 2) of GC8.8.5, and unless otherwise agreed in writing by the parties, the Project Mediator, the parties and their counsel or representatives shall keep confidential all matters and documents disclosed during mediation proceedings except where the disclosure is necessary for any implementation of any agreement reached or is required by law.
- 2) Evidence that is independently admissible or discoverable in any arbitral or judicial proceeding shall not be rendered inadmissible or non-discoverable by virtue of its use in mediation proceedings.
- 3) Neither party shall make transcripts, minutes or other records of a mediation conference.
- 4) The personal notes and written opinions of the Project Mediator made in relation to mediation are in the Project Mediator's sole possession and control, are confidential, and may not be used in any subsequent proceeding between the parties or where they are opposed in interest without the express written permission of the parties.
- 5) All information exchanged during mediation procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law.

GC8.8.6 Time and Place of Mediation

- 1) The Project Mediator, in consultation with the parties shall set the date, time and place of any mediation conference as soon as possible, bearing in mind that, subject to agreement to

the contrary between the parties, only 10 working days are available within which to attempt to settle the dispute.

GC8.8.7 Representation

- 1) Representatives of the parties may be accompanied at the mediation conference by legal counsel or any other person.
- 2) If the Project Mediator is a lawyer, the Project Mediator shall not provide legal advice to a party during the course of the mediation conference, but may recommend that a party obtain independent legal advice before finalizing a settlement agreement.

GC8.8.8 Procedure

- 1) The parties agree to an exchange of all facts, information and documents upon which they intend to rely in any oral or written presentation during the mediation. This exchange shall be completed no later than 2 working days prior to the date set for a mediation conference.
- 2) The Project Mediator shall be free to meet with the parties individually during a mediation conference if the Project Mediator is of the opinion that this may improve the chances of a mediated settlement, and either party may request such an individual meeting at any time.
- 3) The parties may agree to extend the 10 working days available for settlement of the dispute through mediation, and the Project Mediator shall record that agreement in writing.

GC8.8.9 Settlement Agreement

- 1) The parties shall record in writing any settlement agreement reached, with sufficient detail to ensure a clear understanding of
 - (a) the issues resolved;
 - (b) any obligations assumed by each party including criteria to determine if and when these obligations have been met; and
 - (c) the consequences of failure to comply with the agreement reached.
- 2) The parties agree to carry out the terms of a settlement agreement as soon as possible and, in any event, within any time periods specified in the agreement.

GC8.8.10 Termination of Mediation

- 1) Either party may withdraw from mediation at any time without reason and, in that event, the Project Mediator shall give each party a written notice terminating the mediation and establishing the effective date of termination.
- 2) If, in the opinion of the Project Mediator, either party fails to mediate in good faith or fails to comply with the terms of these Rules, or if the Project Mediator, at any time during mediation, is of the opinion that further negotiations will fail to resolve the issues outstanding, the Project Mediator may terminate the negotiations by providing the parties with a written notice of termination, stating therein the Project Mediator's reasons for the termination, and the effective date of termination.

- 3) If a dispute has not been resolved within 10 working days or such other longer period as may have been agreed to by the parties, the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.8.11 Costs

- 1) The parties agree that they will each be responsible for the costs of their own representatives and advisors and associated travel and living expenses. Fees and expenses of the Project Mediator and all administrative costs of mediation, such as the cost of the meeting room(s), if any, shall be borne equally by the parties.

GC8.8.12 Subsequent Proceedings

- 1) The parties shall not rely on or introduce as evidence in any arbitral or judicial proceeding, whether or not such proceeding relates to the subject matter of mediation,
 - (a) any documents of other parties that are not otherwise producible in those proceedings;
 - (b) any views expressed or suggestions made by any party in respect of a possible settlement of issues;
 - (c) any admission made by any party in the course of mediation unless otherwise stipulated by the admitting party; and
 - (d) the fact that any party has indicated a willingness to make or accept a proposal or recommendation for settlement.
- 2) The Project Mediator shall neither represent nor testify on behalf of either of the parties in any subsequent investigation, action or proceeding relating to the issues in mediation proceedings.
- 3) The Project Mediator shall not be subpoenaed to give evidence relating to
 - (a) the Project Mediator's role in mediation; or
 - (b) the matters or issues in mediation;

in any subsequent investigation, action or proceeding and the parties agree to vigorously oppose any effort to have the Mediator so subpoenaed.

GC9 CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1) The Contractor shall, at the Contractor's expense and within 14 days after the date that the Contractor receives notice that the Contractor's bid was accepted by Canada, obtain and deliver Contract Security to Canada in one of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

- 1) The Contractor shall deliver to Canada either (a) or (b).
 - (a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50 percent of the Contract Amount.
 - (b) A security deposit or an irrevocable standby letter of credit in an amount that is equal to not less than 20 percent of the Contract Amount.
- 2) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by Canada.
 - (a) The approved form for the performance bond is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>
 - (b) The approved form for the labour and material payment bond is displayed at the following website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>; and
 - (c) The list of approved bonding or surety companies is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appl>
- 3) A security deposit referred to in subparagraph 1)(b) of GC9.2 shall be in the form of
 - (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or

- (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 4) For the purposes of subparagraph 3)(a) of GC9.2
- (a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - (v) Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be
- (a) made payable to bearer; or
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal, or as to principal and interest, in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.
- 6) An irrevocable standby letter of credit referred to in subparagraph 1)(b) of GC9.2 shall:
- (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - (i) is to make a payment to, or to the order of, Canada as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by Canada;

- (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
- (b) state the face amount that may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by Canada;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600. Pursuant to the ICC UCP, a credit is irrevocable even if there is no indication to that effect; and
 - (g) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

GC10 INSURANCE

- GC10.1 INSURANCE CONTRACTS
- GC10.2 INSURANCE PROCEEDS

GC10.1 INSURANCE CONTRACTS

- 1) The contractor shall, at the contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to Canada in accordance with the requirements of the INSURANCE TERMS.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in INSURANCE TERMS; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

GC10.2 INSURANCE PROCEEDS

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to Canada, and
 - (a) the monies so paid shall be held by Canada for the purposes of the contract, or
 - (b) if Canada elects, shall be retained by Canada, in which event they vest in Canada absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, Canada may cause an audit to be made of the accounts of the contractor and of Canada in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by Canada, including any costs incurred in respect of the clearing and cleaning of the work and its site and any other amount that is payable by the contractor to Canada under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
 - (b) the aggregate of the amounts payable by Canada to the contractor pursuant to the contract up to the date of the loss or damage.
- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.

- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of Canada and the contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the contractor's expense as if that part of the work had not yet been performed.
- 7) When the contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, Canada shall pay the contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by Canada pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100 percent of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.



Appendix "E"

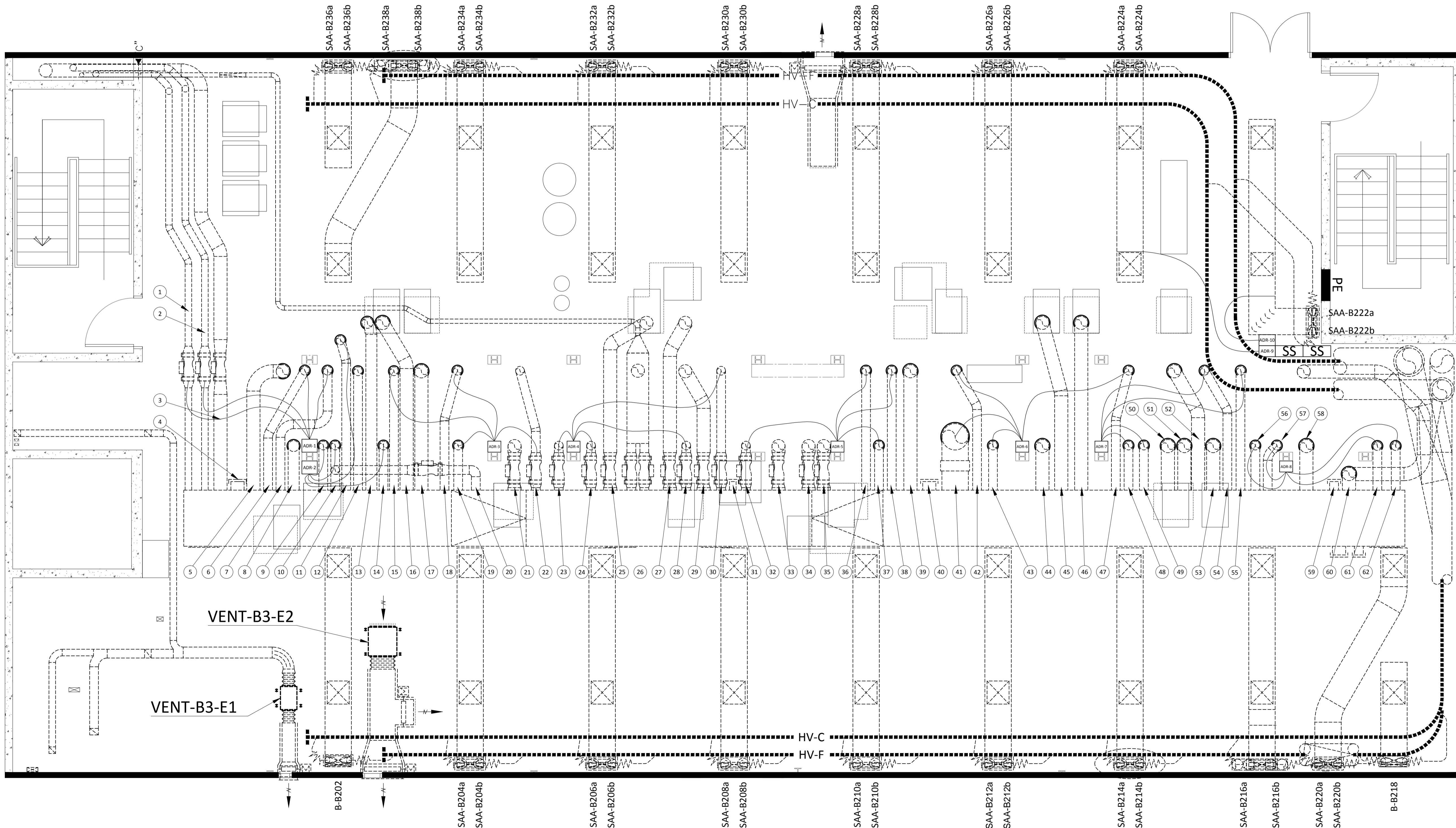
TECHNICAL SPECIFICATIONS & PLANS

	TYPE	DESCRIPTION	DIMENSION	ROUTEUR/ROUTER	SST750
01	RETOUR/RETURN	SEA-B002	Ø 150	ADR-1	1-1-A-1-1
02	RETOUR/RETURN	SEA-B240	Ø 150	ADR-1	1-1-A-1-2
03	HOTTE/CANOPY	SEH-B002	Ø 300		
04	BOUCHÉ/CAPPED		Ø 300		
05	HOTTE/CANOPY	SEH-B142	Ø 300		
06	RETOUR/RETURN	SEA-B236	Ø 200	ADR-1	1-1-A-1-3
07	RETOUR/RETURN	SEA-B142	Ø 200	ADR-1	1-1-A-1-4
08	HOTTE/CANOPY	SEH-B104	Ø 250		
09	RETOUR/RETURN	SEA-B104	Ø 200	ADR-2	1-1-A-2-1
10	RETOUR/RETURN	SEA-B144	Ø 200	ADR-2	1-1-A-2-2
11	RETOUR/RETURN	SEA-B238	Ø 200	ADR-2	1-1-A-2-3
12	HOTTE/CANOPY	SEH-B140	Ø 200		
13	HOTTE/CANOPY	SEH-B238	Ø 250		
14	RETOUR/RETURN	SEA-B106	Ø 200	ADR-2	1-1-A-2-4
15	RETOUR/RETURN	SEA-B140	Ø 200	ADR-3	1-1-A-3-1
16	HOTTE/CANOPY	SEH-B238	Ø 300		

	TYPE	DESCRIPTION	DIMENSION	ROUTEUR/ROUTER	SST750
17	HOTTE/CANOPY	SEH-B138	Ø 300		
18	RETOUR/RETURN	SEA-B234	Ø 200	ADR-3	1-1-A-3-2
19	RETOUR/RETURN	SEA-B204	Ø 200	ADR-3	1-1-A-3-3
20	EVACUATION/ EVACUATION	HOTTE/CANOPY	Ø 250		
21	HOTTE/CANOPY	SEH-B108	Ø 300		
22	RETOUR/RETURN	SEA-B136	Ø 200	ADR-3	1-1-A-3-4
23	RETOUR/RETURN	SEA-B232	Ø 200	ADR-4	1-1-A-4-1
24	RETOUR/RETURN	SEA-B206	Ø 200	ADR-4	1-1-A-4-2
25	HOTTE/CANOPY	SEH-B232	Ø 300		
26	ARMOIRE/CABINET	VENTILÉ/VENTILATED			
27	HOTTE/CANOPY	SEH-B230	Ø 300		
28	RETOUR/RETURN	SEA-B208	Ø 200	ADR-4	1-1-A-4-3
29	HOTTE/CANOPY	SEH-B134	Ø 300		
30	RETOUR/RETURN	SEA-B134	Ø 200	ADR-4	1-1-A-4-4
31	BOUCHÉ/CAPPED		Ø 150		
32	RETOUR/RETURN	SEA-B112	Ø 200	ADR-5	1-2-A-1-1

	TYPE	DESCRIPTION	DIMENSION	ROUTEUR/ROUTER	SST750
33	HOTTE/CANOPY	SEH-B208	Ø 300		
34	HOTTE/CANOPY	SEH-B114	Ø 300		
35	HOTTE/CANOPY	SEH-B210	Ø 300		
36	RETOUR/RETURN	SEA-B228	Ø 200	ADR-5	1-2-A-1-2
37	RETOUR/RETURN	SEA-B210	Ø 200	ADR-5	1-2-A-1-3
38	RETOUR/RETURN	SEA-B132	Ø 200	ADR-5	1-2-A-1-4
39	HOTTE/CANOPY	SEH-B132	Ø 300		
40	BOUCHÉ/CAPPED		Ø 300		
41	RETOUR/RETURN	PUITS / SHAFT	Ø 600	ADR-6	1-2-A-2-1
42	RETOUR/RETURN	SEA-B226	Ø 200	ADR-6	1-2-A-2-2
43	RETOUR/RETURN	SEA-B116	Ø 200	ADR-6	1-2-A-2-3
44	HOTTE/CANOPY	SEH-B212	Ø 300		
45	HOTTE/CANOPY	SEH-B226	Ø 300		
46	HOTTE/CANOPY	SEH-B224	Ø 300		
47	RETOUR/RETURN	SEA-B128	Ø 200	ADR-6	1-2-A-2-4
48	RETOUR/RETURN	SEA-B214	Ø 200	ADR-7	1-2-A-3-1

	TYPE	DESCRIPTION	DIMENSION	ROUTEUR/ROUTER	SST750	
49	RETOUR/RETURN	SEA-B118	Ø 200	ADR-7	1-2-A-3-2	
50	HOTTE/CANOPY	SEH-B118	Ø 300			
51	HOTTE/CANOPY	SEH-B214	Ø 300			
52	HOTTE/CANOPY	SEH-B128	Ø 300			
53	HOTTE/CANOPY	SEH-B216A	Ø 300			
54	RETOUR/RETURN	SEA-B126	Ø 200	ADR-7	1-2-A-3-3	
55	RETOUR/RETURN	SEA-B222	Ø 200	ADR-7	1-2-A-3-4	
56	RETOUR/RETURN	SEA-B216	Ø 200	ADR-8	1-2-A-4-1	
57	RETOUR/RETURN	SEA-B120	Ø 200	ADR-8	1-2-A-4-2	
58	HOTTE/CANOPY	SEH-B216B	Ø 300			
59	BOUCHÉ/CAPPED		Ø 150			
60	HOTTE/CANOPY	SEH-B222	Ø 300			
61	RETOUR/RETURN	SEA-B124	Ø 200	ADR-8	1-2-A-4-3	
62	RETOUR/RETURN	SEA-B220	Ø 200	ADR-8	1-2-A-4-4	
POINT DE RÉFÉRENCE D'AIR FRAIS / FRESH AIR REFERENCE POINT					ADR-9	1-1-B-1-1
POINT DE RÉFÉRENCE D'AIR FRAIS / FRESH AIR REFERENCE POINT					ADR-10	1-2-B-1-1



Client : / Client :

Agriculture et Agroalimentaire Canada / Agriculture and Agri-Food Canada

PROFESSIONNELS : / PROFESSIONALS:

Architecture :

Structure :

Mécanique / Électricité : / Building Services :

Efficacité énergétique | Mécanique du bâtiment
Energy Efficiency | Building Services
336, chemin du Hibou, bur. 302, Stoneham (Qc) G3C 2R4
418.907.9391 | info@ambioner.com

Plan clé - / Key Plan:

Notes Générales : / General Notes:

L'entrepreneur est tenu de vérifier sur place, toutes les cotes et dimensions avant d'entreprendre les travaux et d'aviser l'ingénieur, sans délai, de toute erreur ou omission relevée sur ce plan.

