



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government
Services Canada/Réception des
soumissions/Travaux publics et Services
gouvernementaux Canada

See herein for bid submission

instructions/

Voir la présente pour les

instructions sur la présentation
d'une soumission

NA

Ontario

REQUEST FOR PROPOSAL

DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government
Services 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
goods, services, and construction listed herein and on any
attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la
Reine du chef du Canada, aux conditions énoncées ou
incluses par référence dans la présente et aux annexes
ci-jointes, les biens, services et construction énumérés
ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du

fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Public Works and Government Services / Travaux publics et
services gouvernementaux

Kingston Procurement

Des Acquisitions Kingston

86 Clarence Street, 2nd floor

Kingston

Ontario

K7L 1X3

Title - Sujet Greenhouse Climate Control System Système de régulation d'ambiance pour serres	
Solicitation No. - N° de l'invitation 01686-210518/B	Date 2021-07-28
Client Reference No. - N° de référence du client 01686-21-0518	
GETS Reference No. - N° de référence de SEAG PW-\$KIN-710-8440	
File No. - N° de dossier KIN-0-54210 (710)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Daylight Saving Time EDT on - le 2021-08-27 Heure Avancée de l'Est HAE	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Dunphy, Ken	Buyer Id - Id de l'acheteur kin710
Telephone No. - N° de téléphone (613) 449-5116 ()	FAX No. - N° de FAX (613) 545-8067
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Harrow Research and Development Centre 2585 County Road 20 Harrow, ON N0R 1G0	

Instructions: See Herein

Instructions: Voir aux présentes

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

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Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
01686-210518/B		KIN710
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No./N° VME
01686-21-0518	KIN-0-54210	

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PART 1 - GENERAL INFORMATION

1.1 Requirement

The requirement is detailed under Article 6.2 of the resulting contract clauses.

1.2 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.3 epost Connect service

"This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information."

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The [2003](#) (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 3.a) of Section 01, Integrity Provisions - Bid of the Standard Instructions 2003 incorporated by reference above is deleted in its entirety and replaced with the following:

- a. at the time of submitting an arrangement under the Request for Supply Arrangements (RFSA), the Bidder has already provided a list of names, as requested under the [Ineligibility and Suspension Policy](#). During this procurement process, the Bidder must immediately inform Canada in writing of any changes affecting the list of names.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 120 days

2.1.1 SACC Manual Clauses

[B1000T](#) (2014-06-26), Condition of Material - Bid

2.2 Submission of Bids

Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified below by the date and time indicated on page 1 of the bid solicitation:

PWGSC Ontario Region Bid Receiving Unit

Only bids submitted using epost Connect service will be accepted. The Bidder must send an email requesting to open an epost Connect conversation to the following address:

TPSGC.oreceptiondessaoumissions-orbidreceiving.PWGSC@tpsgc-pwgsc.gc.ca

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through an epost Connect message if the bidder is using its own licensing agreement for epost Connect.

It is the Bidder's responsibility to ensure the request for opening an epost Connect conversation is sent to the email address above at least six days before the solicitation closing date.

Bids transmitted by facsimile or hardcopy to PWGSC will not be accepted.

2.2.1 Mandatory Site Visit

It is mandatory that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for the site visit to be held at Harrow Research and Development Centre (RDC), 2585 County Road 20, Harrow, Ontario on 11 August 2021. The site visit will begin at 10:00 a.m. EDT, in the main building (#84) room A-111. Bidders should go to the front lobby and see security.

Bidders must communicate with the Contracting Authority no later than 09 August 2021 to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders will be required to sign an attendance sheet. Bidders should confirm in their bid that they have attended the site visit. Bidders who do not attend the mandatory site visit or do not send a representative will not be given an alternative appointment and their bid will be declared non-responsive. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

Bidders must adhere to the protocols established for entering AAFC buildings in accordance with Annex "E" at all times during the site visit.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 5 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.5 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
- Office of the Procurement Ombudsman (OPO)
 - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

The Bidder must submit its bid electronically in accordance with section 08 of the 2003 standard instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

The bid must be gathered per section and separated as follows:

Section I: Financial Bid
Section II: Certifications

Bids transmitted by facsimile or hardcopy will not be accepted.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Section I: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "C" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "C" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

C3011T (2013-11-06), Exchange Rate Fluctuation

Section II: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Financial Evaluation

4.1.1.1 Mandatory Financial Criteria

Bidders must submit their financial bid in accordance with Annex "B" Basis of Payment. Pricing must be provided for all line items for all pricing bases.

