



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada**
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
Bid Fax: (902) 496-5016

**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

| | |
|--|--|
| Title - Sujet UHPLC Instruments | |
| Solicitation No. - N° de l'invitation 01804-160617/A | Date 2015-12-04 |
| Client Reference No. - N° de référence du client 01804-160617 | |
| GETS Reference No. - N° de référence de SEAG PW-\$HAL-305-9695 | |
| File No. - N° de dossier HAL-5-75192 (305) | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-01-19 | |
| Time Zone Fuseau horaire Atlantic Standard Time AST | |
| 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: Collier, Susan | Buyer Id - Id de l'acheteur hal305 |
| Telephone No. - N° de téléphone (902) 496-5350 () | FAX No. - N° de FAX (902) 496-5016 |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF AGRICULTURE AND AGRI-FOOD RESEARCH STN 32 MAIN STREET KENTVILLE NOVA SCOTIA B4N1J5 Canada | |

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9
Nova Scot

| | |
|--|--|
| Delivery Required - Livraison exigée See Herein | 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 |

Ultra High Performance Liquid Chromatography (UHPLC) Instrument

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HAL-5-75192

Buyer ID - Id de l'acheteur
HAL305
CCC No./N° CCC - FMS No./N° VME

ANNEX "A"

STATEMENT OF WORK

ANNEX "A1"

EVALUATION GRID TECHNICAL STATEMENT OF REQUIREMENT (TSOR)

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ANNEX "C"

CODE OF CONDUCT

PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement applicable to this Contract.

1.2 Statement of Work

The Department of Public Works and Government Services Canada has a requirement, on behalf of Agriculture & Agri Food Canada Kentville Research and Development Centre located in Kentville, Nova Scotia for an Ultra High Performance Liquid Chromatography (uHPLC) Instrument including autosampler and required detector components.

The main focus is to use this instrument at the Atlantic Food and Horticulture Research Centre will be analysis of flavour chemicals (carbohydrates and organic acids) of fruit, and amino acid analysis of plant phloem exudate.

A refrigerated Autosampler, a Photo Diode Array (PDA) detector, a Refractive Index (R) detector and a Fluorescence (FLR) detector are also being requested with the uHPLC, as well as software and appropriate computer.

Please see Specification, Annex A for a complete detail listing of the requirement.

1.3 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.

1.4 Trade Agreements

"The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT)."

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>) 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 (2015-07-03) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

"Subsection 3 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:

3. List of Names

-
- a. Bidders who are incorporated or who are a sole proprietorship, including those bidding as a joint venture, have already provided a list of names of all individuals who are directors of the Bidder, or the name of the owner(s), at the time of submitting an arrangement under the Request for Supply Arrangement (RFSA).
 - b. These Bidders must immediately inform Canada in writing of any changes affecting the list of directors during this procurement process.

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

Delete: 60 days
Insert: 120 days

2.2 Submission of Bids

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

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (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 Nova Scotia.

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.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (Two (2) hard copy)

Section II: Financial Bid (One (1) hard copy)

Section III: Certifications (One (1) hard copy)

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

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

Section III: Certifications

Bidders must submit the certifications 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 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

Mandatory Evaluation Criteria for the technical bids are included in Annex A1, Technical Statement of Requirements (TSOR).

- (A) The criteria in the TSOR will be used to assess whether a bid meets the Mandatory Technical Requirements.
- (B) The bid will be assessed against the requirements shown in Table 1 "TSOR Mandatory Requirements" and assigned a "PASS" or "FAIL" designation.
- (C) For each and every Mandatory requirement listed in Table 1, the Contractor must provide a reference as to where in their proposal it states they have met the Mandatory Requirement.
- (D) A compliant bid must PASS all "TSOR Mandatory Requirements".

4.1.2 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price

4.2 Basis of Selection

4.2.1 Mandatory Technical Criteria

SACC Manual Clause A0031T (2010-08-16) Mandatory Technical Criteria

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. 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 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-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 – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) website.

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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" 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 this Contract.

6.2 Statement of Work

The Department of Public Works and Government Services Canada has a requirement, on behalf of Agriculture & Agri Food Canada Kentville Research and Development Centre located in Kentville, Nova Scotia for an Ultra High Performance Liquid Chromatography (uHPLC) Instrument including autosampler and required detector components.