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RÉVISIONS / REVISIONS

No	Date	Description	Par/By
1	14-04-10	POUR SOUMISSION	R.P.

Sceau : / Seal :

Projet : / Construction Project:

AJOUT D'UN SYSTÈME DE CONTRÔLE ET GESTION DE LA DEMANDE DE VENTILATION

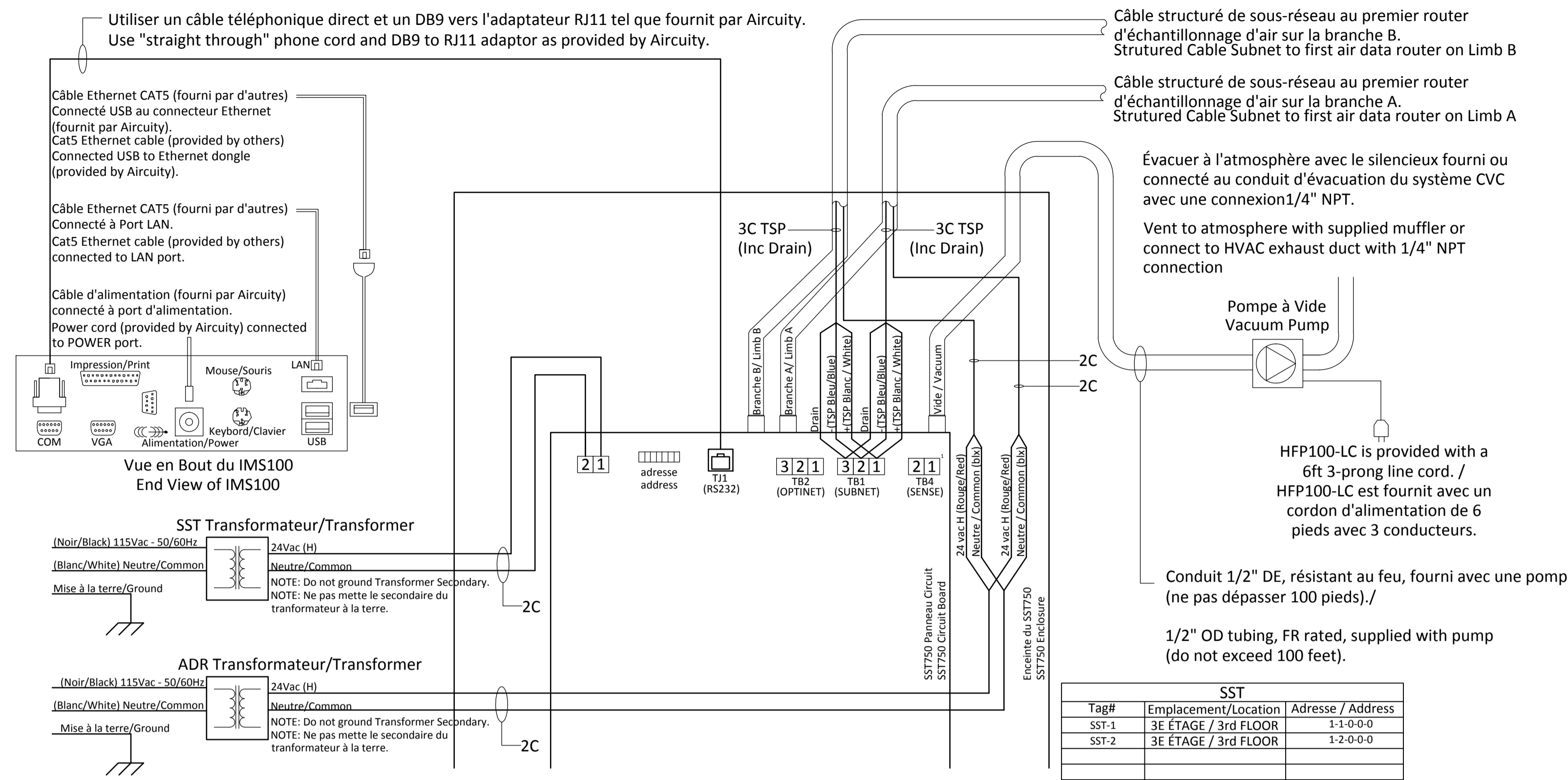
IMPLEMENTATION OF A CONTROL SYSTEM FOR VENTILATION DEMAND.

Titre du dessin : / Drawing Title:

PLAN - 3E ÉTAGE - BLOC B

PLAN - 3rd FLOOR - BLOC B

Conçu par : / Conceived by:	Dessiné par : / Drawn by
RÉMY PARENT	VINCENT GUÉGUEN
Approuvé par : / Approved by	Nom du fichier .dwg / File Name .dwg
RÉMY PARENT	13CL046-D01_EL
Date : / Date	Numéro de Projet : / Project Number
Mar. 2014	13CL046-D01
Feuille : / Sheet	Nombre : / No.
EL-1	5



IMS et assemblage de Capteurs/ Sensor Suite and IMS Wiring

ÉCHELLE: aucune / SCALE: none

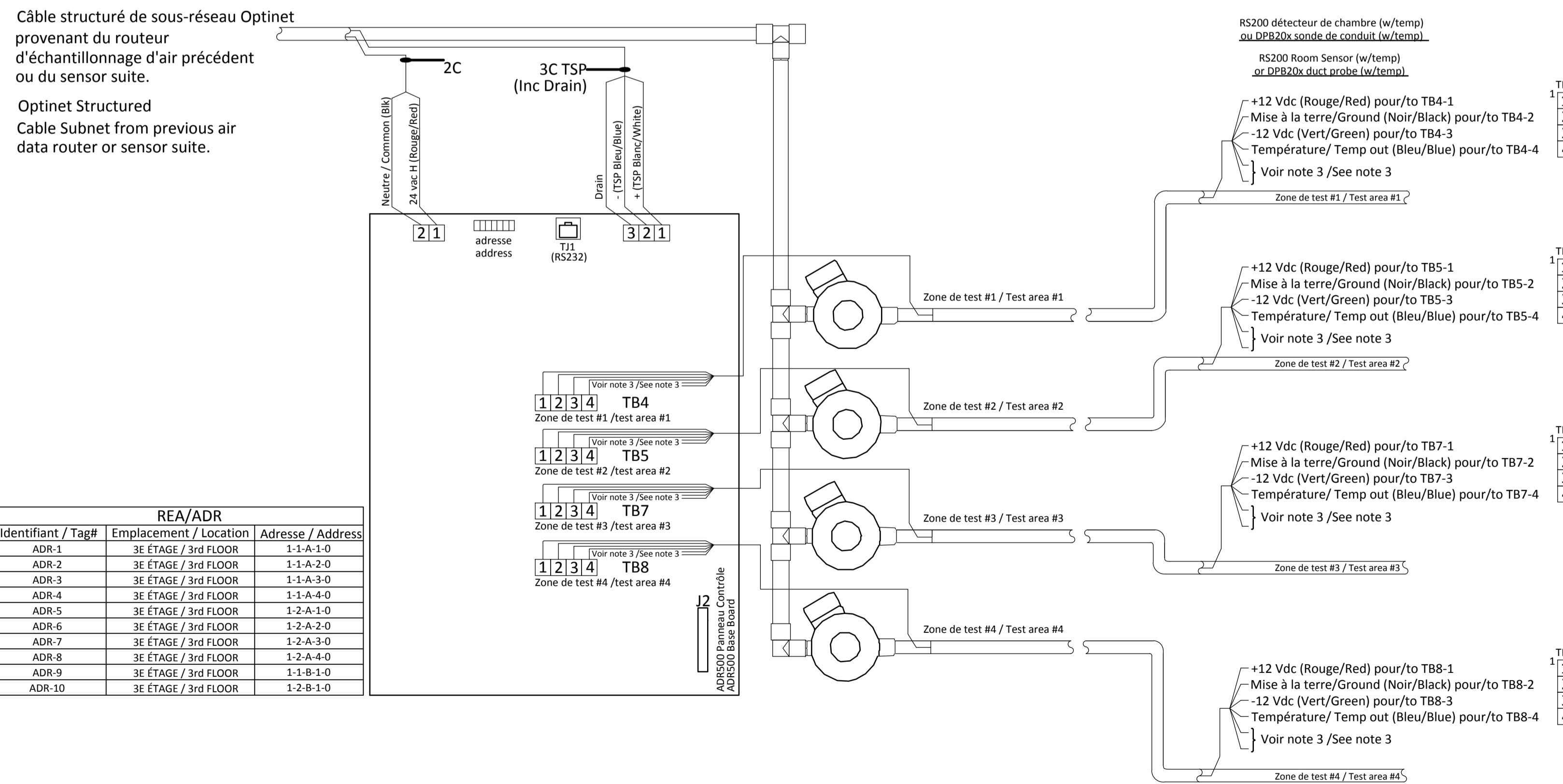
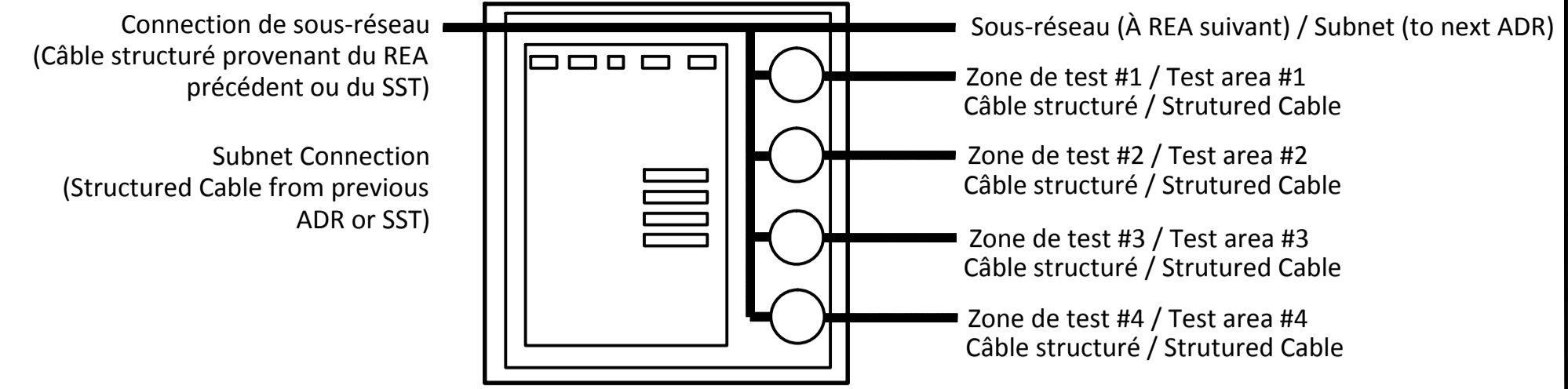


Schéma de connexion du routeur de données d'échantillonnage d'air (REA) / Air Data Router (ADR) Wiring

ÉCHELLE: aucune / SCALE: none

Assemblage REA 400 / ADR400 Assembly



Connexion des câbles structurés Optinet du routeur d'échantillonnage d'air ADR400