4.1.1.2 Financial Evaluation

A. Pricing Basis A – Equipment:

The extended price will be the quantity multiplied by the firm lot price.

B. Pricing Basis B – Installation:

The extended price will be the quantity multiplied by the firm lot price.

C. Pricing Basis C – Training Services:

The extended price will be the quantities multiplied by the firm lot prices.

The Evaluated Price will be the sum of the extended prices for all line items from:

Pricing Basis A – Equipment,
Pricing Basis B – Installation, and
Pricing Basis C – Training Services

4.1.1.3 SACC Manual Clause A0220T (2014-06-26), Evaluation of Price-Bid

4.2 Basis of Selection

4.2.1 Basis of Selection

SACC Manual Clause A0069T (2007-05-25), Basis of Selection

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

6.1.1 There is no security requirement applicable to the Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010A](#) (2020-05-28), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

[4001](#) (2015-04-01), Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.

[4003](#) (2010-08-16), Licensed Software, apply to and form part of the Contract.

[4004](#) (2013-04-25), Maintenance and Support Services for Licensed Software, apply to and form part of the Contract.

[4009](#) (2013-06-27), Professional Services - Medium Complexity, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of Contract to 07 January 2022 inclusive

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Ken Dunphy
Title: Supply Team Leader
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Ontario Region
Address: 86 Clarence St. 2nd floor
Telephone: (613) 4499-5116

Solicitation No. - N° de l'invitation
01686-210518/B
Client Ref. No. - N° de réf. du client
01686-21-0518

Amd. No. - N° de la modif.
File No. - N° du dossier
KIN-0-54210

Buyer ID - Id de l'acheteur
KIN710
CCC No./N° CCC - FMS No./N° VME

E-mail address: Ken.Dunphy@pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Project Authority

The Project Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: _____
Facsimile: _____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Contractor's Representative

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: _____
Facsimile: _____
E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm LOT prices, as specified in Annex "B". Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.2 Limitation of Price

SACC Manual clause [C6000C](#) (2017-08-17) Limitation of Price

6.6.3 Single Payment

SACC Manual Clause H1000C (2008-05-12), Single Payment

6.6.4 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed. Instruction to contracting officers: Use the following paragraph when invoices must be accompanied by supporting documents. The documents listed are examples only and must be revised to reflect the requirement. Delete this paragraph if no supporting documents are required.

2. Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
- b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications and Additional Information

6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____ (*insert the name of the province or territory as specified by the Bidder in its bid, if applicable*).

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions
4001 (2015-04-01), Hardware Purchase, Lease and Maintenance,
4003 (2010-08-16), Licensed Software,
4004 (2013-04-25), Maintenance and Support Services for Licensed Software;
4009 (2013-06-27), Professional Services - Medium Complexity
- (c) the general conditions 2010A (2020-05-28), General Conditions - Goods (Medium Complexity);
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated _____ (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: “, as clarified on _____” or “, as amended on _____” and insert date(s) of clarification(s) or amendment(s)*)

6.11 SACC Manual Clauses

SACC Manual Clause B1501C (2018-06-21), Electrical equipment
SACC Manual Clause G1005C (2016-01-28), Insurance – No Specific Requirement

6.12 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "Dispute Resolution".

6.13 Inspection and Acceptance

The Project Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

ANNEX "A"

REQUIREMENT

Greenhouse Climate Control System – Harrow RDC

1.0 Description:

Agriculture and Agri-Food Canada (AAFC), Harrow Research and Development Centre (RDC), Harrow, Ontario, requires the supply, delivery, installation, training and warranty for one greenhouse climate control system.

2.0 Purpose

2.1 What the department is purchasing:

The greenhouse climate control system must be capable of independently controlling five greenhouse zones, with customizable and expandable inputs and outputs.

2.2 Need for the Purchase:

The new system is required to replace an existing one that can no longer be repaired. The current system was installed over 30 years ago, and currently does not meet safety and reliability requirements. The control of greenhouse climate is essential for the success of all research projects making use of greenhouse facilities at the Harrow RDC, as it is required to ensure reliable control of greenhouse climate settings and energy efficiency.