The main focus is to use this instrument at the Atlantic Food and Horticulture Research Centre will be analysis of flavour chemicals (carbohydrates and organic acids) of fruit, and amino acid analysis of plant phloem exudate.

A refrigerated Autosampler, a Photo Diode Array (PDA) detector, a Refractive Index (R) detector and a Fluorescence (FLR) detector are also being requested with the uHPLC, as well as software and appropriate computer.

Please see Specification, Annex A for a complete detail listing of the requirement.

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](#) (2015-09-03), General Conditions - Goods (Medium Complexity) apply to and form part of the Contract.

6.3.2 Supplementary Conditions

Section 09 entitled *Warranty of general conditions 2010A* is amended by deleting subsection 2 in its entirety and replacing it with the following:

The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location as directed by Canada. If, in the opinion of Canada, it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these Costs.

All other provisions of the warranty section remain in effect.

6.4 Term of Contract

6.4.1 Mandatory Delivery Date

All the deliverables must be received on or before March 31, 2016.

6.4.2 Supplementary Condition

Section 09 entitled *Warranty of general conditions 2010A* is amended by deleting subsection 2 in its entirety and replacing it with the following:

The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location as directed by Canada. If, in the opinion of Canada, it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these Costs.

All other provisions of the warranty section remain in effect.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Susan Collier

Solicitation No. - N° de l'invitation
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01804-160617

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File No. - N° du dossier
HAL-5-75192

Buyer ID - Id de l'acheteur
HAL305
CCC No./N° CCC - FMS No./N° VME

Title: Supply Specialist
Public Works and Procurement Services
Acquisitions Branch
Directorate: Acquisitions Branch
Address: 1713 Bedford Row
Halifax, Nova Scotia B3J 3C9

Telephone: 902-496-5350
Facsimile: 902-496-5016
E-mail address: susan.collier@pwgsc-tpsgc.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 (To be given upon contract award)

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

Business 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 a *firm price, as specified in Annex B, Basis of Payment.* 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 (2011-05-16) Limitation of Price

6.6.3 SACC Manual Clauses

Single Payment - H1000C (2008-05-12)

6.7 Invoicing Instructions

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.

Each invoice must be supported by:

- a copy of the release document and any other documents as specified in the Contract;
- a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses if applicable;

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

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 general conditions 2010A (2015-09-03), Goods (Medium Complexity);
- (c) Annex A, Statement of Work ;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated _____

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6.11 SACC Manual Clauses

Excess Goods – B7500C (2006-06-16)

Electrical Equipment - B1501C (2006-06-16)

Warranty - Contractor responsible for all costs - K0031C (2015-02-25)

Insurance - G1005C (2008-05-12)

ANNEX "A"

STATEMENT OF WORK

Ultra High Performance Liquid Chromatography (uHPLC) Instrument, including autosampler and required detector components

Background information:

An Ultra High Performance Liquid Chromatography (uHPLC) is used to separate and analyse chemicals in the liquid phase. The main focus for this technique at the Agriculture & Agri Food Canada Kentville Research and Development Centre will be analysis of flavour chemicals (carbohydrates and organic acids) of fruit, and amino acid analysis of plant phloem exudate.

A refrigerated Autosampler, a Photo Diode Array (PDA) detector, a Refractive Index (RI) detector and a Fluorescence (FLR) detector are also being requested with the uHPLC, as well as software and appropriate computer.

Specifications

Mandatory Rated Requirements:

I. uHPLC Pump

1. Must be a binary pump, with solvent selection valve, with at least two solvent lines from each pump, capable of delivering a gradient of two solvents with one from each pump.
2. Must be able to deliver flow to at least 1200 bar pressure.
3. Must deliver flow rates from at 0.1 ml/minute or less to at least 2 mL/minute.
4. Must provide high pressure binary mixing of solvent.
5. Must be designed for low dispersion sample delivery with maximum gradient delay volume of less than or equal to 150ul.
6. Must have automatically calculated solvent compression capability.
7. Must have software integrated leak management/control capability.
8. Must have software controlled, in-line solvent degassing of a minimum of two eluant lines.
9. Must have automated/programmable pump seal wash capability.
10. Must be resistant to high salt (buffer) concentrations (1M)
11. Must be resistant to aggressive solvents, acids and chemicals such as sulfuric acid (2%), nitric acid (6%), acetonitrile, methylene chloride, hexane, and acetone.
12. Must be capable of producing linear or curved gradient flow, and be programmable for linear, curved or stepped gradient flow.
13. Must include a full service kit, including such items as extra pump seals, check valves, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period. Reference preventative maintenance kits (Agilent p/n 5067-4699, G4220-68742, G4220-68741).

II. Autosampler

1. Must have a temperature controlled sample compartment capable of cooling to 4°C or lower, within +/- 0.5°C, at sensor.
2. Must be capable of injecting samples within a volume range of at least 0.5 ul – 100 ul.
3. Must be capable of performing dilution, mixing and derivatization reactions with a minimum of ten programmable reagent sources (vials).

4. Must be capable of mixing, diluting and derivatization injections between vials in a range of at least 0.5 ul – 1 mL.
5. Must have needle flow-through capacity.
6. Must have an integrated and programmable injection needle wash, able to wash both inner and outer surfaces of the needle.
7. Must have an injection accuracy of at least +/- 0.2ul.
8. Must include sample trays to hold at least 96 1.8/2 mL vials, and one sample tray of each other type (well plate, 1 and 1.5 mL samples).
9. Must have the capacity to install multiple syringes and sample loop volumes.
10. Must contain an integrated temperature controlled column compartment with at least two zones (each with 300mm column capacity, plus guards, fittings and pre-column solvent heaters), capable of maintaining consistent temperature ranges from 10 – 50°C in each, and an external column compartment capable of maintaining temperatures up to 90°C (1300 mm column capacity, plus fittings) – or equivalent multi-column thermostatted compartment.
11. Must include a service kit, including three spare needles, one 100 ul sample loop, specialty wrenches or screwdrivers if applicable, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period.

III. Photo Diode Array Detector (PDA)

1. Must have capability of detection between 190 and at least 600 nm.
2. Must have a deuterium lamp.
3. Must have 1024 photo diodes.
4. Must be capable of full spectrum real time 3D scanning, as well as single wavelength data collection simultaneously on at least 4 channels.
5. Must have a data collection rate of at least 80 Hz.
6. Must have a wavelength accuracy of +/- 1 nm.
7. Must have a flow cell designed for high sensitivity analysis, with a volume ranging from 0.5 – 5 ul, and a path length equal to or greater than 10 mm.
8. Must be capable of signal noise levels (ASTM baseline noise) of +/-5 AU or less.
9. Must provide system and equipment diagnostics, error detection and leak detection.
10. Must include a full service kit, including such items as seals, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period.

IV. Refractive Index Detector

1. Must have accurate temperature control of detector from 5-40°C.
2. Must provide thermal equilibration in the pre-flow stream or cell.
3. Must have a flow cell of at least 10 uL.
4. Must be capable of data acquisition rates of at least 35 Hz.
5. Must be capable of automatic and programmable reference cell purging, and solvent recycling.
6. Must be capable of noise levels of 3×10^{-9} RIU or less.
7. Must be capable of drift levels of at most 2×10^{-7} RIU/hr.
8. Must be capable of a refractive index range, calibrated, of 1 -1.75.
9. Must include a full service kit, including such items as seals, specialty batteries, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period.

V. Fluorescence Detector

1. Must be capable of data acquisition on at least two channels simultaneously.
2. Must have a data acquisition rate of at least 80 Hz.
3. Must be capable of a signal to noise ratio of at least 1000, (Raman spectrum of water), in single wavelength operation.

4. Must be capable of an excitation wavelength range from at least 200-890 nm, bandwidth of 20 nm and an emission range from at least 210-900nm, bandwidth of 20 nm.
5. Must be capable of wavelength accuracy of +/- 3 nm.
6. Must be capable of wavelength repeatability of at most +/- 0.25 nm.
7. Must have a flow cell of 2-8 ul volume.
8. Must provide system and equipment diagnostics, error detection and leak detection.
9. Must include a full service kit, including such items as seals, specialty batteries, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period.