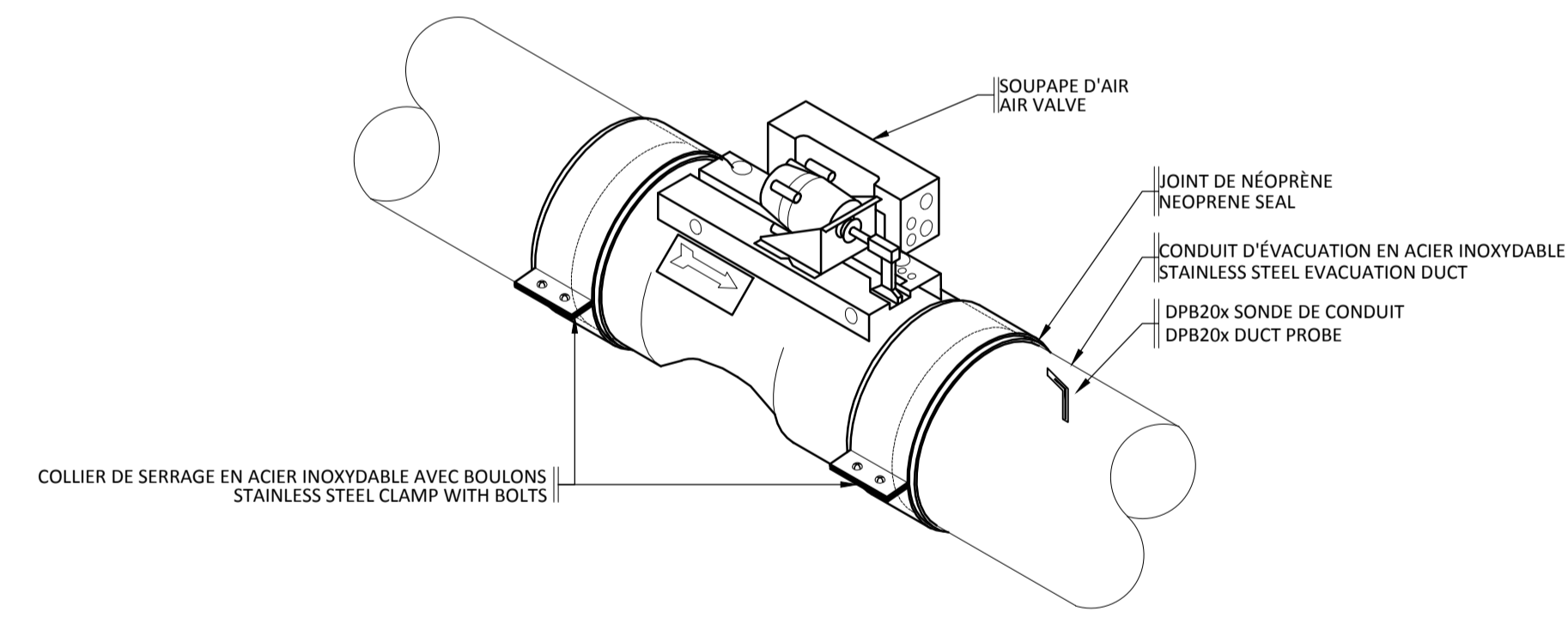
ÉCHELLE: aucune

Air Data Router ADR400 Optinet structured cable connections

SCALE: none

LÉGENDE DE CONTRÔLE / EXISTING LEGEND

- TRANSFORMATEUR DE CONTRÔLE 600/120V. OU 120/24V. DE CAPACITÉ TELLE QU'INDIQUÉE. / CONTROL TRANSFORMER 600/120V. OR 120/24V. OF INDICATED CAPACITY.
- MISE À LA TERRE. / GROUND.
- CONDUIT D'ALIMENTATION RECTANGULAIRE EXISTANT VERS LE HAUT / EXISTING RECTANGULAR UPWARD SUPPLY DUCT
- CONDUIT D'ALIMENTATION RECTANGULAIRE EXISTANT VERS LE BAS / EXISTING RECTANGULAR DOWNWARD SUPPLY DUCT
- CONDUIT DE RETOUR D'AIR RECTANGULAIRE EXISTANT VERS LE HAUT / EXISTING RECTANGULAR UPWARD RETURN DUCT
- CONDUIT DE RETOUR D'AIR RECTANGULAIRE EXISTANT VERS LE BAS / EXISTING RECTANGULAR DOWNWARD RETURN DUCT
- CONDUIT CIRCULAIRE EXISTANT VERS LE HAUT / EXISTING CIRCULAR UPWARD DUCT
- CONDUIT CIRCULAIRE EXISTANT VERS LE BAS / EXISTING CIRCULAR DOWNWARD DUCT
- TRANSITION D'UN CONDUIT RECTANGULAIRE À ROND EXISTANT/ EXISTING RECTANGULAR TO ROUND DUCT TRANSITION
- COUDE CIRCULAIRE OU CARRÉE MUNI D'AUBES DIRECTIONNELLES EXISTANTES / EXISTING ROUND OR RECTANGULAR ELBOW WITH TURNING VANES
- CONDUIT FLEXIBLE EXISTANT / EXISTING FLEXIBLE DUCT
- ROUTER D'ÉCHANTILLONNAGE D'AIR (REA) FOURNI, INSTALLÉ ET RACCORDÉ PAR L'ENTREPRENEUR. / AIR DATA ROUTER (ADR) PROVIDED, INSTALLED AND CONNECTED BY CONTRACTOR.
- PANNEAU ÉLECTRIQUE POUR ALIMENTATION EXISTANT À UTILISER. / EXISTING ELECTRICAL PANEL FOR POWER SUPPLY.
- STRUCTURE DE SOUTÈNEMENT À BÂTIR POUR LE SENSOR SUITE. LES POMPES À SUCCION DOIVENT ÊTRE SUR UNE STRUCTURE SÉPARÉE. SENSOR SUITE FRAME TO BUILD. VACUUM PUMP MUST BE ON A SEPARATED SKID.
- VALVE DE CONTRÔLE D'ÉVACUATION / GENERAL EXHAUST VALVE



Détail Type de Raccordement d'Une valve / Valve Detail Type

ÉCHELLE: aucune / SCALE: none

NOTES:

- L'entrepreneur devra configurer le système Aircuity avec les plages suivantes:
 - En occupation (Lundi au vendredi de 7h à 18h) - 6 changements d'air à l'heure
 - Hors occupation - 4 changements d'air à l'heure
 - L'entrepreneur devra modifier la séquence d'opération des MK Plastik qui actuellement fonctionne sur des horaires. La nouvelle programmation devra automatiser le démarrage des ventilateurs en fonction de la pression statique à maintenir selon les priorités suivantes tout en instaurant un système d'alternance sur les ventilateurs:
 - Ventilateur n° 1 avec modulation du volet jusqu'à la fermeture complète du volet
 - Ventilateur n° 2 démarre et le volet se réajuste à 100 % afin de moduler
 - Une zone morte doit être planifiée afin d'éviter le démarrage et l'arrêt du 2e ventilateur sans arrêt
 - L'entrepreneur devra faire les travaux suivants sur le système d'évacuation E-1 et E-2 au toit. Il devra coordonner avec le client l'arrêt du système temporairement afin de procéder à ces travaux:
 - Remplacer les deux (2) moteurs des actuateurs des volets d'isolation par le modèle suivant: Belimo AFB24-S - il faut réutiliser la bande chauffante;
 - Remplacer et ajuster les capteurs de position des deux (2) volets d'isolation en tenant compte des contraintes thermiques hivernales;
 - Procéder au graissage des pièces mobiles selon les recommandations du fabricant.
- The contractor must implement those operating hours for the Aircuity settings:
 - Occupied hours (Monday to Friday 7 am to 6 pm) - 6 air changes per hour
 - Off hours - 4 air changes per hour
 - The contractor must to modify the control sequence of the M Plastik. Now, MK Plastik are controlled by schedule. The new control sequence must manage starts and stops of MK Plastik accordingly to the static pressure setpoint. The control priority must be like this considering an alternance sequence on fans:
 - Fan #1 with bypass damper modulation until it closes completely
 - Fan #2 starts and bypass damper fully open to be able to modulate
 - A deadband must be considered to avoid start/stop too frequently on fan #2
 - The contractor must make to actions on the exhaust systems E-1 and E-2 on the roof. The contractor must coordinate those interventions with the client to be able to stop temporarily those systems:
 - Replace two (2) actuator motors for isolation dampers for this model: Belimo AFB24-S - The contractor must re-use heating device;
 - Replace and adjust two (2) end switches for isolation dampers in accordance to winter thermal restrictions;
 - Apply grease on every mobile parts in accordance with manufacturer recommendations.

Client : / Client :



PROFESSIONNELS : / PROFESSIONALS:

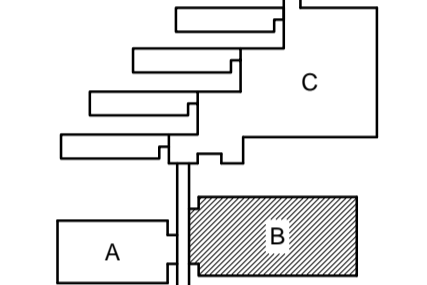
Architecture :

Structure :

Mécanique / Électricité : / Building Services :



Plan clé : / Key Plan:



Notes Générales : / General Notes:

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1	14-04-10	POUR SOUMISSION	R.P.

Sceau : / Seal :



Projet : / Construction Project:

AJOUT D'UN SYSTÈME DE CONTRÔLE ET GESTION DE LA DEMANDE DE VENTILATION

IMPLEMENTATION OF A CONTROL SYSTEM FOR VENTILATION DEMAND.

Titre du dessin : / Drawing Title:

Détails / Details Légende / Legend

Conçu par : / Concepted by:	Dessiné par : / Drawn by		
RÉMY PARENT	VINCENT GUÉGUEN		
Approuvé par : / Approved by	Nom du fichier .dwg / File Name .dwg		
RÉMY PARENT	13CL046-D01_EL		
Date :	Numéro de Projet : / Project Number:	Feuille : / Sheet:	Nombre : / No:
Mar.2014	13CL046-D01	EL-2	5

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No	Date	Description	R.P.
1	14-04-10	POUR SOUMISSION	R.P.

Sceau : / Seal :



Projet : / Construction Project:

AJOUT D'UN SYSTÈME DE CONTRÔLE ET GESTION DE LA DEMANDE DE VENTILATION

IMPLEMENTATION OF A CONTROL SYSTEM FOR VENTILATION DEMAND.

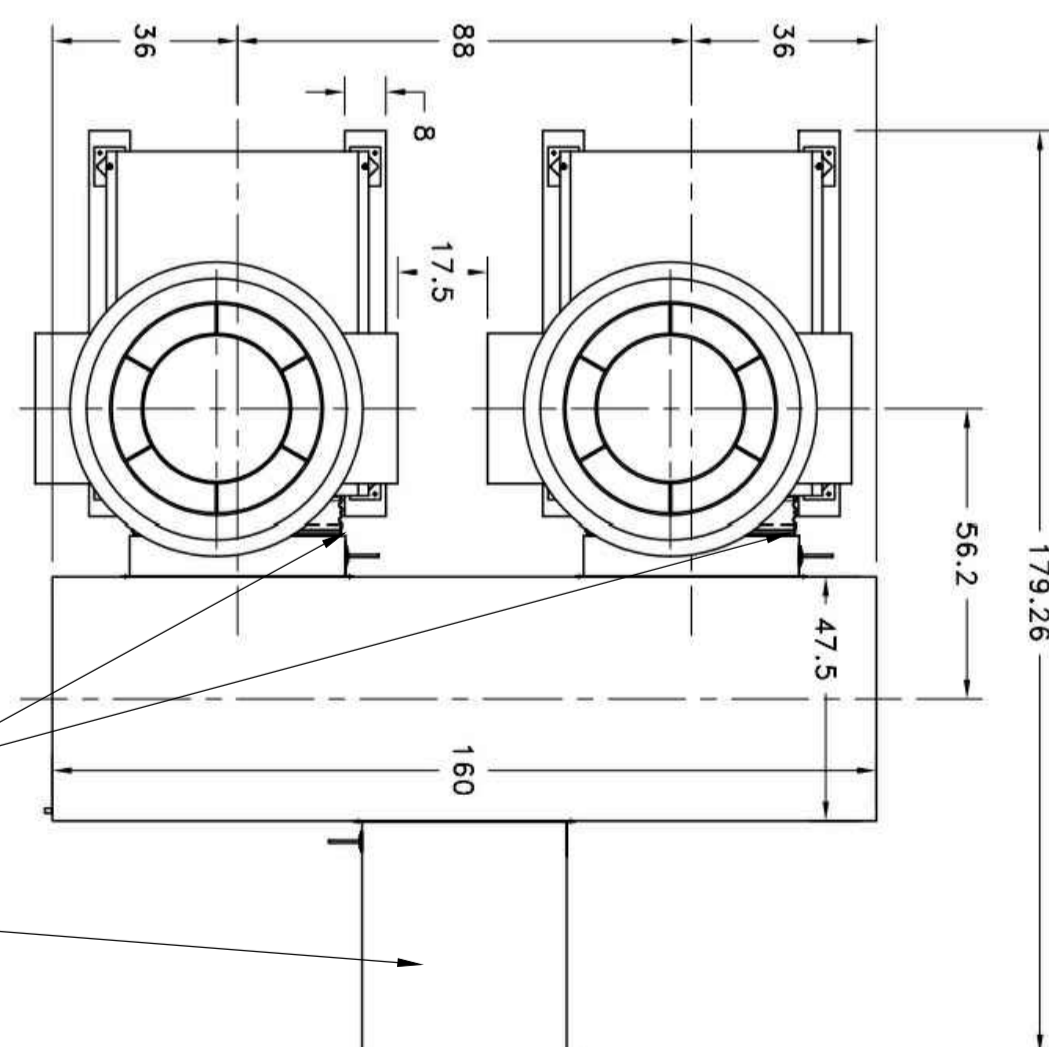
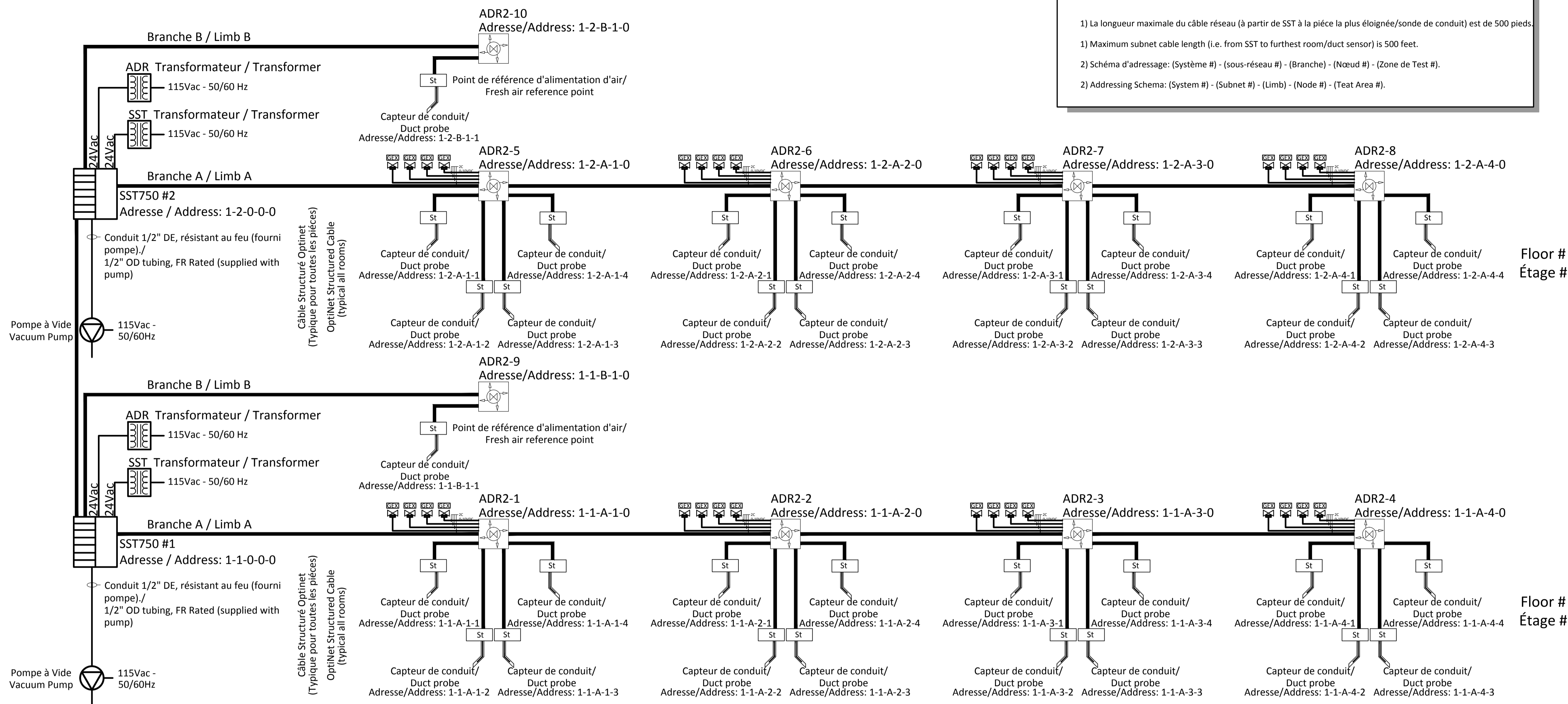
Titre du dessin : / Drawing Title:

Détails / Details

Conçu par : / Conceived by:		Dessiné par : / Drawn by:	
RÉMY PARENT		VINCENT GUÉGUEN	
Approuvé par : / Approved by:		Nom du fichier .dwg : / File Name .dwg:	
RÉMY PARENT		13CL046-D01_EL	
Date :	Numéro de Projet : / Project Number:	Feuille : / Sheet:	Nombre : / No.:
Mar. 2014	13CL046-D01	EL-3	5