2.3 Satisfaction of Need:

The new control system will improve research outcomes for greenhouse users, reduce energy costs in the greenhouse, and improve safety of greenhouse users and staff.

2.4 Corporate or Other Linkages:

Corporate Management branch has been consulted regarding this interface system and control of the existing equipment. Information Systems Branch was not consulted, these climate control systems have no connection to the AAFC network.

3.0 Standards

The following standards listed are the minimum expected of this requirement and all works must meet manufacturer's minimum acceptable standards.

- i. Canadian Standards association (CSA)
- ii. Canadian Electrical Code (CEC)
- iii. National Fire Code (NFC)
- iv. National Building Code (NBC)
- v. Occupational Health and Safety Act (OHSA)
- vi. Canadian Electrical License (309 A)

4. Contractor Deliverables:

4.1 All goods and materials, including climate control computer, all sensors and related hardware, wire and cable, and control hardware, must be delivered by March 31, 2021. The requirements of the computer, sensors and hardware is provided in this section, and Appendix A3. For estimation of required cable and wiring, use the drawing provided in Appendix A3.

4.2 Installation of all goods and materials and provision of training must be completed by July 31st, 2021. The climate control computer must be installed in room S-165 on the attached drawing Appendix A3.

4.3 All work must be completed during normal working hours (0730 – 1600 hours).

4.4 The new controls system must communicate with the existing greenhouse equipment, consisting of east and west roof vents, side vents, corridor vents, air circulation fans, arctic coolers, supplemental lighting, shade curtains, supplemental CO₂, sidewall and overhead heating, irrigation starts, and spray starts (see equipment list Appendix A.1 and photos Appendix A.2). All controlled equipment is 120 or 208 volts, at a maximum current draw of 30 amps per controlled circuit. The controlled equipment will require a total of three position sensors, a climate monitoring box consisting of a humidity, temperature, CO₂ and light sensor, and 16 relays per compartment.

4.5 The Contractor must supply and install a complete and standalone greenhouse climate control system in five independent greenhouse compartments labelled 19, 20, 21, 22 and 34 on the drawing attached in appendix A3, at the Harrow RDC, including removal of all the existing signal and communication wires, cables, switches and sensors that are part of the controls system being replaced as required to actuate the equipment listed above. Due to the age of the existing signal wiring, it cannot be reused in the new system, and must be replaced by the Contractor as if the control system was being installed in a new build.

4.6 The Contractor is responsible to provide and maintain all tools, equipment and ladders, as required for the safe and proper execution of the work.

4.7. All new signal and controls wiring as required above to control the listed equipment must be labelled, and a copy of the electrical drawings detailing all signal wiring and electrical connections between the control system and controlled equipment must be included so that the subsequent maintenance and repairs of connected equipment by qualified onsite RDC personnel can be conducted in a safe and efficient manner.

All tradespersons performing electrical work on this requirement must be in possession of a current, valid Province of Ontario Electrical License. Tradespersons individual certifications must be carried on person while on site.

Canada retains the right to request the Contractor provide a copy their electrician's Canadian Electrical License (309A).

4.8 The new climate control system must meet the following technical specifications:

The climate control system must feature a PC-based user interface with adjustable set points, dead band (is the allowable range of a setting before the computer tries to change it), and climate monitoring sensors for temperature, humidity, CO₂, incident solar radiation. The climate control system must allow for the addition of up to 100 zones total, without requiring assistance from the supplier.

The control computer must be expandable, with a capability to control additional zones, if more greenhouses need to be connected to the computer in the future, and to support additional actuators, if they are added to greenhouse compartments already controlled by the computer.

The computer must be able to support up to 100 zones without additional computer hardware. The support of additional zones does not include wiring switches and sensors at this time.

The computer control system must support at minimum 30 user accounts, with customizable rights and access, including the ability to limit control to single zones, to change set points only, but not the

underlying parameters, and to only view controls, but not make any changes. The control system must be able to support three “tiers” of users, full user, users, and users who only need to download data.

All new controls must support the following signal type and quantities in each of the five controlled zones:

- Case data point including terminal and surge protection
- 4Din
- 4-20mA
- 4Dout
- Aspirator with Temp/RH/Co2

4.9 Within 30 days following installation or as agreed to by both the Contractor and Project Authority, the Contractor must complete training for all the RDC end-users of the climate control system. This training consists of a half-day (max. 4 hour) on-site technical training for up to five staff members at Harrow RDC greenhouses. This training must provide focus on the technical knowledge to operate and maintain the system.