IV. Data System

1. Must include data system and software for complete control of all primary instrument components, in addition to all data acquisition, processing and reporting functions.
2. Must have multi-tasking capabilities: able to acquire and process data in real time.
3. Must be capable of data processing and reprocessing with linear, polynomial and logarithmic and weighted curve fitting.
4. Must have the ability to store at least 50 methods and use multiple method sequences.
5. Must be capable of data exporting to standard data file types including (.txt or, .cs, or, .xlsx)
6. Must include the ability to generate custom reports and create custom user libraries, including the PDA.
7. All software must be operable with a Windows 7 OS.
8. Must include: no less than a 1 TB hard drive, one TB backup drive, DVD drive (capable of reading/writing both DVD and CD for data archiving), keyboard, mouse and speakers.
9. Must include a Network adapter.
10. Must include Microsoft Office Suite (Word, Excel, etc.)

V. Additional Mandatory Requirements

1. All described system components must be provided from a single vendor, and be a new production model instrument. Demonstration models, used, refurbished, or prototype models will not be considered. Support for the instrument must be provided for at least seven years.
2. All described system components tendered must be from a single vendor to ensure proper operation.
3. Must include all cabling and hardware to connect system components.
4. Must include one digital to analog signal conversion device.
5. Flow path through all instruments must be resistant to extremes in pH (pH 2-12)
6. Flow path through all instruments must be resistant to high salt (buffer) concentrations (1M)
7. Flow path through all instruments must be resistant to aggressive solvents, acids and chemicals such as sulfuric acid (2%), nitric acid (6%) acetonitrile, methylene chloride, hexane, and acetone.
8. Must include on-site installation of the complete system. AAFC will liaise with the vendor's designated point of contact to determine a mutually agreeable date and time for instrument installation and commissioning.
9. Must include an installation kit, test column and samples for proper installation and commissioning, as required.
10. Must include all manuals for autosampler, pump and all detectors; either electronic or hardcopy are acceptable.
11. Must operate on 110-120V, 50-60 Hz.

VI. Warranty, Service and Training

1. Must include one day of familiarization with system components upon install and commissioning of the instrument.

2. Must include, at minimum, a one (1) year full service warranty covering cost of parts, labour and travel.
3. Onsite warranty and maintenance services by authorized Factory Service Representative must be available within 3 calendar days of a service request.

VII. Deliverables

The Contractor must deliver to the Crown:

1. Must demonstrate retention time repeatability within a range of error, Relative Standard Deviation (RSD), of 5% over ten injections, using a standard mix of 17 primary amino acids (Agilent p/n 5061-3332, 100 pmol/ml or equivalent).
2. Must demonstrate linear range over three concentrations, with a range of error (RSD) of 1% peak area, and a coefficient of determination (r^2) of 0.999%. (Agilent p/n 5061-3334, 10 pmol/ml ; 5061-333, 100 pmol/ml; 5061-3302, 1 nmol/ml or equivalent) using three injections per level of these primary amino acid standards, and resolution of all standards.
3. Must demonstrate sensitivity, with three injections, with a range of error (RSD) of 1% peak area, using a standard mix of 17 primary amino acids (Agilent p/n 5061-3334, 10 pmol/ml), diluted to final concentrations of 5pmol/ml for analysis. Reagents and methodologies will be supplied by Dr. Forney's research program, or supplied by vendor.
4. Must demonstrate low carry over with chlorhexidine standard, 3 ul of 1mg/ml concentration, 3 ug on column, with less than 0.005% of the detected peak identified on a subsequent blank run performed immediately.
5. Must also demonstrate high sensitivity and linear range, with a range of error (RSD) of 1 % peak area, and a coefficient of determination (r^2) of 0.999%, over four levels and across six organic acid standards (Tartaric acid, Quinic acid and Citric acid (0,50,500,2000ug/mL). Malic acid and Succinic acid (0,25,100,500 ug/ml). Shikimic acid (0,10,50,100 ug/ul), using established lab methodologies from Dr. Forney's research program, or a vendor method.
6. Must demonstrate resolution of six organic acids, three injections per mixture, using
7. two mixes representing our typical high levels of these acids in different berries.