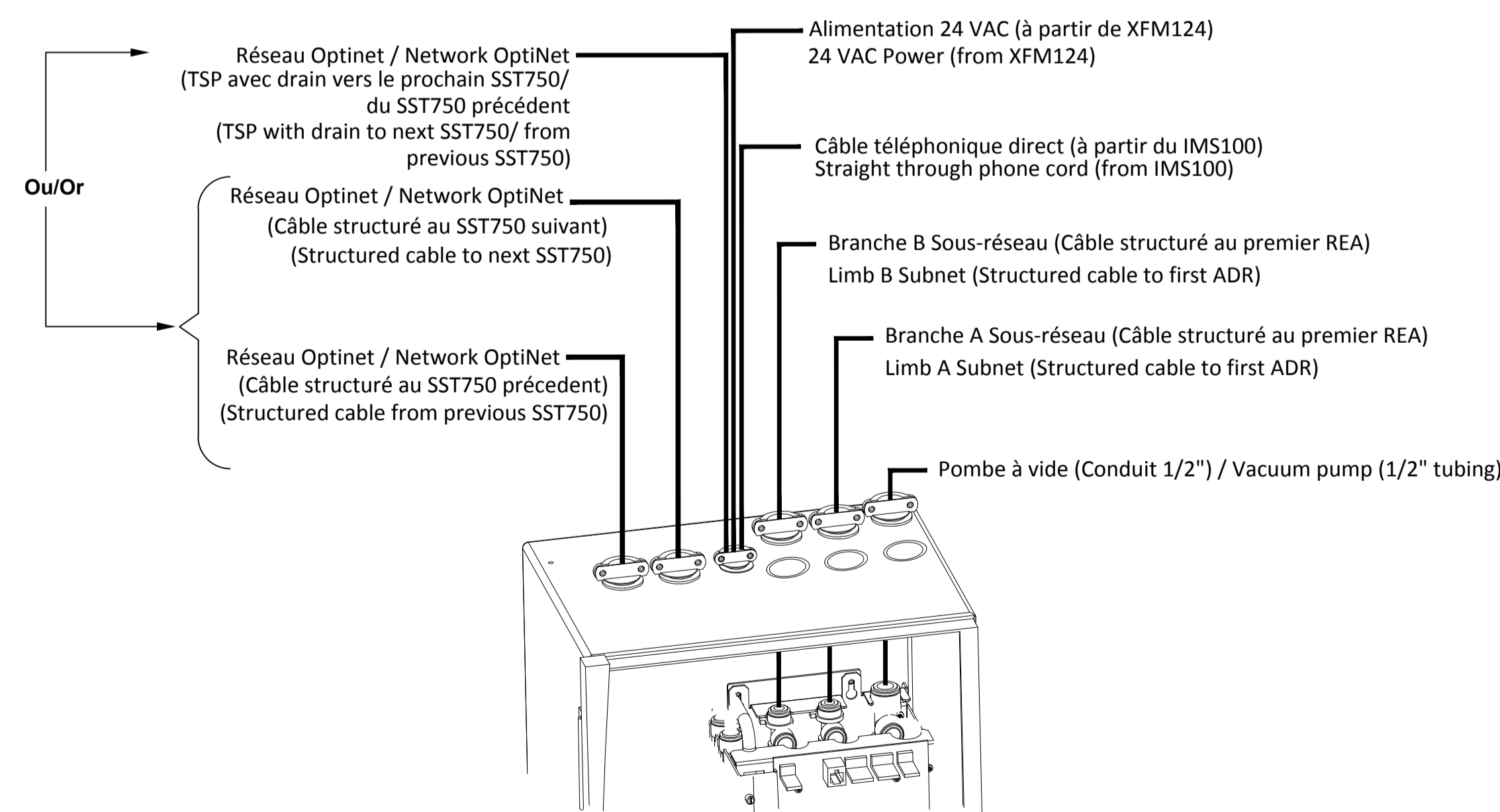
NOTE:

- 1) La longueur maximale du câble réseau (à partir de SST à la pièce la plus éloignée/sonde de conduit) est de 500 pieds.
1) Maximum subnet cable length (i.e. from SST to furthest room/duct sensor) is 500 feet.
- 2) Schéma d'adressage: (Système #) - (sous-réseau #) - (Branche) - (Nœud #) - (Zone de Test #).
2) Addressing Schema: (System #) - (Subnet #) - (Limb) - (Node #) - (Test Area #).



Vue en plan de l'évacuation au toit / Top view of exhaust system on the roof

ÉCHELLE: aucune / SCALE: none



Assemblage SST750 / Assembly SST750

ÉCHELLE: aucune / SCALE: none

PARTIE 1 GÉNÉRALITÉ

1.1 DOCUMENTS CONNEXES

- Les Dessins et les dispositions générales du Contrat, incluant les Conditions générales du Contrat, l'Exécution générale des travaux et les Exigences particulières, ainsi que la Division 1 des spécifications, s'appliquent à la présente section.
- VUE D'ENSEMBLE**
 - Ce document contient les spécifications et les sommaires des dispositifs/d'entrées/portes d'un système de surveillance de la qualité de l'air d'installations (SSI). L'architecture du système doit utiliser des capteurs de pièce locale, des conduits et des capteurs d'air extérieur mis en réseau avec des routeurs de données sur l'air (*Air Data Routers*) et des suites de capteurs (*Sensors Suites*) communiquant sur un réseau de données et d'échantillonnage d'air. Le réseau d'échantillonnage d'air doit être composé d'un système de transport d'échantillons d'air pour transporter les échantillons d'air de l'environnement surveillé aux suites de capteurs répartis dans l'installation. Le réseau d'échantillonnage d'air doit être composé de routeurs intelligents d'échantillons d'air, d'un réseau de micro-conduits conducteur de courant électrique et d'un câble structuré. Les échantillons d'air doivent être prélevés par des capteurs de pièce, des capteurs montés dans les conduits et des capteurs d'échantillonnage d'air extérieurs, tel qu'indiqué dans les documents de SSI doit assurer une surveillance continue des conditions environnementales tel que prescrit dans la section Suite de capteurs et procurer un accès protégé - par l'intermédiaire d'une interface basée sur le Web - à des analyses analytiques en formats écran et rapport. Le SSI doit interfacier avec d'autres sous-systèmes de bâtiment automatisés et à microprocesseur, tel qu'illustré sur les dessins et tel que spécifié dans cette section et d'autres sections.

1.3 SECTIONS CONNEXES

- Une interface de tiers est requise pour ce projet et doit être exécuté par Contrôle A.C. et le système Reliable en place. L'ajout des pages graphiques requises pour les opérateurs du site doit être effectué par Contrôle A.C. et inclus à cette soumission.

B. REFERENCES

- ANSI/ASHRAE 135-2001: BACnet - un protocole de communication standard pour les systèmes de contrôles du bâtiment. Ceci doit inclure les normes et tous les addendés publiés.

1.4 DÉFINITIONS

- SAB** réfère au système d'automatisation du bâtiment. (Termes semblables : système de gestion de l'énergie (SGE); système de gestion de bâtiment (SGB); ou régulation automatique de la température (RAT).
- ESI** réfère à l'entrepreneur en systèmes de surveillance de la qualité de l'air d'installations. L'ESI est l'entrepreneur responsable de la réalisation de cette section des spécifications.
- SSI** réfère au matériel, aux logiciels et à d'autres éléments entrant dans la composition du système de surveillance de la qualité de l'air d'installations, tel que décrits aux présentes.
- E/S** réfère aux dispositifs d'entrée-sortie.

1.5 ENTREPRENEUR EN SYSTÈMES DE SURVEILLANCE D'INSTALLATIONS ACCEPTABLE

A Le système de surveillance de la qualité de l'air d'installations décrit dans le présent document est un système d'Aircuity, Inc., tel que représenté par Preston Phipps Inc. D'autres fabricants peuvent soumissionner dans la mesure où ils répondent à toutes les exigences de ces spécifications et qu'ils allent leur approbation conformément aux exigences de l'article 13 des instructions aux soumissionnaires. Une comparaison paragraphe par paragraphe entre le système spécifié et un autre système proposé, ainsi que trois projets semblables déjà réalisés (indiquant le nom du projet, le nom d'une personne-ressource, le numéro de téléphone, le lieu, l'expert-conseil, la valeur du contrat et une brève description du système de contrôle et de son fonctionnement) doivent être présentés pour revue avant la soumission. Les soumissions d'autres fabricants ne seront pas acceptées si elles n'ont pas été approuvées par l'ingénieur avant la présentation des soumissions. Les soumissions approuvées d'autres fabricants doivent être présentées comme ajout ou suppression sur la formule de soumission.

PARTIE 2 PORTÉE DES TRAVAUX

2.1 RESPONSABILITÉS DE L'ENTREPRENEUR :

- L'ESI doit fournir tout le matériel, les fils, le câble, les conduits, le matériel informatique et les logiciels requis pour former un système complet et fonctionnel qui effectuera les tâches et les fonctions visées, tel que défini dans ces spécifications.
- L'installation de tous les composants du SSI ainsi que tous les travaux électriques requis font partie intégrante de cette section, de la Partie 5.0 Exécution, incluant, mais sans s'y limiter, les suites de capteurs, les routeurs de données sur l'air, les capteurs de pièce, les sondes de conduits, les capteurs de conduite, les pompes à vide, les serveurs de gestion de l'information, le câble structuré, etc.
- L'ESI doit fournir au propriétaire une soumission séparée en même temps que la soumission principale, indiquant tous les frais d'entretien annuels pour les capteurs des suites de capteurs, incluant le remplacement d'éléments de matériel, le calibrage, la garantie et les services diagnostiques, tel que spécifié au paragraphe 2.7.

2.2 EXIGENCES DU SYSTÈME

- Tout le matériel et l'équipement doivent être standard, régulièrement fabriqués et disponibles auprès du fabricant, c'est-à-dire qu'il ne doivent pas avoir été spécialement conçus pour ce projet. Tous les systèmes et composants, à l'exception de logiciels spécifiques pour le projet, doivent avoir préalablement été testés et éprouvés en situation réelle avant leur installation pour ce projet.
- L'architecture du système doit être entièrement modulaire pour permettre l'extension des logiciels, des périphériques et du matériel.
- Ce une fois l'installation terminée et avant l'acceptation du projet, le système doit exécuter toutes les fonctions d'exploitation détaillées dans ces spécifications.

2.3 ÉQUIPEMENT ET MATÉRIEL

A. Matériel

- L'ESI doit fournir ce qui suit :
 - Tous les routeurs de données sur l'air, suites de capteurs, capteurs des suites de capteurs, capteurs de pièce, sondes de conduits, capteurs d'air extérieur, serveurs de gestion d'information, pompes à vide, câblage structuré et transformateurs requis pour exécuter les fonctions énumérées.

B. Logiciels

- L'ESI doit fournir tous les logiciels identifiés dans les présentes spécifications. L'ESI doit aussi fournir la base de données requise pour mettre en oeuvre ces spécifications, incluant les descripteurs de points, les séquences d'essai, les rapports et les sommaires. L'ESI doit fournir et créer le système en utilisant les versions les plus récentes des logiciels au moment de l'approbation des dessins d'atelier.
- L'ESI doit fournir un serveur d'émulation et des logiciels compatibles BACnet pour assurer l'interface avec le SAB de l'installation.
- Câblage de connexion Ethernet :
 - Le propriétaire fournira et posera le câblage CAT-5e ou CAT-6 requis entre le serveur de gestion de l'information et la connexion Ethernet du bâtiment du propriétaire. La connexion Ethernet finale sera coordonnée avec le groupe des TI du propriétaire. Toutefois, ceci doit être coordonné par l'ESI.

C. Codes et règlements

- Tout équipement et matériel électrique ainsi que leur installation doivent être conformes aux exigences les plus récentes des documents suivants :
 - Loi sur la santé et la sécurité au travail
 - Code national de l'électricité
 - Code national de prévention des incendies
- Tous les routeurs de données sur l'air et suites de capteurs doivent être homologués par :
 - Underwriters Laboratories, norme UL916, pour les systèmes de gestion de l'énergie ouverts (Open Energy Management)

- Le fabricant du système de contrôle doit avoir des procédures de contrôle de la qualité pour la conception et la fabrication des systèmes de surveillance de la qualité de l'air d'installations afin d'assurer une surveillance de précision, la qualité de l'air intérieur, des échantillons et l'entretien préventif du système.

- L'ESI doit fournir toutes les données d'attribut et la programmation requise pour (a) les zones à tester et coordonner les conventions d'appellation d'objets et les exigences relatives à la carte du réseau avec le service SAB interne du propriétaire. La convention d'appellation doit être soumise avec les dessins d'atelier de l'ESI pour revue et approbation par le service SAB du propriétaire.

2.4 DOCUMENTS À SOUMETTRE

- Dès qu'un document à soumettre est préparé, il doit être fourni en format électronique en même temps que l'envoi des copies papier. Cette version doit être transmise en format électronique, par courriel, pour accélérer le processus d'approbation.
- Les dessins d'atelier doivent comprendre :
 - L'index : La première page des dessins d'atelier doit être un index de toutes les pages incluses dans le document.
 - Les légendes : Une description des symboles et des acronymes doit être présentée au début des dessins d'atelier.
 - Le schéma de communication : Un schéma simple tenant sur une page présentant l'architecture du réseau. Le réseau doit inclure les locaux et les adresses pour chacun des routeurs ainsi que le Sensor Suite. La liste du matériel doit être incluse sur ce schéma.
 - Le schéma d'adressage des dispositifs : Ce document est un document de référence. Le schéma d'adressage doit être soumis, vérifié et approuvé par le propriétaire du système de contrôle du bâtiment avant l'implantation.
 - Le schéma de numérotation du matériel : Le schéma de numérotation des équipements doit être soumis, vérifié et approuvé par le propriétaire du système de contrôle du bâtiment avant l'implantation.
 - Le sommaire des systèmes : Les dessins doivent inclure une liste présentant chaque pièce d'équipement ainsi que chaque secteur desservi.
 - Les schémas des systèmes : Les dessins doivent inclure un schéma uniligne de tous les secteurs suivis et/ou contrôlés incluant les appareils requis au bon fonctionnement et à l'implantation des séquences d'opération de ce projet.
 - Les détails de câblage de point à point : Les dessins doivent inclure un schéma détaillé de câblage point par point qui doit présenter tous les appareils de connectivité, Sensor Suite, contrôleurs, panneaux, point de raccordement ou toute autre information spéciale exemple : gaine blindée release) afin d'effectuer adéquatement le suivi des secteurs et le contrôle des équipements.
 - Liste de matériel : Les dessins doivent inclure une liste de matériel nécessaire et utilisé pour le contrôle des équipements et pour l'implantation des séquences d'opération. Drawings shall include a bill of material necessary and used for properly controlling and implementing the required sequences of operation.
 - Les détails de configuration : Les dessins doivent inclure toutes les séquences d'essais pour chacun des points testés.
 - Les dessins conformes à l'exécution (à qui est construit) après la vérification finale du schéma en modifiant ou en complétant les dessins d'atelier. Les dessins conformes à l'exécution doivent montrer l'installation exacte. Les dessins conformes à l'exécution seront acceptés par écrit par l'ingénieur concepteur du projet et par le représentant du propriétaire après la vérification finale du système. Le système ne sera pas considéré comme complet tant que les dessins conformes à l'exécution n'auront pas reçu leur approbation finale. L'ESI doit fournir quatre séries de dessins conformes à l'exécution.

C. Manuels d'exploitation et d'entretien

- Les manuels d'exploitation et d'entretien pour le système doivent inclure des informations détaillées spécifiques au projet et décrire l'installation spécifique. Les manuels doivent inclure au minimum :
 - schéma général
 - Architecture du réseau
 - Les séquences d'essais et des groupements établis.
 - Présentation sommaire des produits et descriptions
 - schéma de câblage pour tous les contrôleurs et les appareils sur site
 - Détails d'installation, de fixation et de raccordement pour tous les appareils et accessoires sur site
 - Mise en service et configuration des paramètres pour tous les appareils sur site
 - Procédure de maintenance incluant les ajustements finaux et la calibration des paramètres.