Additional remote (virtual) training (max. 2 hours) using MS Teams must be provided by the Contractor for up to 20 additional Harrow RDC staff members. Both sessions must cover operation of all the new controls and required maintenance, such as sensors calibration and replacement.

All in-person and remote training must be provided in English and must include any relevant equipment manuals supplied by the Contractor in electronic and hard-copy formats.

Appendix A.1

Greenhouse Equipment List

- Roof vents East **position sensor, relay**
- Roof vents West **position sensor, relay**
- Side vents **open/close, relay**
- Corridor vents **open/close, relay**
- HAF **on/off, relay**
- Arctic Coolers **on/off for water, 3 stages for fan, relay**
- Supplemental Lighting **on/off**
- Curtain (Energy/ Shade) **0-100% position, relay**
- CO2 Supplementation **on/off, relay**
- Heating System **currently on/off steam, relay**
- Misting system **on/off, relay**
- Spray system **on/off, relay**
- Irrigation system **on/off, relay**
- **Humidity, temperature, CO2, lighting sensor**

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Appendix A.2

Greenhouse Environmental Equipment – Photos

Ventilation – Roof Vents



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Ventilation – Roof Vents



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Ventilation – Side Vents



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Circulation Fans



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Arctic Coolers



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Shade and Energy Curtains



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Misting System



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Lighting



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Appendix A.3

Facility Drawing



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Appendix A.3.1

Drawing text - Texte de dessin

Greenhouse - Serre

General notes - Remarques générales

All dimensions in decimal inches - Toutes les dimensions sont en pouces décimaux

S-165 is climate controlled indoor space - La salle S-165 est un espace intérieur à ambiance contrôlée

Controls location - Emplacement des commandes

Harrow RDC Controls - CRD de Harrow – Commandes

North complex service corridor - Corridor de services complexes nord

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ANNEX "B"

BASIS OF PAYMENT

All prices are firm, all-inclusive unit prices in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

Applicable Taxes are not included in the pricing and are to be shown separately on invoices.

Pricing Basis A – Equipment

Item #	Description	Unit of Issue	Quantity	Firm Lot Price
1	Supply of one greenhouse climate control system as per Annex "A" Requirement	LOT	1	

Pricing Basis B – Installation

Item #	Description	Unit of Issue	Quantity	Firm Lot Price
1	Install of one greenhouse climate control system as per Annex "A" Requirement	LOT	1	

Pricing Basis C – Training Services

All training to must be completed in accordance with Annex "A", section 4.9

Item #	Description	Unit of Issue	Quantity	Firm Lot Price
1	On-site technical training of up to 5 RDC staff at Harrow RDC	Lot	1	
2	Remote (virtual) training of up to 20 RDC staff	Lot	1	

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ANNEX “C” to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

As indicated in Part 3, clause 3.1.1, the Bidder must identify which electronic payment instruments they are willing to accept for payment of invoices.

The Bidder accepts any of the following Electronic Payment Instrument(s):

- ☐ () VISA Acquisition Card;
- ☐ () MasterCard Acquisition Card;
- ☐ () Direct Deposit (Domestic and International);
- ☐ () Electronic Data Interchange (EDI);
- ☐ () Wire Transfer (International Only);
- ☐ () Large Value Transfer System (LVTS) (Over \$25M)

ANNEX “D”

SUPPLEMENTAL INFORMATION

Q1. The pictures show just the equipment in a zone vent motor, shade motor etc., is there a contactor panel that contains all the forward and reversing contactors for vents, shade, rollups, HAF fans and HID lights that and is it separate from the computer?

A1. See attached picture of contactor panel. The contactors are controlled via 24VAC by the Omron relays shown in picture 2.

Q2. Are we to supply all power control contactors for the specified zone equipment?

A2. No, the existing contactors can be reused. New control wiring and equipment is needed up the contactors

Q3. Would there be any pictures of these panels if separate from the computer system?

A3. Yes, see attached.

Q4. Is there any pictures of the room where the computer system cabinets are going to be installed?

A4. No. The room houses a server and other control panels.

Q5. In Appendix A.1 it shows a list of greenhouse equipment, is that the same for all 5 zones?