| Organic Acid | Mix 1 (BB) Conc'n (ug/ml) | Mix 2 (GRP) Conc'n (ug/ml) |
|-----------------------|---------------------------------|----------------------------------|
| L (+) - Tartaric acid | 100 | 4500 |
| (-)-Quinic Acid | 2500 | 1500 |
| L(-)-Malic Acid | 200 | 2000 |
| Citric Acid | 4000 | 2500 |
| Succinic Acid | 50 | 500 |
| (-)Shikimic Acid | 20 | 20 |

8. Must demonstrate high sensitivity, resolution and linear range, with a range of error (RSD) of 1% peak area, and a coefficient of determination (r^2) of 0.999%, over four levels (0, 1, 10, 20 mg/ml) across three sugar standards (Sucrose, Fructose, Glucose) using established lab methodologies from Dr. Forney's research program, or methods selected by vendor.

Optional items for addition after award of contract:

1. Training provided subsequent to the installation and commissioning of the instrument(s), in addition to familiarization with instrument basics on installation. Training to include, but not be restricted to familiarization with software/hardware, maintenance and routine operation of the pump, autosampler, PDA detector. RI detector and fluorescence detector. Vendor to provide three (3) days of training, during the normal work week of Monday to Friday, commencing at 9 am hrs and ending at 5 pm daily. Training to be made available to up to four (4) laboratory (research) personnel. The training to occur approximately one to two weeks after installation and general familiarization.
2. Autosampler may have dual needle capacity.
3. Autosampler may have an integrated and programmable injection needle wash, able to wash both inner and outer surfaces of the needle, with at least two solvent options per wash cycle.
4. May include an external solvent selection valve.
5. System may include an additional uHPLC pump.
6. System may include an additional autosampler.
7. May include one additional deuterium lamp for the PDA detector.
8. May include one additional fluorescence lamp for the FLD detector.
9. May include extended warranty for 1 additional year.
10. May include extended warranty for 2 additional years.

EVALUATION GRID
Technical Statement of Requirement (TSOR)

Mandatory Evaluation Criteria for the technical bids are included in Annex A1, Technical Statement of Requirements (TSOR).

- (A) The criteria in the TSOR will be used to assess whether a bid meets the Mandatory Technical Requirements.
- (B) The bid will be assessed against the requirements shown in Table 1 "TSOR Mandatory Requirements" and assigned a "PASS" or "FAIL" designation.
- (C) For each and every Mandatory requirement listed in Table 1, the Contractor must provide a reference as to where in their proposal it states they have met the Mandatory Requirement.
- (D) A compliant bid must PASS all "TSOR Mandatory Requirements".

Mandatory Rated Requirements “PASS” or “FAIL”:

I. uHPLC Pump

| | Pass | Fail | Reference Technical Document and Page Number |
|--|------|------|--|
| Must be a binary pump, with solvent selection valve, with at least two solvent lines from each pump, capable of delivering a gradient of two solvents with one from each pump. | | | |
| Must be able to deliver flow to at least 1200 bar pressure. | | | |
| Must deliver flow rates from 0.1 ml/minute or less to at least 2 mL/minute. | | | |
| Must provide high pressure binary mixing of solvent. | | | |
| Must be designed for low dispersion sample delivery with maximum gradient delay volume of less than or equal to 150ul. | | | |
| Must have automatically calculated solvent compression capability. | | | |

| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|---|
| Must have software controlled, in-line solvent degassing of a minimum of two eluant lines. | | | |
| Must have automated/programmable pump seal wash capability. | | | |
| Must be resistant to high salt (buffer) concentrations (1M) | | | |
| Must be resistant to aggressive solvents, acids and chemicals such as sulfuric acid (2%), nitric acid (6%), acetonitrile, methylene chloride, hexane, and acetone. | | | |
| Must be capable of producing linear or curved gradient flow, and be programmable for linear, curved or stepped gradient flow. | | | |
| Must include a full service kit, including such items as extra pump seals, check valves, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period. Reference preventative maintenance kits (Agilent p/n 5067-4699, G4220-68742, G4220-68741). | | | |