2.5 EXPÉRIENCE ET COMPÉTENCES DE L'ENTREPRENEUR (ESI)

- L'ESI, le tout sans frais pour le propriétaire, doit être pleinement en mesure de fournir des instructions, ainsi que des services d'entretien de routine et d'entretien d'urgence pour tous les composants du système. L'ESI doit être en mesure de remplacer tous les produits fournis dans le cadre du projet pendant une période minimale de 1 an après l'achèvement du projet.

2.6 GARANTIE

- La garantie doit couvrir la réparation ou le remplacement de tout produit défectueux ainsi que la correction de toute défectuosité de matériel ou d'exécution pendant une période de 12 mois après la date d'acceptation du système.

2.7 PRIX SÉPARÉ RELATIF À L'ENTRETIEN

- Une soumission pour les capteurs doit être présentée au propriétaire en même temps que la soumission principale, indiquant tous les coûts d'entretien annuel des capteurs et des éléments de capteurs faisant partie des suites de capteurs, ainsi que les coûts pour assurer leur bon fonctionnement continu. La proposition doit détailler tous les coûts pour le remplacement d'éléments de capteurs, les services de calibrage, le diagnostic, les mises à niveau logicielles, ainsi que le matériel requis pour assurer le bon fonctionnement continu des capteurs. Les capteurs devront être calibrés au moins deux fois par an à l'aide de gaz et d'instruments d'essai approuvés par la NIST et soumis à des essais fonctionnels ainsi qu'à une évaluation de leurs éléments pour déterminer leur durée de vie utile restante et le besoin de remplacement, le cas échéant. Ce service doit aussi comprendre une évaluation pour assurer le bon fonctionnement de tous les capteurs tels qu'installés selon ces spécifications. Ce service doit comprendre, mais sans y être limité :

- La fourniture d'un lieu certifié pour retirer périodiquement (au moins deux fois par an) tous les capteurs des suites de capteurs et les remplacer par des capteurs pré-emballés, homologués, traçables dans l'industrie, et calibrés en usine. Les capteurs retirés doivent être retournés au ESJ pour calibrage en usine, mis à niveau, remplacement d'éléments et réparations aux composants et aux cartes. Pour chaque visite, des dossiers écrits doivent être fournis au propriétaire indiquant le résultat de ces calibrages ainsi que toutes les données pertinentes.
- Tous les coûts de réparation ou de remplacement de tout capteur défectueux et de tout équipement consommable ou de tout composant de capteur doivent être inclus.
- Toutes les mises à niveau logicielles pour éliminer des bogues ou apporter des correctifs doivent être incluses.

PARTIE 3 PRODUITS, MATÉRIEL

A. ROUTEURS DE DONNÉES SUR L'AIR

- Les routeurs de données sur l'air doivent être fournis comme ensembles complets comprenant tous les composants électroniques, les étiquettes à air, les prises d'échantillonnage, les micrologiciels et les logiciels. Les routeurs doivent être fournis avec tous les composants internes et tout le câblage assemblés et testés à l'usine.
- Les routeurs de données sur l'air recevront des commandes à 3 à 5 suite de capteurs pour ouvrir l'Électrovanne à 3 à 5 de chaque zone à tester, tout en fermant simultanément toutes les autres électrovannes du système. Un parcours direct entre la zone à tester et les capteurs virtuels situés dans la suite de capteurs doit être établi pour lire un flux d'air continu par le câble structuré.
- Les routeurs de données sur l'air doivent comprendre une enceinte, des bornes pour le câblage d'excitation et le câble structuré, une carte communications/processeur; des électrovannes de grande capacité et une prise d'échantillonnage.
- Les routeurs de données sur l'air doivent pouvoir interfacier avec le câble structuré du SSI.
- Les routeurs de données sur l'air doivent pouvoir échantillonner jusqu'à quatre zones à tester. Les routeurs de données sur l'air doivent être dimensionnés et configurés avec le nombre approprié d'électrovannes d'échantillonnage, incluant tout le matériel et les logiciels requis pour le nombre de zones à tester indiquées aux plans et/ou dans les spécifications.

- Les routeurs de données sur l'air doivent pouvoir mesurer la température de l'air dans la pièce, dans un conduit ou à l'extérieur à l'aide d'une sonde de température intérieure, d'une sonde de conduit ou d'une sonde de température d'air extérieur. Un total de quatre séries de données de capteur doit être fourni pour correspondre à l'échantillonnage de l'air des quatre zones à tester.
- Les routeurs de données sur l'air doivent pouvoir accepter des données d'entrée et de sortie universelles de 0-10v et de 4-20mA par des cartes d'extension permettant de créer une interface avec des dispositifs ou des contrôleurs fournis par des tiers.
- Jusqu'à 30 routeurs de données sur l'air communiquent sur un réseau RS-485 isolé à la suite de capteurs.
- Toutes les données ponctuelles, les algorithmes et les logiciels d'application des routeurs de données sur l'air doivent être programmables à partir du serveur de gestion de l'information. Chaque routeur de données sur l'air doit contenir les logiciels et les micrologiciels requis pour recevoir et exécuter les séquences d'essai téléchargées du serveur.
- Chaque routeur de données sur l'air doit être muni d'un port série permettant une interface avec un ordinateur portable. Ce port doit permettre d'interroger le routeur de données sur l'air et le matériel.
- Les routeurs de données sur l'air doivent pouvoir bien fonctionner à une température ambiante de 32 °F à +125 °F (0 °C à 52 °C), et à 10 - 90 % d'humidité relative.
- Les routeurs de données sur l'air doivent être munis d'un ou de voyants LED pour indiquer visuellement leur état de marche et leur statut de communication.
- Les routeurs de données sur l'air doivent être alimentés en courant 24 VCA fourni par un transformateur de 120/24 VCA relié à la suite de capteurs qui dessert le routeur de données sur l'air. L'alimentation basse tension doit être distribuée aux routeurs de données sur l'air par le câble structuré afférent.

B. SUITE DE CAPTEURS

- La suite de capteurs est un dispositif de détection multipoints distribué à commande réseau. La suite de capteurs doit être un ensemble complet comprenant tous les composants électroniques, un porte-cartes, les prises d'échantillonnage, les régulateurs de débit, les régulateurs de pression, les micrologiciels et les logiciels.
- La suite de capteurs doit assurer les communications entre le sous-réseau du routeur de données sur l'air et le serveur de gestion de l'information par le biais d'un réseau RS-485 isolé. La suite de capteurs doit assurer les communications avec un sous-réseau de 30 routeurs de données sur l'air, avec 30 autres suites de capteurs et avec un serveur de gestion de l'information.
- L'unité de base de la suite de capteurs doit comprendre une enceinte, une porte à charnières avec serrure verrouillable, des bornes pour le câblage d'excitation et le câble structuré, une carte communications/processeur, un ensemble de mesure et de contrôle électronique du débit, ainsi qu'une baie à capteurs.
- La suite de capteurs doit être munie d'un porte-cartes pour faciliter le choix et l'installation d'une grande diversité de capteurs environnementaux et spécialisés. La suite de capteurs doit incorporer, au minimum, les capteurs suivants pour satisfaire les exigences des applications requises :
VOIR L'ANNEXE B À LA FIN DE CE DOCUMENT POUR LES CAPTEURS SUIVANTS :
SEN-C2D-3
SEN-TVC-1&2
SEN-PAR-1
- La suite de capteurs doit être modulaire et permettre l'ajout ou le retrait de capteurs pour des applications spécifiques et pour faciliter leur calibrage et leur entretien. Des baies de capteurs modulaires doivent aussi être prévues pour recevoir des capteurs additionnels.
- La suite de capteurs doit être munie d'un régulateur de débit, d'un diaphragme et d'un capteur de pression différentielle pour maintenir un débit constant dans le câble structuré.
- Le système diagnostique intégré doit effectuer des vérifications continues du système.
- Chaque suite de capteurs doit être munie d'un port série permettant une interface avec un ordinateur portable. Ce port doit permettre d'interroger les suites de capteurs et le réseau.
- Les suites de capteurs doivent pouvoir bien fonctionner à une température ambiante de 32 °F à +125 °F (0 °C à 52 °C), et à 10 - 90 % d'humidité relative.
- Les suites de capteurs doivent être munies d'un ou de voyants LED pour indiquer visuellement leur état de marche et leur statut de communication.
- Les suites de capteurs doivent être alimentées en courant 24 VCA fourni par un transformateur de 120/24 VCA relié à la suite de capteurs fournie par l'ESI. Le transformateur doit aussi distribuer un courant à basse tension aux routeurs de données sur l'air reliés à la suite de capteurs par le câble structuré afférent.

C. SERVEUR DE GESTION DE L'INFORMATION

- Le serveur de gestion de l'information (serveur) doit assurer la gestion du réseau de suite de capteurs, l'intégration au SAB, ainsi que l'interface, par le Web, au site web du fabricant du système pour consulter et imprimer les graphiques, les tableaux et les données du système de surveillance de l'installation.
- Caractéristiques et fonctions minimales du serveur :
 - un processeur PC avec une mémoire organisée par mots d'au moins 64 bits.
 - une vitesse de processeur minimale de 1 GHz.
 - un minimum de 256MB de mémoire vive.
 - un disque dur ou un dispositif de stockage de données de vitesse égale d'au moins 20 gigaoctets.
- Une carte d'interface réseau : (10/100)
 - Un port série RS-232
 - Le système d'exploitation Windows 7.
 - Le propriétaire fournira et installera le câblage CAT-5e ou CAT-6 entre la carte d'interface réseau du serveur de gestion de l'information et la connexion Ethernet du bâtiment du propriétaire. La connexion Ethernet finale sera coordonnée avec le groupe des TI du propriétaire.
 - Le serveur doit être situé à 25 pieds maximum de la suite de capteurs la plus près à laquelle il doit être relié par le port série RS-232.

D. CÂBLE STRUCTURÉ

- Le SSI doit employer un câble structuré préfabriqué pour faciliter les communications sur l'ensemble du réseau, pour alimenter les routeurs de données sur l'air et les suites de capteurs en courant basse tension, et pour transporter les échantillons d'air.
- Le câble doit être composé de plusieurs fils pour transmettre les communications, les données et le courant à basse tension sur l'ensemble du SSI. Le câble structuré doit être composé, au minimum, des éléments suivants :
 - Communication - 22 AWG avec 2 conducteurs torsadés et blindés incluant un fil d'écoulement à la masse
 - Alimentation basse tension - 18 AWG, 3 conducteurs
- Un conduit interne MicroDuct doit faire partie intégrante du câble structuré pour faciliter la collecte d'échantillons d'air. Le revêtement intérieur du MicroDuct doit être lisse, conducteur de courant et chimiquement interne pour que les échantillons restent purs et qu'ils n'adhèrent pas à la paroi pendant le transport. Aircuity OSC ou tuyaux en acier inoxydable seulement. Les tubes en polyéthylène, les tubes en cuivre et les tuyaux en acier galvanisé ne sont pas acceptables.
- Le câble structuré ne doit requérir aucun outil spécial pour son installation. Le câble doit être installé selon les pratiques courantes d'installation de réseaux locaux.
- Le câble structuré doit pouvoir s'installer dans des colonnes montantes et des plénums, être homologué par l'Underwriter's Laboratories aux normes UL CMP et C-UL CMP, et porter les indications appropriées sur toute sa longueur.

E. CAPTEURS DE PIÈCE ET SONDES DE CONDUIT

1. Capteurs de pièce :

- Capteur de pièce semi-encastré avec un port d'échantillonnage d'air intégré monté à l'intérieur d'une enceinte. Le port à l'intérieur de l'enceinte doit pouvoir recevoir le conduit MicroDuct du câble structuré.
- Capteur de température :
 - Détecteur de température à résistance en platine : plage de -30 F à 130 F (-34 °C à 54 °C)
Précision : ± 0,30 F (+ 0,17 °C)
 - Préfère interne pour empêcher les grosses particules d'entrer dans le conduit MicroDuct.
- Extrémités :
 - Capteur - un fil
 - Alimentation - trois fils
 - MicroDuct - collier de serrage intégré

- L'option ne doit inclure que l'échantillonnage MicroDuct, sans le capteur de température interne.

- Sonde de conduit : Dans le conduit et à l'extérieur
- Une sonde de température de conduit et une sonde d'échantillonnage d'air doivent être montées dans la même enceinte. La sonde de conduit doit pouvoir recevoir le conduit MicroDuct du câble structuré.

- Capteur de température :
 - Détecteur de température à résistance en platine : plage de -30 F à 130 F (-34 °C à 54 °C)
Précision : ± 0,30 F (+ 0,17 °C)
 - Préfère interne pour empêcher les grosses particules d'entrer dans le conduit MicroDuct.
- Extrémités :
 - Capteur - un fil
 - Alimentation - trois fils
 - MicroDuct - raccord rapide

- L'option ne doit inclure que l'échantillonnage MicroDuct, sans le capteur de température interne.

- Capteurs d'air extérieur - fournir une enceinte NEMA 4X à l'épreuve des intempéries.

PARTIE 4 PRODUITS, LOGICIELS

A. LOGICIELS DU SYSTÈME

- L'ESI doit fournir tous les logiciels requis pour l'exploitation du système SSI spécifié aux présentes. Toutes les fonctions décrites dans ces spécifications doivent être considérées comme des fonctions minimales requises. L'ESI doit fournir ce qui suit, au minimum :
 - une base de données complète.
 - La configuration de tous les routeurs de données sur l'air, des suites de capteurs, du serveur, ainsi que et des programmes d'interface utilisateur.
 - Tous les outils de configuration et toutes les licences d'utilisation de logiciels requis pour configurer et utiliser les produits installés pour ce projet.

B. CONFIGURATION DU SYSTÈME

- Création et modification de la base de données. Tout changement doit être fait à l'aide de procédures standard. Le système doit permettre des changements apportés localement par le serveur de gestion de l'information.
- Le système doit permettre à l'opérateur d'exécuter, au minimum, les tâches suivantes :
 - Ajouter et supprimer des points/objets
 - Modifier des paramètres ponctuels
 - Créer et modifier des séquences et des programmes de commande
 - Reconfigurer des programmes d'application

C. INTERFACE UTILISATEUR DU SYSTÈME DE GESTION DES DONNÉES EN LIGNE

- Le système doit comprendre une interface utilisateur et un système de gestion des données en ligne totalement intégrés. Le système de gestion des données doit être protégé par mot de passe et doit être en mesure de stocker toutes les données d'échantillonnage de toutes les zones à tester pour consultation en ligne et communication des résultats.
- Accès illimité aux données, la consultation des données, la production de rapports et le stockage à distance des données doivent être fournis avec le SSI pour toute la durée de mise en oeuvre du projet ainsi que toute la période de garantie.

D. SÉQUENCES D'ESSAI

- Le système doit permettre à l'opérateur de désigner toute zone à tester à l'aide d'une commande d'opérateur à partir du serveur de gestion de l'information.
- L'opérateur doit être en mesure de modifier les calendriers d'essais, incluant tout ajout ou suppression. L'opérateur doit être en mesure de modifier les calendriers d'essais et ensuite télécharger toute modification au SSI.

PARTIE 5 EXÉCUTION

A. GÉNÉRALITÉS

- Vérifier que tous les systèmes sont complets et qu'ils peuvent être mis en marche et exploités normalement et en toute sécurité avant de mettre le SSI en service.
- Installer les logiciels dans les routeurs de données sur l'air, les suites de capteurs et le serveur. Installer toutes les fonctions de programme conformément aux exigences spécifiées et tel que requis pour l'exploitation du système.
- Relier et configurer le matériel et les logiciels pour obtenir la séquence d'opérations spécifiée.