A5. Yes

Q6. Are all Extra low voltage cables able to be installed in the existing EMT conduit, or is new EMT conduit needed?

A6. Existing low voltage cables are not in EMT. They are shielded multi-conductor cable. It is up to the contractor if they want to use EMT or shielded cable.

Q7. What is the entrance allowance for installers, if the lock down continues beyond March 2021?

A7. AAFC is proceeding with necessary infrastructure improvements and equipment installations under the current COVID-19 restrictions implemented by the Province of Ontario. Installers will have access to the Centre during regular working hours and will be required to adhere to AAFC safety protocols (e.g., mask wearing, hand washing, contact tracing).

Q8. Do manual control switches need to be replaced for the zones?

A8. Yes

Q9. Do vent sensors need to be replaced? Are the mentioned 3position sensors for the vents?

A9. No. Vent controls are potentiometers with proportional response between fully open and fully closed. The new controls will need to be calibrated to the existing response.

Q10. Will the new computer system need to integrate with the existing system on site?

A10. No. Other greenhouses will continue to run on the old controls. The new controls need to be fully standalone.

Q11. Is there a weather station required for this installation?

A11. Yes, a new weather station will be required as the new controls must be fully standalone.

Q12. Is the solar radiation listed per zone in PAR (uMol), Energy(W/m2) or ambient light (FC)?

A12. Energy (W/m^2)

Q13. Is there a sensor needed per zone or on a weather station?

A13. All sensors listed in the document are required per-zone.

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Q14. Are curtain position sensors available on the curtain motors?

A14. No, they are currently timed.