II. Autosampler

| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|---|
| Must have a temperature controlled sample compartment capable of cooling to 4°C or lower, within +/- 0.5°C, at sensor. | | | |
| Must be capable of injecting samples within a volume range of at least 0.5 ul – 100 ul. | | | |
| Must be capable of performing dilution, mixing and derivatization reactions with a minimum of ten programmable reagent sources (vials). | | | |
| Must be capable of mixing, diluting and derivatization injections between vials in a range of at least 0.5 ul – 1 mL. | | | |
| Must have needle flow-through capacity. | | | |
| Must have an integrated and programmable injection needle wash, able to wash both inner and outer surfaces of the needle. | | | |
| Must have an injection accuracy of at least +/- 0.2ul. | | | |

| | Pass | Fail | Reference Technical Document and Page Number |
|--|------|------|---|
| <p>Must include two sample trays to hold at least 96 1.8/2 mL vials, and one sample tray of each other type (well plate, 1 and 1.5 mL samples).</p> | | | |
| <p>Must have the capacity to install multiple syringes and sample loop volumes.</p> | | | |
| <p>Must contain an integrated temperature controlled column compartment with at least two zones (each with 300mm column capacity, plus guards, fittings and pre-column solvent heaters), capable of maintaining consistent temperature ranges from 10 – 50°C in each, and an external column compartment capable of maintaining temperatures up to 90°C (1300 mm column capacity, plus fittings) – or equivalent multi-column thermostatted compartment.</p> | | | |
| <p>Must include a service kit, including three spare needles, one 100 ul sample loop, specialty wrenches or screwdrivers if applicable, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period.</p> | | | |

III. Photo Diode Array Detector (PDA)

| | Pass | Fail | Reference Technical Document and Page Number |
|--|------|------|--|
| Must have capability of detection between 190 and at least 600 nm. | | | |
| Must have a deuterium lamp. | | | |
| Must have 1024 photo diodes. | | | |
| Must be capable of full spectrum real time 3D scanning, as well as single wavelength data collection simultaneously on at least 4 channels. | | | |
| Must have a data collection rate of at least 80 Hz. | | | |
| Must have a wavelength accuracy of +/- 1 nm. | | | |
| Must have a flow cell designed for high sensitivity analysis, with a volume ranging from 0.5 – 5 ul, and a path length equal to or greater than 10 mm. | | | |
| Must be capable of signal noise levels (ASTM baseline noise) of +/- 5 uAU or less. | | | |

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| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|---|
| Must provide system and equipment diagnostics, and error detection. | | | |
| Must include a full service kit, including such items as seals, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period. | | | |

IV. Refractive Index Detector

| | Pass | Fail | Reference Technical Document and Page Number |
|--|------|------|--|
| Must have accurate temperature control of detector from 5-40°C. | | | |
| Must provide thermal equilibration in the pre-flow stream or cell. | | | |
| Must have a flow cell of at least 10 ul. | | | |
| Must be capable of data acquisition rates of at least 35 Hz. | | | |
| Must be capable of automatic and programmable reference cell purging, and solvent recycling. | | | |
| Must be capable of noise levels of 3×10^{-9} RIU or less. | | | |
| Must be capable of drift levels of at most 2.0×10^{-7} RIU/hr. | | | |
| Must be capable of a refractive index range, calibrated, of 1 - 1.75. | | | |
| Must include a full service kit, including such items as seals, specialty batteries, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period. | | | |

V. Fluorescence Detector

| | Pass | Fail | Reference Technical Document and Page Number |
|--|------|------|--|
| Must be capable of data acquisition on at least two channels simultaneously. | | | |
| Must have a data acquisition rate of at least 80 Hz. | | | |
| Must be capable of a signal to noise ratio of at least 1000, (Raman spectrum of water), in single wavelength operation. | | | |
| Must be capable of an excitation wavelength range from at least 200-890 nm, bandwidth of 20 nm and an emission range from at least 210-900nm, bandwidth of 20 nm. | | | |
| Must be capable of wavelength accuracy of +/- 3 nm. | | | |
| Must be capable of wavelength repeatability of at most +/- 0.25 nm. | | | |
| Must have a flow cell of 2-8 ul volume. | | | |
| Must provide system and equipment diagnostics, and error detection. | | | |
| Must include a full service kit, including such items as seals, specialty batteries, extra fuses, specialty tools, and other consumable parts and supplies required for basic repair and routine maintenance expected to occur over a two year period. | | | |