B. CÂBLAGE

- Installer les systèmes et le matériel conformément aux directives du fabricant ainsi qu'aux dessins et aux détails des équipements. Installer les composants électriques et utiliser des produits électriques conformes aux exigences de ces spécifications.
- Tout le câblage doit être installé proprement et de manière professionnelle, conformément à ces spécifications et aux codes d'électricité nationaux, provinciaux et locaux. Tout le câblage doit être installé conformément aux exigences de ces spécifications et aux codes d'électricité.
- Fournir le câblage requis pour les fonctions spécifiées et tel que recommandé par le fabricant de l'équipement pour les fonctions de contrôle spécifiées.
- Installer le câblage comme suit :
 - Installer un câble multiconducteur au lieu de câbles individuels lorsque plusieurs câbles suivent un même trajet.
 - Attacher les conducteurs flexibles du côté des charnières lorsqu'ils qui passent par des armures et des portes et les protéger contre le frottement. Attacher et soutenir les conducteurs.

- Il est obligatoire d'utiliser des conduits EMT pour le passage des différents câbles dans le cadre de ce projet.

- Tout le câblage de commande exposé ainsi que tout le câblage de commande dans les salles mécaniques, électriques et téléphoniques, ainsi que dans des salles semblables, doit être installé dans des dispositifs ou des contrôleurs fournis par des tiers.
- Tout autre câblage doit être installé proprement et pour qu'on ne le voie pas.
- Tout le câblage de commande doit être installé proprement et de manière professionnelle, parallèlement aux lignes du bâtiment, avec un support adéquat. Les câbles installés dans des conduits et des plénums doivent être liés à des éléments de charpente. Il n'est pas acceptable de faire des câbles de conduits ou de plénums à des tuyaux, des supports de conduit ou des systèmes de suspension de plafonds. Les câbles installés dans des dalles de béton ou dans des zones à l'épreuve des explosions doivent être protégés par des conduits métalliques rigides. Les extrémités de câble doivent être munies de réducteurs de tension.

C. INSTALLATION DES DISPOSITIFS DE COMMANDE

- Tous les capteurs de pièce doivent être facilement accessibles une fois installés selon les normes ADA, dans l'impossibilité, la position doit être spécifiée aux dessins.
- Les enceintes et les tableaux doivent être supportés par des cadres de type Unistrut, ou un équivalent approuvé, et solidement fixés au sol et contrevents.
- Pour les enceintes et les tableaux montés directement au mur, il doit y avoir une enceinte minimum de 1 pouce entre l'enceinte et le mur.
- Il doit y avoir un dégagement minimum de 3 pieds devant tous les tableaux et tableaux encadrés; ce dégagement doit permettre l'ouverture des portes à 90° de leur position fermée.
- La hauteur maximum des tableaux et enceintes, telle que mesurée entre le sol et le dessus des tableaux et enceintes, ne doit pas dépasser 6 pi et 6 po.
- Un écran de protection contre les gouttes en acier galvanisé de calibre 14, installé sur place, doit être fourni lorsque les enceintes et les tableaux risquent de recevoir des gouttes d'eau.

D. ALIMENTATION DE COMMANDE

- Fournir l'alimentation aux routeurs de données sur l'air, aux suites de capteurs, au serveur et aux composants connexes du SSI à partir du tableau de commande électrique le plus près tel qu'indiqué ci-après ou sur les dessins électriques - à coordonner avec l'Entrepreneur électrique.
 - L'alimentation pour les routeurs de données sur l'air, les suites de capteurs, le serveur et les composants connexes du SSI doivent être reliés par un circuit dédié au tableau de distribution électrique normal du bâtiment. Un conducteur de mise à la terre doit être installé à partir de la barre de terre de l'entrée de service du bâtiment. Le conducteur doit être protégé par un isolant et isolé des autres conducteurs de terre et du système de conduits du bâtiment.
 - L'alimentation électrique aux routeurs de données sur l'air, aux suites de capteurs, au serveur et aux composants connexes du SSI desservant des espaces critiques (salles d'animal, salles de formations/ou de serveurs, laboratoires de recherche, archives, chaudières fortes, etc.) doit être reliée par un circuit dédié au tableau de distribution d'urgence.

E. IDENTIFICATION

- L'ESI doit étiqueter chaque dispositif du système avec une adresse de point ou toute autre notation clairement identifiable à l'intérieur du couvercle du dispositif - les étiquettes doivent être permanentes. Tous les équipements du SSI doivent être clairement identifiés, tel qu'indiqué sur les soumissions approuvées.

F. ACCEPTATION DE L'INSTALLATION DU SSI COMPLÉTÉE

- Une fois l'installation complétée, l'ESI doit mettre le système en marche et effectuer toutes les opérations de calibrage, d'essai et de débogage requises. L'ESI devra aussi effectuer un essai d'acceptation en présence de l'ingénieur concepteur, du chargé de projet et du représentant du propriétaire. L'ESI doit donner au moins 10 jours de préavis pour l'essai d'acceptation. Service sur place du manufacturier : engager un représentant de service autorisé pour inspecter les composants assemblés sur place et l'installation de l'équipement, incluant la tuyauterie et les composants électriques.
- Une fois que les circuits électriques ont été mis sous tension, démarrer les unités pour vérifier leur bon fonctionnement. Retirer les unités défectueuses, les remplacer par de nouvelles unités, et relaire les essais.
- Démontrer la conformité de l'installation aux spécifications, incluant le calibrage et les essais et les séquences d'échantillonnage de l'air. Ajuster, calibrer et régler les circuits et les équipements pour obtenir la séquence d'opérations spécifiée.
- L'essai d'acceptation doit comprendre, mais sans y être limité :
 - Vérification, par l'ESI, du bon fonctionnement de tous les dispositifs d'entrée/sortie.
 - Vérification, par l'ESI, que tous les dispositifs d'entrée laissent ou dépassent les tolérances et la précision spécifiées par le manufacturier.
 - Vérification, par l'ESI, que tous les affichages graphiques en ligne des données d'échantillonnage de l'air représentent les conditions des lieux en temps réel.
 - Vérification, par l'ESI, de la fiabilité de toutes les communications de tous les routeurs de données sur l'air et suites de capteurs.
 - Les essais doivent comprendre une vérification fonctionnelle de toutes les interfaces et de l'intégration du système requis pour la portée de ce projet.
- Acceptation : Une fois que les procédures d'essai sur place ont été démontrées à l'ingénieur concepteur, au chargé de projet ou au représentant du propriétaire et que le système a été jugé satisfaisant, les composants du système seront acceptés pour leur utilisation prévue et mis sous garantie. Un avis d'achèvement sera alors émis par le représentant du client et la période de garantie débutera.

G. FORMATION

- L'ESI doit fournir les services d'instructeurs formés par le fabricant pour former le personnel désigné dans l'exploitation, l'entretien et la programmation du système. Les instructeurs doivent être parfaitement familiers avec tous les aspects des sujets pour lesquels ils donnent la formation. La formation doit spécifiquement porter sur le système et le matériel d'interface installé.
- La formation doit comprendre 2 parties, soit une « formation sur les nouveaux équipements » et une « formation sur les produits ».
- Formation sur les nouveaux équipements : Une visite du site pour indiquer l'emplacement de tout le matériel et l'équipement installé pour le projet.
- Formation sur les produits : Formation du personnel technique et d'entretien qui veillera au réglage, à l'exploitation et à l'entretien du SSI. Cette formation doit comprendre au minimum :
 - Formation du personnel sur les procédures et les calendriers pour le démarrage et l'arrêt de séquences d'essai, le dépannage et l'entretien du matériel.
 - Formation des opérateurs sur la modification des affichages de données, les descripteurs de zones à tester, l'exécution de commandes, le rétablissement de valeurs par défaut et la production de rapports.
 - Formation en français. Prévoir 10h de formation à l'anglais.

ANNEXE A

1. INTERFACE DU SYSTÈME DE SURVEILLANCE DE LA QUALITÉ DE L'AIR

A Le bâtiment doit être équipé d'un système de surveillance de la qualité de l'air (SSI) tel que spécifié dans d'autres sections de ces spécifications. Ce système a pour fonction d'analyser les éléments clés de l'environnement intérieur et de communiquer les systèmes mécaniques par l'intermédiaire du SAB. L'analyse doit comprendre les matières en suspension dans l'air comme les particules, les composés organiques volatils (COV), l'humidité, les gaz comme le monoxyde de carbone et le dioxyde de carbone (CO, CO2), ainsi que les autres matières indiquées dans les spécifications du SSI.

B. RESPONSABILITÉ DE L'ENTREPRENEUR DU SAB : L'entrepreneur du SAB doit installer une interface entre le SAB et le SSI qui communiquera avec le SAB par l'intermédiaire du système BACnet. Toutes les communications doivent aller du SSI au

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions of the Contract, General Conduct of the Work and Special Requirements, and Division 1 Specification Sections, apply to this Section.

1.2 OVERVIEW

A. This document contains the specification and input/output summaries for a Facility Monitoring System (FMS). The system architecture shall utilize local room sensors, duct and outside air probes networked to distributed Air Data Routers and Sensors Suites communicating over a data and air sampling network. The air sampling network shall consist of an air packet transportation network that shall transport air samples from the environment being monitored to distribute Sensor Suites located throughout the facility. The air sampling network shall consist of intelligent air packet routers, an electrically conductive micro duct network, and structured cable. Gathering of air samples shall occur via room, duct mounted, and outside air sampling sensors and probes located as indicated in the documents. The FMS shall provide continuous monitoring of environmental conditions as prescribed in the Sensor Suite section, and provide protected access via a web based user interface to analytical summaries in onscreen and report form. The FMS shall interface with other analog and microprocessor based building subsystems as shown on the drawings, specified herein and in other sections.

1.3 RELATED SECTIONS

- A. 3rd-Party Interfacing is required on this project and must be done by Contrôlé A.C. with Reliable control system. Addition of control pages must be done by Contrôlé A.C. and shall be included in this proposal.

1.4 DEFINITIONS

- A. BAS refers to the Building Automation System. (Similar terms are: EMS, Energy Management System; BMS, Building Management System; or ATC, Automatic Temperature Control.)
B. FMC refers to the Facility Monitoring System Contractor. The FMC is the Contractor responsible for the implementation of this Section of the Specifications.
C. FMS refers to the hardware, software and other components comprising the Facility Monitoring System as herein described.
D. I/O refers to Input/Output. Thus, "/O device" means "Input/Output device".

1.5 ACCEPTABLE FACILITY MONITORING SYSTEM CONTRACTOR (FMC)

The Facility Monitoring System specified herein, shall be by Airtco, Inc., represented by Preston Phipps Inc. Alternate manufacturers may bid based upon meeting all requirements of the specification and receiving approval accordingly on article 13 from tenderer instructions. A paragraph-by-paragraph comparison of the based bid specified system versus alternative system along with three references of similar projects (include project name, contact, phone number, location, consultant, value of contract, and a brief description of the control system and how it operates) shall be submitted prior to bid for review process. Bids shall not be accepted by Alternate manufacturer if approval is not received from the engineer prior to bid. If approved, other manufacturer's bids shall be shown as an add or deduct on the bid form.

PART 2 SCOPE OF WORK

2.1 CONTRACTOR RESPONSIBILITIES:

- A. The FMC shall furnish all necessary hardware, wiring, structured cable, tubing, computing equipment and software required to provide a complete and functional system necessary to perform the design intent and as defined in this specification.
B. Installation of all FMS components; and all electrical work required as an integral part of this section as noted in Part 5.0 Execution including but not limited to Sensor Suites, Air Data Routers, Room Sensors, Duct Probes, Transformers, Vacuum Pumps, Information Management Servers, Structured Cable, etc.
C. A separate proposal shall be furnished to the owner by the FMC at the time of the bid noting all annual service costs for the sensors in the Sensor Suite; including sensor element replacement, calibration, warranty, and diagnostic services as specified in paragraph 2.7.

2.2 SYSTEM REQUIREMENTS

- A. All material and equipment used shall be standard components, regularly manufactured and available by the manufacturer and not custom designed especially for this project. All systems and components, except site specific software, shall have previously been thoroughly tested and proven in actual use prior to installation on this project.
B. The system architecture shall be fully modular permitting expansion of application software, system peripherals, and field hardware.
C. The system, upon completion of the installation and prior to acceptance of the project, shall perform all operating functions as detailed in this specification.

2.3 EQUIPMENT

- A. System Hardware
1. The FMC shall provide the following:
a. All Air Data Routers, Sensor Suites, Sensor Suites Sensors, Room Sensors, Duct Probes, Outside Air Probes Information Management Servers, Vacuum Pumps, Structured Cable, Transformers, required to perform the functions listed.
b. System Software

- 1. The FMC shall provide all software identified in this specification. The database required for implementation of these specifications shall be provided by the FMC, including point descriptors, test sequences, reports and point summaries. The FMC shall provide and create the system using the latest software release, at the time of Shop Drawing approval.
2. The FMC shall provide a BACnet compatible integration server and software to interface with the facility's BAS.
C. Building Ethernet Connection Cabling:
1. The owner shall provide CAT-5e or CAT-6 cabling and installation between the Information Management Server and the owner's Building Ethernet Connection. Final Building Ethernet Connection shall be coordinated with the owner's IT Group. This work need to be managed by the FMC.
D. Codes and Regulations
1. All electrical equipment and material and its installation shall conform to the current requirements of the following authorities:
a. Occupational Safety and Health Act (OSHA)
b. National Electric Code (NEC)
c. National Fire Code
2. All Air Data Routers and Sensor Suites shall be listed per:
a. Underwriters Laboratories UL916 for Open Energy Management
3. Where two or more codes conflict, the most restrictive shall apply. Nothing in this specification or related documentation shall be construed to permit work not conforming to applicable codes.
E. The control system manufacturer shall have quality control procedures for design and manufacture of facility monitoring systems for precision monitoring, indoor air quality, energy savings and preventative maintenance.
F. The FMC shall provide all test area attribute data and programming and shall coordinate object naming conventions and network map requirements with the owner's internal BAS department. The naming convention shall be submitted with the FMC Shop Drawings for review and approval by owner's BAS department.

2.4 SUBMITTALS

- A. As soon as Submittals are prepared, an electronic version shall be provided simultaneously with the mailing of the paper copies. This version shall be transmitted in electronic format, via e-mail, to expedite the approval process.
B. Shop Drawings shall include:
1. Index: The first sheet of the Shop Drawings shall be an Index of all sheets in the set.
2. Legend: A description of symbols and acronyms used shall be provided at the beginning of the set of Shop Drawings.
3. Communications Riser: A single-page diagram depicting the system architecture complete with a communications riser. Riser shall include room locations and addressing for each Air Data Router and Sensor Suite. Include a Bill of Material for all equipment in this diagram but not included with the unique controlled systems.
4. Device Addressing Scheme: Install controllers implementing an addressing scheme consistent with a reference-document. The addressing scheme shall be submitted, reviewed and approved by the owner's BAS Group prior to implementation.
5. Equipment Numbering: Equipment numbering scheme shall be submitted, reviewed and approved by the owner's BAS Group prior to implementation.
6. Systems Summary: Drawings shall include a table listing each piece of equipment and the are(s) served by each piece of equipment.
7. System Schematic: Drawings shall include a single-line representation of all areas being monitored and/or controlled, including all field devices required for properly controlling equipment and implementing the schemes for this project.
8. Point-to-point Wiring Details: Drawings shall include point-to-point wiring details and must show all field devices, routers, sensor suites, controllers, panel devices, wiring terminal numbers and any special information (i.e. shielding requirements) for properly monitoring areas and controlling equipment.
9. Bill of Material: Drawings shall include a bill of the material necessary and used for properly controlling equipment and implementing the required sequences of operation.
10. Configuration Details: Drawings shall include test and cluster sequence schedules for each test point.
11. As-Built Drawings shall be created after the final system checkout, by modifying and adding to the Shop Drawings. As-Built Drawings shall show exact installation. As-Built Drawings will be acknowledged in writing by the project design engineer and the owner's representative after the final checkout of the system. The system will not be considered complete until the As-Built Drawings have received their final approval. The FMC shall provide four sets of As-Built Drawings.
C. Operating and Maintenance Manuals
1. Operating and Maintenance (O&M) manuals for the system shall include project specific, detailed information describing the specific installation. Manual shall contain as a minimum:
a. System overview
b. Networking architecture
c. Established test sequences and cluster schedules
d. Hardware cut-sheets and product descriptions
e. Wiring diagrams for all controllers and field hardware
f. Installation, mounting and connection details for all field hardware and accessories
g. Commissioning and setup parameters for all field hardware
h. Maintenance procedures, including final tuning and calibration parameters

2.5 CONTRACTOR (FMC) EXPERIENCE AND PERFORMANCE

- A. The FMC, without any cost for the owner, shall have a local office or representative, staffed with factory trained engineers, fully capable of providing instruction, routine maintenance, and emergency maintenance service on all system components. The FMC shall be responsible for replacement of all products supplied at all times for a period of not less than 1 year following project completion.

2.6 WARRANTY

- A. Repair or replace any defective product and correct any defect in material or workmanship for a period of 12 months following the date of acceptance of the system.

2.7 SENSOR PROPOSAL

- B. A proposal shall be furnished to the owner at the time of the bid noting all annual service costs for the sensors and sensor elements to be provided within the Sensor Suite; and all costs to insure their ongoing performance. The proposal shall detail all costs for sensor element replacement, calibration services, diagnostics, software upgrades, materials and equipment necessary for ongoing sensor operation. As a minimum, twice a year, provide calibration with NIST approved calibration gases and test instrumentation, functional testing, sensor element evaluation to determine useful life and element replacement as required, and evaluation services to insure the ongoing performance of all sensors as installed system per this specification. This service shall include, but not be limited to the following:
a. Provide a factory certified depot to remove all sensors within the sensor suite on a periodic basis (as a minimum, twice per year), and replace with pre-packaged, certified, industry traceable, factory calibrated sensors. Removed sensors shall be returned to the FMC for factory recalibration, upgrades, sensor element replacement, and component and board repairs. Written records shall be provided to the owner for every visit indicating the performance of such calibrations along with all pertinent data.
b. All costs for the repair and replacement of any defective sensor, and for any consumable element or part on the sensor shall be included.
c. All system software upgrades to correct bugs, fixes and patches for the sensors shall be included.

PART 3 PRODUCTS, HARDWARE

A. AIR DATA ROUTERS

- 1. The Air Data Router shall be furnished as a complete, self contained, unit housing all electronics, air solenoid valves, sampling manifolds, firmware, and software. Unit shall be furnished with all internal devices and wiring assembled and tested at the factory.
2. Air Data Routers shall receive commands from the Sensor Suite to open the solenoid valve of each test area to be monitored while simultaneously closing all the other solenoid valves in the system. A direct path between the test area and the virtual sensors located with the Sensor Suite shall be established to draw a continuous stream of air through the Structured Cable.
3. Air Data Routers shall consist of an enclosure; terminations areas for both field wiring and Structured Cable connections; a communications/processor board; high capacity solenoid valves; and sampling manifold.
4. Air Data Router shall have provisions to interface to the FMS Structured Cable. Air Data Router shall utilize an internal, factory pre-assembled air sampling manifold to interface to the on-board solenoid valves, and push to connect speed fittings for ease of interface to the Structured Cable. Romex connectors and knockouts shall be factory furnished and installed on the Router.

- 5. Air Data Routers shall be capable of sampling of up to four test areas. Air Data Routers shall be sized and configured with the appropriate number of air sampling solenoid valves including all hardware and software to accommodate the number of test areas noted on the plans and/or specifications.
a. Air Data Router shall have the capacity to sense per test area the temperature at the room, duct or outside air via a room temperature sensor, duct probe, or outside air probe. A total of four sensor inputs shall be provided that corresponds to the air sampling of the respective four test areas.
b. Air Data router shall be capable of accepting universal 0-10v and 4-20mA inputs and outputs through expansion boards for interfacing to other third party devices and controllers.
6. Up to 30 Air Data Routers shall communicate on an isolated RS-485 network with the Sensor Suite.
7. All point data, algorithms and application software within the Air Data Routers shall be programmable from the Information Management Server. Each Air Data Router shall contain both software and hardware to receive and perform full test sequencing schemes downloaded from the Server.
8. Each Air Data Router shall contain a serial port for the interface with a portable computer. Air Data Router and network interrogation shall be possible through this port.
9. Air Data Routers shall be capable of proper operation in an ambient temperature environment of 32 F to 125 F (0 °C to 52 °C), 10 - 90 % RH.
10. Air Data Routers shall have LED indication for visual status of communication and power.
11. Air Data Routers shall operate on 24vac power fed from a common 120/24 vac transformer connected to the Sensor Suite that serves the Air Data Router. Low voltage power shall be distributed to the Air Data Routers through the associated structured cable.

B. SENSOR SUITE

- 1. The Sensor Suite shall be a distributed, network based, multipoint sensing device. The Sensor Suite shall be furnished as a complete, self contained unit housing all electronics, sensing card cage, sampling manifolds, flow regulators, pressure regulators, firmware, and software.
2. The Sensor Suite shall provide communications between the Air Data Router sub network and the Information Management Server over an isolated RS-485 network. The Sensor Suite shall support communications with a sub network of 30 Air Data Routers; 30 other Sensor Suites, and an Information Management Server.
3. The Sensor Suite base unit shall consist of an enclosure; hinged door with keyed lock; terminations area for both field wiring and Structured Cable connections; a communications/processor board; electronic flow measurement and controller assembly; and sensor bay.
4. The Sensor Suite shall utilize a card cage to allow for the ease of selection and installation of a diverse array of environmental and specialty sensors. As a minimum, the Sensor Suite shall be incorporate the following sensors to meet the required applications:
REFER TO APPENDIX B AT THE END OF THIS DOCUMENT FOR THESE SENSORS:
SEN-C2D-3
SEN-TVC-1&2
SEN-PAR-1
5. The Sensor Suite shall be modular in nature, and allow for the addition and removal of the sensors for application specific sensing requirements, and ease of calibration and service. Additional, modular expansion capabilities shall be provided for additional sensors.
6. The Sensor Suite shall house an on-board flow regulator, orifice plate, and differential pressure sensor to maintain a continuous, regulated flow rate through the Structured Cable.
7. On-board diagnostics shall continuously perform system checks.
8. Each Sensor Suite shall contain a serial port for the interface with a portable computer. Sensor Suite and network interrogation shall be possible through this port.
9. Sensor Suites shall be capable of proper operation in an ambient temperature environment of 32 F to 125 F (0 °C to 52 °C), 10 - 90 % RH.
10. Sensor Suites shall have LED indication for visual status of communication and power.
11. Sensor Suites shall operate on 24vac power fed from a common 120/24 vac transformer connected to the Sensor Suite provided by the FMC. Transformer shall also distribute low voltage power to the Air Data Routers connected to the Sensor Suite through the associated structured cable.

C. INFORMATION MANAGEMENT SERVER

- 1. The Information Management Server (Server) shall provide network management of Sensor Suites, integration to the BAS, and interface to the web based manufacturer website for viewing and outputting graphs, charts and data derived from the Facility Monitoring System.
2. The hardware platform for the Server shall, at a minimum, consist of:
a. PC processor with minimum 64-bit word structure.
b. Minimum 1 GHz processor speed.
c. Minimum 256MB on board RAM
d. Hard drive or equal high-speed data storage, minimum 20 gigabytes.
e. Network Interface Card: (10/100)
f. RS-232 Serial Port
g. Operating System shall be Windows 7.
3. The owner shall provide CAT-5e or CAT-6 cabling and installation between the Information Management Server's Network Interface Card and the owner's Building Ethernet Connection. Final Building Ethernet Connection shall be coordinated with the owner's IT Group.
4. The Server shall be located within 25 feet of the nearest Sensor Suite and be connected to the Server through the RS-232 serial port.

D. STRUCTURED CABLE

- 1. The FMS shall utilize a pre-engineered system of Structured Cable to facilitate network wide communications; distribution of low voltage power to Air Data Routers and Sensor Suites; and provide a sampling conduit for air samples all within a single cable.
2. The cable shall consist of a plurality of wires to distribute communications, data and low voltage power throughout the FMS. As a minimum, Structured cable shall consist of:
a. Communications - 22 AWG twisted shield pair with drain wire
b. Low Voltage Power - 18 AWG, 3 wire
3. An inner pathway, MicroDuct, shall be furnished as an integral part of the Structured Cable to facilitate collection of test area air samples. MicroDuct shall be lined with a smooth, electrically conductive, chemically inert surface to insure air samples remain pure and uncorrupted and do not adhere to the wall lining during transport. Airliney OSG or stainless steel tubing only. No exceptions. Polyethylene tubing, copper tubing, galvanized pipe are not acceptable.
4. Structured cable shall not require any specialized tools for installation. Installation of the cable shall follow traditional local area network practices.
5. Structured cable shall be suitable for riser and plenum applications, be Underwriter's Laboratories Listed to UL CMP and CUL CMP standards, and carry the appropriate markings throughout the cable length.

E. ROOM SENSORS/DUCT PROBES

- 1. Room Sensors:
a. A semi-flush mounted, room temperature sensor with an integral air sampling port are to be housed within one enclosure. The port within the enclosure will accept the MicroDuct from the Structured Cable.
b. Temperature Sensing Element:
1) Platinum RTD: range -30 F to 130 F (-34 °C to 54 °C)
Accuracy: ± 0.30 F (±0.17 °C)
c. Internal coarse filter to screen out large particulate from entering the MicroDuct.
d. Terminations:
1) Sensor - one wire
2) Power - three wire
3) MicroDuct - integral hose clamp
e. Option to only include the MicroDuct sampling, the internal temperature sensor shall not be included.
2. Duct Probe - Duct and Outdoor Air Mount
a. A duct temperature sensor and air sample probe is to be mounted within one enclosure. Duct sample probe to accept integral MicroDuct from Structured Cable.
b. Temperature Sensing Element:
1) Platinum RTD: range -30 F to 130 F (-34 °C to 54 °C)
Accuracy: ± 0.30 F (±0.17 °C)
c. Internal coarse filter to screen out large particulate from entering the MicroDuct.
d. Terminations:
1) Sensor - one wire
2) Power - three wire
3) MicroDuct - speed fitting
e. Option to only include the MicroDuct sampling, the internal temperature sensor shall not be included.
f. Outdoor Air Locations - NEMA 4X weatherproof enclosure shall be provided.

PART 4 PRODUCTS, SOFTWARE

A. SYSTEM SOFTWARE OVERVIEW

- 1. The FMC shall provide all software required for operation of the FMS system specified herein. All functionality described herein shall be regarded as a minimum. The FMC shall provide the following as a minimum:
a. Completed database.
b. Configuration of all Air Data Router, Sensor Suite, Server and user interface application programs.
c. All Configuration Tools, and all software licenses, required to configure and operate all products installed on this project.

B. SYSTEM CONFIGURATION

- 1. Database Creation and Modification. All changes shall be done utilizing standard procedures. The system shall allow changes to be made either at the local site through the Information Management Server.
2. The system shall permit the operator to perform, as a minimum, the following:
a. Add and delete points/objects
b. Modify point parameters
c. Create and modify control sequences and programs
d. Reconfigure application programs

C. WEB BASED USER INTERFACE AND DATA MANAGEMENT SYSTEM

- 1. Included with the system shall be a fully integrated web based user interface and data management system. The data management system shall be password protected and shall be able to store sampled data from all test areas for online viewing and reporting.
2. Unlimited data access, viewing, report generation and remote data storage shall be provided with the FMS for the duration of the project commissioning and for the entire warranty period.
3. The system shall be able to be accessed from any computer with an internet connection.

D. TEST SEQUENCING

- 1. The system shall allow the operator to designate any test area to be scheduled with an operator command through the Information Management Server.
2. The operator shall be able to make all schedule additions, modifications and deletions to the test schedules. The operator shall have the capability to edit all schedules and then download any or all schedule changes to the FMS.

PART 5 EXECUTION

A. GENERAL

- 1. Verify that systems are complete and ensure that the systems are capable of being started and operated in a safe and normal condition before attempting to operate the FMS.
2. Install software in Air Data Routers, Sensor Suites and Server. Implement all features of programs to specified requirements and as appropriate for sequence of operation.
3. Connect and configure equipment and software to achieve sequence of operation specified.

B. WIRING INSTALLATION

- 1. Install systems and materials in accordance with manufacturer's instructions, rough-in drawings and equipment details. Install electrical components and use electrical products complying with requirements of these specifications.
2. All wiring shall be installed neatly and professionally, in accordance with requirements of national, state, and local electrical codes. All the wiring shall be installed in accordance with the current National Electrical Code (NEC).
3. Provide wiring as required by functions as specified and as recommended by equipment manufacturer to serve specified control functions.
4. Install wiring and cables as follows:

- a. Bundle and harness multi-conductor cable in place of single cables where several cables follow a common path.
b. Fasten flexible conductors, bridging cabinets and doors, along hinge side; protect against abrasion. Tie and support conductors.
c. FMC should use EMT conduit for any cable and wire runs.
5. All exposed control wiring and control wiring in the mechanical, electrical, telephone, and similar rooms shall be installed in raceways. All other wiring shall be installed neatly and inconspicuously.
6. All control wiring shall be installed in a neat and workmanlike manner parallel to building lines with adequate support. Both conduit and plenum wiring shall be supported from or anchored to structural members. Conduit or plenum wiring supported from or anchored to piping, duct supports, the ceiling suspension system, is not acceptable. Wiring buried in slab-on-grade concrete or explosion-proof areas shall be in rigid metal conduit. Provide adequate strain relief for all field terminations.

C. CONTROL DEVICE INSTALLATION

- 1. All room sensors and shall be mounted so as to be accessible in accordance with ADA Guidelines, unless otherwise noted on the drawings.
2. Freestanding enclosures and panels shall be supported on steel unistrut frames, or approved equal, and be securely anchored to the floor and be well braced.
3. Enclosures and panels mounted directly to the wall shall be provided with a minimum airspace of 1" between the enclosure and the wall.
4. A minimum of 3" working clearance shall be provided in front of all enclosures and panels; clearance shall be ensured to permit the enclosure door to open at least 90° from its closed position.
5. Mounting height shall be a maximum 6'-6" to the top of the enclosure.
6. A field-installed, 14-gauge galvanized steel drip shield shall be provided where enclosures and panels may be subjected to dripping water.

D. CONTROL POWER

- 1. Provide power for Air Data Routers, Sensor Suites, Server and associated FMS components from nearest electrical control panel noted below or as indicated on the electrical drawings--coordinate with Electrical Contractor.
a. Power supply for Air Data Routers, Sensor Suites, Server and associated FMS components shall be connected via a dedicated circuit to the building normal electrical distribution panel. A grounding conductor shall be run from building service entrance panel ground bus. Conductor shall be insulated and isolated from other grounded conductors and building conduit system.
b. Power supply for Air Data Routers, Sensor Suites, Server and associated FMS components serving critical spaces (i.e. Animal Rooms, Computer Server Rooms, Research Spaces, Archives, Storage Vaults, etc.) shall be connected via a dedicated circuit to the building emergency distribution panel.

E. IDENTIFICATION

- 1. The FMC shall label each system device with a point address or other clearly identifiable notation inside the device cover - labels shall be permanent. All FMS equipment shall be clearly identified as noted on the approved submittals.

F. ACCEPTANCE OF COMPLETED FMS INSTALLATION

- 1. Upon completion of the installation, the FMC shall start up the system and perform all necessary calibration, testing, and debugging operations. An acceptance test shall be performed by the FMC in the presence of the design engineer, job site project manager, and owner's representative. Acceptance test shall be scheduled with at least 10 working days advance notice. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including piping and electrical connections.
2. After electrical circuitry has been energized, start units to confirm proper unit operation. Remove malfunctioning units, replace with new units, and reset.
3. Demonstrate compliance with specifications, including calibration and testing, and air sampling test sequences. Adjust, calibrate, and fine tune circuits and equipment to achieve sequence of operation specified.
4. The acceptance test shall include, but not be limited to:
a. The FMC shall verify the proper operation of all input/output's.
b. The FMC shall verify all inputs meet or exceed manufacturer's stated tolerances for accuracy.
c. The FMC shall verify that all on-line graphical displays of air sampling test data accurately represent the real time state of the field conditions.
d. The FMC shall verify the reliability of all communications of all Air Data Routers and Sensor Suites.
e. The test shall include functional verification of all interfaces and system integration required to meet the scope of this project.
5. Acceptance: When the field test procedures have been successfully demonstrated to the design engineer, job site project manager, and owner's representative and the system performance is deemed satisfactory, the system parts will be accepted for beneficial use and placed under warranty. At this time, a "notice of completion" shall be issued by the owner's representative and the warranty period shall start.

G. TRAINING

- 1. The FMC shall provide factory-trained instructor to give full instructions to designated personnel in the operation, maintenance, and programming of the system. Instructors shall be thoroughly familiar with all aspects of the subject matter they are to teach. The training shall be specifically oriented to the system and interfacing equipment installed.
2. Instructions shall include 2 parts, the "New Equipment Orientation" and the "Product Training".
3. New Equipment Orientation: A "walk-through" session shall include on-site where all field equipment is located throughout the area involved in the project.
4. Product Training: Train technical services and maintenance personnel on how to adjust, operate, and maintain the FMS. As a minimum:
a. Train personnel on procedures and schedules for starting and stopping test sequences, troubleshooting, servicing, and maintaining equipment.
b. Provide operator training on modification of data display, test area descriptors, executing commands, resetting default values, and requesting reports.
5. Training in French. Plan 10 hours over 4 months.

APPENDIX A

1. FACILITY MONITORING SYSTEM INTERFACE

- A. The building shall be equipped with a Facility Monitoring System (FMS) as specified in other sections of these specifications. The purpose of the system is to analyze key elements of the indoor environment and to provide direction to the mechanical systems via the BAS. Directions to be achieved shall be accomplished by monitoring and analysis of airborne parameters such as particulates, volatile organic compounds (VOCs), moisture content, gases such as carbon monoxide and carbon dioxide (CO, CO2), and others as indicated in the FMS specification.
B. BAS Contractor's responsibility: The BAS contractor shall be required to implement an interface between the BAS and the FMS which shall communicate with the BAS via BACnet. All communication shall be from the FMS to the BAS. The BAS shall not send any information to the FMS other than standard communication acknowledgements as dictated by the BACnet protocol. The BAS contractor shall be responsible for :
1. Entering the FMS in the BAS so it is a recognized component in the BAS.
2. Entering the necessary data points in the BAS data base. These data points will serve as data values to be used as setpoints in the building control systems for values such as minimum outside air levels, overall ventilation rates, humidity levels, and others as indicated in the specification or on the drawings.
3. Implementing the necessary control sequences to respond to the directions from the FMS. These directions will be integrated from a priority standpoint so that other control actions such as smoke control are not impeded.
4. Provide qualified on-site staff during start up of the FMS to insure that communication is functional, that data values are received from the FMS, and that control sequences as a result of this data are implemented properly and effectively.

Appendix B

See Section 3.B.4

Table with 4 columns: Application, Model Number, Sensors, and Carbon Monoxide (COB). Rows include CO2 based Demand Controlled Ventilation (DCV) or Monitoring, Demand Temp, Relative Humidity, Embroidry Monitoring or Control, Particulate Monitoring or Control, and Carbon Monoxide Monitoring or Control.

* Note: Relative Humidity and Enthalpy measurements are computed from dewpoint and drybulb temperatures. Therefore, a local drybulb temperature sensor is additionally required via a room sensor, duct probe or outdoor air probe.

Appendix B

See Section 3.B.4

Table with 4 columns: Application, Model Number, Sensors, and Carbon Monoxide (COB). Rows include Demand Temp, Relative Humidity, Embroidry Monitoring or Control, Particulate Monitoring or Control, and Carbon Monoxide Monitoring or Control.

* Note: Relative Humidity and Enthalpy measurements are computed from dewpoint and drybulb temperatures. Therefore, a local drybulb temperature sensor is additionally required via a room sensor, duct probe or outdoor air probe.

Table with 4 columns: Application, Model Number, Sensors, and Carbon Monoxide (COB). Rows include Lab/Human Air Change Rate Control, Total Volatile Organic Compounds (TVOC) Monitoring, and Particulate Monitoring or Control.

Client / Client :



PROFESSIONNELS : / PROFESSIONALS:

Architecture :

Structure :

Mécanique Électricité : / Building Services :

Ambioner logo and contact information: 336, chemin du Hibou, bur. 302, Stoneham (Qc) G3C 2R4. 418.907.9391 / info@ambioner.com

Plan clé - / Key Plan:

Notes Générales : / General Notes:

L'entrepreneur est tenu de vérifier sur place, toutes les cotes et dimensions avant d'entreprendre les travaux et d'aviser l'ingénieur, sans délai, de toute erreur ou omission relevée sur ce plan.

L'entrepreneur est responsable des erreurs, omissions ou négligences attribuables à ce manque de précaution. Aucune dimension ne doit être mesurée directement à l'échelle sur ce plan.

Ce plan ne doit servir à la construction que si la mention "EMIS POUR CONSTRUCTION" figure dans la liste des révisions ci-dessous.

The contractor is required to check up on all levels and dimensions before starting the work and notify the engineer immediately of any errors or omissions in this regard.

No dimension should be measured directly scaled on this drawings.

This drawing should not be used for construction unless the words "FOR CONSTRUCTION" is written in the list of revisions below.

RÉVISIONS / REVISIONS

Table with 4 columns: No, aa/mm/jj, Description, Par/BY. Row 1: 1, 14-04-10, POUR SOULMISSION, R.P.

Sceau : / Seal :



Projet : / Construction Project:

AJOUT D'UN SYSTÈME DE CONTRÔLE ET GESTION DE LA DEMANDE DE VENTILATION

IMPLEMENTATION OF A CONTROL SYSTEM FOR VENTILATION DEMAND.

Titre du dessin : / Drawing Title:

Devis

Conçu par : / Conceived by: Dessiné par : / Drawn by:

RÉMY PARENT VINCENT GUÉGUEN

Approuvé par : / Approved by Nom du fichier .dwg : / File Name .dwg : Échelle : / Scale :

RÉMY PARENT 13CL046-D01_EL -

Date : / Numéro de Projet : / Project Number: Feuille : / Sheet: Nombre : / No.:

Mar. 2014 13CL046-D01 EL-5



Appendix "F"

INSURANCE TERMS



INSURANCE TERMS

IN1 GENERAL

- IN1.1 Worker's Compensation
- IN1.2 Indemnification
- IN1.3 Proof of Insurance
- IN1.4 Insured
- IN1.5 Payment of Deductible

IN2 COMMERCIAL GENERAL LIABILITY

- IN2.1 Scope of Policy
- IN2.2 Period of Insurance

IN3 AUTOMOBILE INSURANCE

- IN3.1 Scope of Policy

IN4 BUILDER'S RISK / INSTALLATION FLOATER

- IN4.1 Scope of Policy
- IN4.2 Amount of Insurance
- IN4.3 Period of Insurance
- IN4.4 Insurance Proceeds

IN1 GENERAL

IN1.1 Worker's Compensation

- 1) The Contractor shall provide and maintain Worker's Compensation Insurance in accordance with the legal requirements of the Province or Territory where the work is being carried out.

IN1.2 Indemnification

- 1) The insurance required by the provisions of these Insurance Terms shall in no way limit the Contractor's responsibility under the Indemnification clause of the General Conditions of the contract. Any additional coverage the Contractor may deem necessary to fulfill his obligations under the aforesaid clause shall be at his own discretion and expense.

IN1.3 Proof of Insurance

- 1) Before commencement of the Work, and within thirty (30) days after acceptance of its bid, the Contractor shall deposit with Canada a CERTIFICATE OF INSURANCE (form AAFC / AAC5314) available upon request.
- 2) Upon request by Canada, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.

IN1.4 Insured

- 1) Each policy shall insure the Contractor and shall include Her Majesty the Queen in right of Canada, represented by the Minister of Agriculture & Agri-Food Canada as an additional Insured, with respect to liability arising out of the operations of the contractor with regard to the work.

INSURANCE TERMS (Continued)

IN1.5 Payment of Deductible

- 1) The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IN2 COMMERCIAL GENERAL LIABILITY

IN2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$5,000,000.00 ;
 - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000.00 ; and
 - (c) a General Aggregate Limit of not less than \$10,000,000.00 per policy year, if the policy is subject to such a limit.
- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
 - (a) Blasting.
 - (b) Pile driving and caisson work.
 - (c) Underpinning.
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured contractor.
 - (e) Asbestos.
 - (f) Non-owed Automobile Policy.

IN2.2 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN3 AUTOMOBILE INSURANCE

IN3.1 Scope of Policy

- 1) Automobile Liability Insurance in respect of licensed vehicles shall have limits of not less than one million dollars inclusive per occurrence for bodily injury, death, and damage to property.

INSURANCE TERMS (Continued)

IN4 BUILDER'S RISK / INSTALLATION FLOATER

IN4.1 Scope of Policy

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
 - (a) Asbestos.
 - (b) Fungi or spores.
 - (c) Cyber.
 - (d) Terrorism.

IN4.2 Amount of Insurance

- 1) The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Canada at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

IN4.3 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, stipulated elsewhere herein, the policy required herein shall be in force and be maintained from prior to the commencement of work until the day of issue of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN4.4 Insurance Proceeds

- 1) The policy shall provide that the proceeds thereof are payable to Her Majesty or as Canada may direct in accordance with GC 10.2 Insurance Proceeds.
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.



Appendix "G"

CONTRACT DOCUMENTS

MAJOR WORKS - CONTRACT DOCUMENTS

SC01 CONTRACT DOCUMENTS

- 1) The following are the contract documents:
 - (a) Contract page when signed by Canada;
 - (b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - (c) Drawings and Specifications;
 - (d) AAFC General Conditions form AAFC / AAC5321-E:
 - (i) GC1 General Provisions
 - (ii) GC2 Administration of the Contract
 - (iii) GC3 Execution and Control of the Work
 - (iv) GC4 Protective Measures
 - (v) GC5 Terms of Payment
 - (vi) GC6 Delays and Changes in the Work
 - (vii) GC7 Default, Suspension or Termination of Contract
 - (viii) GC8 Dispute Resolution
 - (ix) GC9 Contract Security
 - (x) GC10 Insurance
 - (e) Supplementary Conditions, if any;
 - (f) Insurance Terms form AAFC / AAC5315-E;
 - (g) Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - (h) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - (i) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.
- 2) The language of the contract documents shall be the language of the Bid and Acceptance Form submitted.

SC02 ACCEPTANCE AND CONTRACT

- 1) Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.



Appendix "H"

CONTRACT

CONTRACT

Your tender is accepted 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 construction listed herein and on any attached sheets at the price or prices set out therefor.

Comments

Vendor / Firm Name and Address

Title		
Solicitation / Contract No.	Date	
Client Reference No.		
File No.		
Financial Code(s) <div style="text-align: right; margin-top: 10px;"> <input type="radio"/> GST <input type="radio"/> HST <input type="radio"/> QST </div>		
F.O.B Destination		
Applicable Taxes Included		
Destination		
Invoices - Original and two copies to be sent to :		
Address Enquiries to:		
Telephone No.	Ext.	Fax No.
Total Estimated Cost	Currency Type CAD	
For the Minister <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <div style="display: flex; justify-content: space-between;"> Signature Date </div>		



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

FORMS



BID BOND

BOND NUMBER: _____

AMOUNT: _____

KNOW ALL PERSONS BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal, and _____ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto Her Majesty the Queen in right of Canada as represented by the Minister of Agriculture and Agri-Food, as Obligee, hereinafter called the Crown, in the amount of

_____ dollars (\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, 20__.

WHEREAS, the Principal has submitted a written tender to the Crown, dated the _____ day of _____, 20__, for _____

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if:

- (a) the Principal, should his tender be accepted within the period specified by the Crown, or, if no period be specified, within sixty (60) days after closing date of the tender, does execute within a period specified by the Crown, or, if no period be specified therein, within fourteen (14) days after the prescribed forms are presented to him for signature, execute such further contractual documents, if any, as may be required by the terms of the tender as accepted, and does furnish a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract price and satisfactory to the Crown, or other security acceptable to the Crown, or
- (b) the Principal does pay to the Crown the difference between the amount of the Principal's tender and the amount of the Contract entered into by the Crown for the work, supplies and services which were specified in the said tender, if the latter amount be in excess of the former,

then this obligation shall be void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that the Surety and the Principal shall not be liable to the Crown for an amount greater than the amount specified in this bond.

PROVIDED FURTHER that the Surety shall not be subject to any suit or action unless such suit or action is instituted and process therefore served upon the Surety at its Head Office in Canada, within twelve (12) months from the date of this bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal

Witness

Surety

Note: Affix Corporate seal if applicable.



CERTIFICATE OF INSURANCE

To be completed by the Insurer

CONTRACT					
Description and location of work					Contract No.
					Project No.
INSURER			BROKER		
Company name			Company name		
Unit/Suite/Apt.	Street number	Number suffix	Unit/Suite/Apt.	Street number	Number suffix
Street name			Street name		
Street type	Street direction	PO Box or Route Number	Street type	Street direction	PO Box or Route Number
Municipality (City, Town, etc.)			Municipality (City, Town, etc.)		
Province/State	Postal/ZIP code		Province/State	Postal/ZIP code	
INSURED			ADDITIONAL INSURED		
Contractor name			Her Majesty the Queen in right of Canada as represented by the Minister of Agriculture and Agri-Food Canada.		
Unit/Suite/Apt.	Street number	Number suffix			
Street name					
Street type	Street direction	PO Box or Route Number			
Municipality (City, Town, etc.)					
Province/State	Postal/ZIP code				
This insurer certifies that the following policies of insurance are at present in force covering all operations of the Insured, in connection with the contract made between the named insured and Her Majesty the Queen in right of Canada, represented by the Minister of Agriculture and Agri-Food Canada.					
POLICY					
Type	Number	Inception date	Expiry date	Limit of liability (\$)	
Commercial General Liability					
Builder's Risk "All Risks"					
Installation Floater "All Risks"					
Other (list)					
Each of these policies includes the coverages and provisions as specified in Insurance Terms and each policy has been endorsed to cover Her Majesty as an Additional Insured. The Insurer agrees to notify Her Majesty and the Named insured in writing thirty (30) days prior to any material change in, or cancellation of any policy or coverage.					
_____			_____		_____
Name of Insurer's Officer or Authorized Employee			Telephone number		Ext.
_____			_____		
Signature			Date		