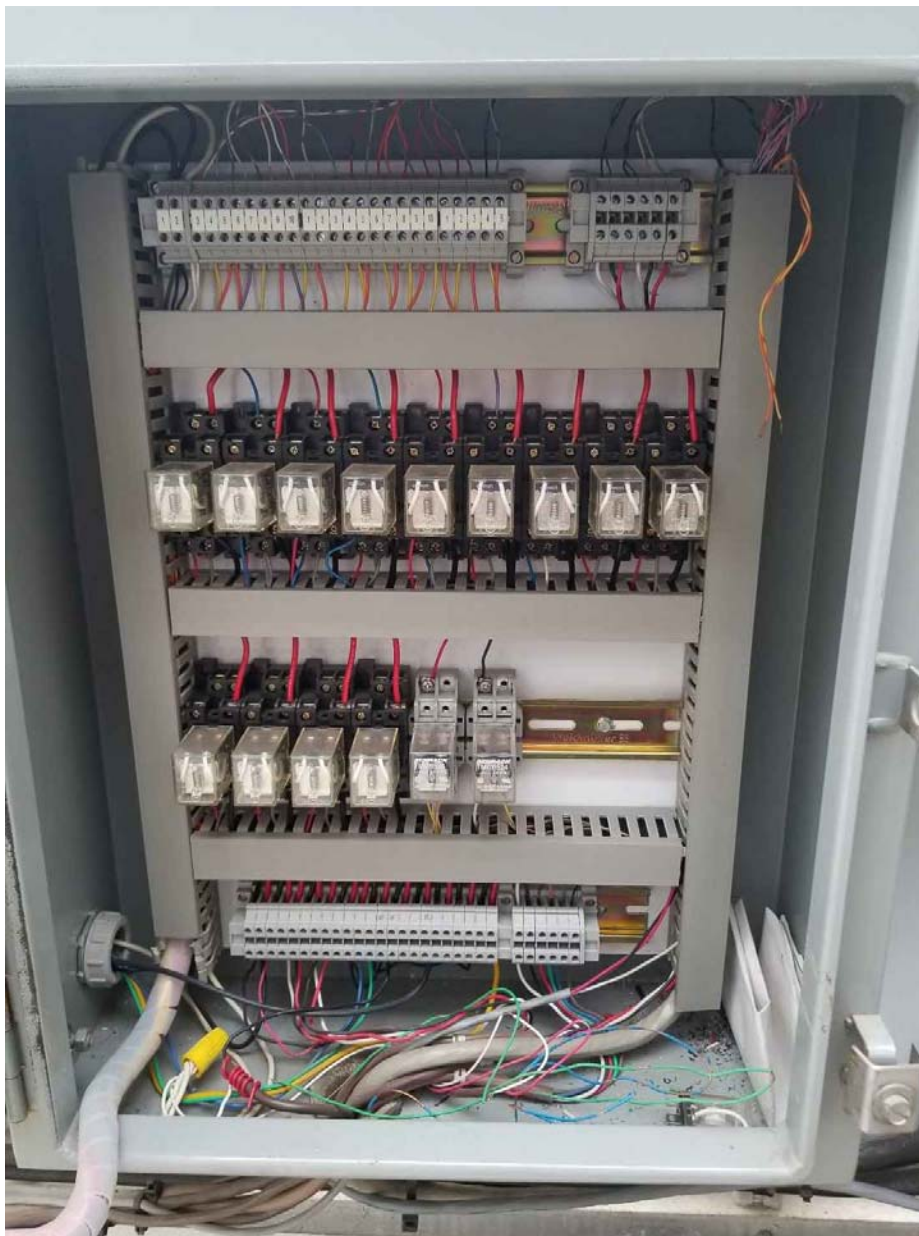


On/Off/Auto controls for relays. All needs to be replaced.

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Relay Box. All needs to be replaced

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Contactor panel. Located directly outside each compartment. Does not need to be replaced.

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Shade Curtain Contactors. Does not need to be replaced.

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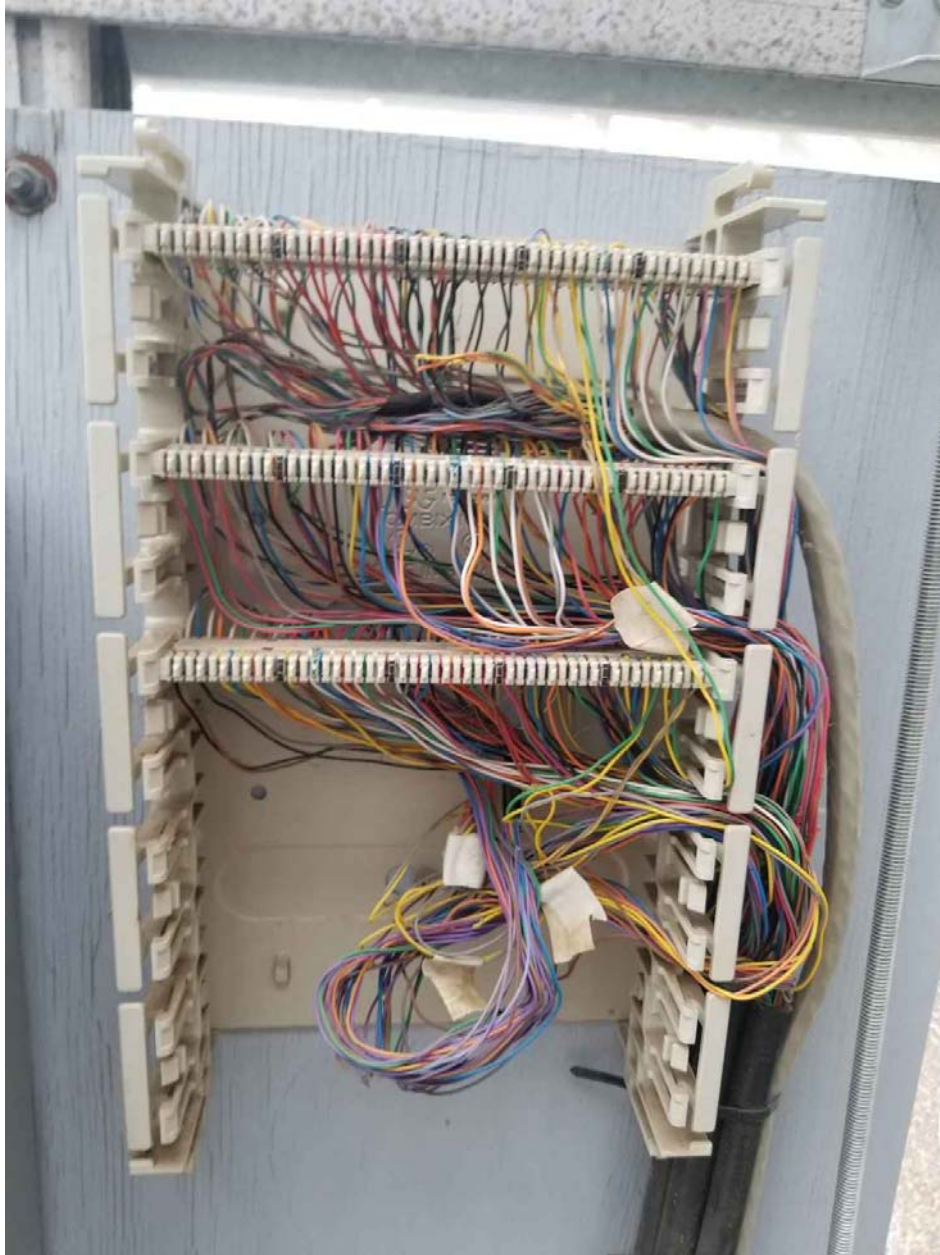
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Sensor Wiring Connections. All need to be replaced.