IV. Data System

| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|--|
| Must include data system and software for complete control of all primary instrument components, in addition to all data acquisition, processing and reporting functions. | | | |
| Must have multi-tasking capabilities: able to acquire and process data in real time. | | | |
| Must be capable of data processing and reprocessing with linear, polynomial and logarithmic and weighted curve fitting. | | | |
| Must have the ability to store at least 50 methods and use multiple method sequences. | | | |
| Must be capable of data exporting to standard data file types including .tx, or .csv, or .xlsx | | | |
| Must include the ability to generate custom reports and create custom user libraries, including the PDA. | | | |
| All software must be operable with a Windows 7 OS. | | | |
| Must include: no less than a 1 TB hard drive, one TB backup drive, DVD drive (capable of reading/writing both DVD and CD for data archiving), keyboard, mouse and speakers. | | | |

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| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|--|
| Must include a Network adapter. | | | |
| Must include Microsoft Office Suite (Word, Excel, etc.) | | | |

V. Additional Mandatory Requirements

| | Pass | Fail | Reference Technical Document and Page Number |
|---|------|------|--|
| Must include one (1) digital to analog conversation device. | | | |
| | | | |

**Annex B
 Basis of Payment**

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

| Item | Unit of Measure | QTY | Price | Extended Price |
|---|------------------------|------------|--------------|-----------------------|
| 1 Ultra High Performance Liquid Chromatography (uHPL) Instrument in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 2 A refrigerated Autosampler in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 3 A Photo Diode Array (PDA) detector in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 4 A Refractive Index (RI) detector in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 5 A Fluorescence (FLR) detector in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 6 A Data System in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| 7 Additional Mandatory Requirement Digital to analog device) in accordance with Annex A herein. | ea | 1 | \$ | \$ |
| Total Price for Evaluation | | | | \$ |

**Annex B
 (continued)**

UNFUNDED OPTIONS

In the proposal the contractor shall submit pricing for the following ten (10) unfunded options that may be evoked at a later date.

Please note: Optional items listed below will not be included in the price evaluation

| Item | Unit of Measure | QTY | Price | Extended Price |
|---|-----------------|-----|-------|----------------|
| 1 Training as per Annex A herein | lot | 1 | \$ | \$ |
| 2 Autosampler may have dual needle capacity as per Annex A herein. | ea | 1 | \$ | \$ |
| 3 Autosampler may have an integrated & programmable injection needle wash, able to wash both inner and outer surfaces of the needle with at least two solvent options per wash cycle as per Annex A within. | ea | 1 | \$ | \$ |
| 4 External Solvent Selection value as per Annex A herein. | ea | 1 | \$ | \$ |
| 5 One additional deuterium lamp for the PDA detector as per Annex A herein. | ea | 1 | \$ | \$ |
| 6 Additional autosampler as per Annex A herein. | ea | 1 | \$ | \$ |
| 7 One additional deuterium lamp for the PDA detector as per Annex A herein. | ea | 1 | \$ | \$ |
| 8 One additional fluorescence lamp for the FLD detector as per Annex A herein | ea | 1 | \$ | \$ |

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| | | | | |
|--|------------|----------|-----------|-----------|
| | | | | |
| 9 Extended warranty for one additional year as per Annex A herein. | ea | 1 | \$ | \$ |
| 10 Extended warranty for two additional years as per Annex A herein. | lot | 1 | \$ | \$ |
| Total Price for option items: | | | | \$ |

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**ANNEX C
CODE OF CONDUCT**

Code of Conduct and Certification – Related documentation

Offeror's List of Directors below. Please provide a list of names of all individuals who are currently Directors in accordance with Part 5 – CERTIFICATION.

Directors: Please print clearly

| Name | Name | Name | Name |
|------|------|------|------|
| | | | |
| | | | |
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Attach additional names on a separate sheet if required.