ANNEX "E"

COVID Checklist for Bidders Entering AAFC Buildings

Prior to entering the AAFC facilities for the scheduled site visit, Bidders must submit signed confirmation that they and their company representatives agree to the following:

- Physical Distancing must be maintained at all times.
- Wherever physical distancing cannot be achieved, facial covering must be worn by all company representatives.
- Bidders must complete the Government of Canada's COVID-19 Symptom Self Assessment Tool prior to the site visit and will not come to the AAFC site if the Tool advises or recommends to self-isolate, stay at home or seek medical attention.

<https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html>

- Bidders must advise AAFC Representatives if any company representative begin to exhibit flu-like symptoms
- Bidders must follow local, provincial and federal public health guidance and requirements including that of Public Health Agency of Canada (PHAC) for Coronavirus disease (COVID-19): Prevention and risk.

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html?topic=tilelink>

- While on AAFC property, all Bidders must comply with all posted signage in AAFC buildings, or advise AAFC Representative immediately if unable to comply.

Signature of Representative

Print Name

Company Name

Date

ANNEX "F"

Updated Guidance for Contractors Working in AAFC Buildings

- For the purposes of this document, the term Contractor will mean contractor, sub-contractor, consultants and sub-consultants. Contractors are responsible to ensure that all their hired sub-contractors also adhere to the requirements of this document.
- Prior to accessing AAFC building interiors, Contractors will hold a orientation meeting (tele or video conference) with AAFC Facility Manager and Project Manager, and the following will be agreed to in writing with the intent of maintain physical distancing:
 - ☐ Access/egress and material delivery door(s) for worksite.
 - ☐ Daily shift or specific occupancy times, including estimated number of personnel.
 - ☐ Construction or work zone limits.
 - ☐ Use of site: washrooms, drinking water, parking location, garbage and recycling disposal.
 - ☐ Protocol that whenever physical distancing cannot be achieved at the worksite, facial covering will be worn by all personnel involved (AAFC and Contractor).
- Contractors are to submit signed confirmation that they understand and will follow requirements set out in attached **COVID-19 Check List for Contractors Working in AAFC Buildings**.

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COVID-19 Check List for Contractors Working in AAFC Buildings

Prior to beginning contracted work in an AAFC building, Contractors are to submit signed confirmation that they and their hired subcontractors agree to the following:

- ☐ Contractor will follow **Canadian Construction Association's COVID-19 – Standardized Protocols for All Canadian Construction Sites.** (<https://www.cca-acc.com/covid-19-resources/>)
- ☐ All contractor personnel will complete Government of Canada's online **COVID-19 Symptom Self Assessment Tool** each day prior to work shift and will not come to AAFC site if Tool advises or recommends to self-isolate, stay at home or seek medical attention. <https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html>
- ☐ Advise AAFC Representative as soon as possible if any of Contractor's personnel who have worked in an AAFC building begin to exhibit flu-like symptoms.
- ☐ All contractor and hired sub-contract personnel will follow local, provincial and federal public health guidance and requirements including that of **Public Health Agency of Canada (PHAC) for Coronavirus disease (COVID-19): Prevention and risk.** <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html?topic=tilelink>
- ☐ While on AAFC property, all Contractor and sub-contractors will comply to all posted signage in AAFC buildings, or advise AAFC Representative immediately if unable to comply.

These above mentioned requirements will be complied while conducting work in AAFC buildings for the duration of the contract.

Signature of Representative Print Name:

Company Name : Date:

Time in: Contact No.: