



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave. Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6  
Bid Fax: (780) 497-3510

## 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 Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6

<b>Title - Sujet</b> HIGH-DIMENSIONALITY COLORIMETRIC AR	
<b>Solicitation No. - N° de l'invitation</b> W7702-175831/B	<b>Date</b> 2016-12-19
<b>Client Reference No. - N° de référence du client</b> W7702-175831	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$EDM-064-10936	
<b>File No. - N° de dossier</b> EDM-6-39195 (064)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-01-10</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Mountain Standard Time MST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Scott, Dallas	<b>Buyer Id - Id de l'acheteur</b> edm064
<b>Telephone No. - N° de téléphone</b> (780) 224-7200 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF NATIONAL DEFENCE PO BOX 4000, STN MAIN MEDICINE HAT Alberta T1A8K6 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

**TITLE: HIGH-DIMENSIONALITY COLORIMETRIC ARRAYS FOR MICROBIAL AND ENVIRONMENTAL DETECTION-IDENTIFICATION**

**Reissue of Bid Solicitation**

This bid solicitation cancels and supersedes previous bid solicitation number W7702-175831/A dated 2016-11-01 with a closing of 2016-11-23 at 14:00 Mountain Standard Time (MST). A debriefing or feedback session will be provided upon request to bidders/offerors/suppliers who bid on the previous solicitation.

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W7702-175831

Amd. No. - N° de la modif.  
File No. - N° du dossier  
EDM-6-39195

Buyer ID - Id de l'acheteur  
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## PART 1 - GENERAL INFORMATION

### 1.1 Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 This part was intentionally left blank
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, Disclosure Certification, Evaluation Criteria, and the Electronic Payment Instruments.

### 1.2 Summary

**1.2.1** Defence Research and Development Canada (DRDC) – Suffield Research Centre (SRC) has an opportunity to develop and exploit an inexpensive and versatile detector, based on high-dimensionality colorimetric arrays, essentially a test panel of responsive indicators arranged on a disposable filter paper fragment. The chemical nature of the responsive indicators is such that within a selection of 50-100 such indicators, millions of unique responses are possible, and unknown compounds will cause an unpredictable, but reproducible response. DRDC intends to collaborate on the development of such a device, by building a comparator library of known samples, against which unknowns can be tested.

To this end, DRDC SRC has been exploring the utility of non-electronic passive sensors for volatile organic compounds (VOC). VOC may be produced by bacterial cells in culture or chemical compounds in the environment. The sensors are generally described as having multiple differentially responsive elements (10-100), having a response profile predominantly in the range of visible light, in a small array (less than 10 cm<sup>2</sup> in size, printed onto paper or membrane surfaces). Alternative small formats would be acceptable (e.g. plastic surfaces, stiffened membranes). The intended use of the arrays is in a variety of holders or vessels, which may be used to grow or capture various unknowns. The main challenge of such a system is the ability to rapidly analyse and interpret the response of the array to any exposure. It is anticipated that the array provider will also have analytical tools either ready to use, cloud based, or in prototype.

The estimated period of the Contract is from date of award until March 31, 2019.

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**1.2.2** The requirement is subject to the provisions of the Agreement on Internal Trade (AIT).

### **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.

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## 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 (2016-04-04), Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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.

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

### 2.3 Former Public Servant

*(To be completed by the Bidder)*

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

#### Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or

- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

#### **Former Public Servant in Receipt of a Pension**

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes** ( ) **No** ( )

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2012-2](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

#### **Work Force Adjustment Directive**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes** ( ) **No** ( )

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;

- 
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

## **2.4 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) 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.

## **2.5 Applicable Laws**

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

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.



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## **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 (one [1] 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 demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

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## Section II: Financial Bid

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

### **3.1.2 Electronic Payment of Invoices – Bid**

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

If Annex "E" 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.

### **3.1.3 Exchange Rate Fluctuation**

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

## Section III: 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 Technical Evaluation**

Mandatory technical evaluation criteria are included in Annex "D".

#### **4.1.2 Financial Evaluation**

The costs for the items in Annex "B" will be added together to obtain the Total Estimated Cost to a Limitation of Expenditure.

### **4.2 Basis of Selection**

#### **4.2.1 Mandatory Technical Criteria**

*SACC Manual* Clause [A0031T](#) (2010-08-16), Basis of Selection – Mandatory Technical Criteria

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## 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 *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, 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 specified will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the *Ineligibility and Suspension Policy* (<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* website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969#afed](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed)).

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.

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## **5.2.3 Additional Certifications Precedent to Contract Award**

### **5.2.3.1 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability.

### **5.2.3.2 Education and Experience**

*SACC Manual* clause [A3010T](#) (2010-08-16), Education and Experience

**PART 6 - THIS PART WAS INTENTIONALLY LEFT BLANK**

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## PART 7 - RESULTING CONTRACT CLAUSES

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

### 7.1 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex "A" and the Contractor's technical bid entitled \_\_\_\_\_, dated \_\_\_\_\_.

### 7.2 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.

#### 7.2.1 General Conditions

[2040](#) (2016-04-04), General Conditions - Research & Development, apply to and form part of the Contract.

### 7.3 Security Requirements

7.3.1 There is no security requirement applicable to the Contract.

### 7.4 Term of Contract

#### 7.4.1 Period of the Contract

The period of the Contract is from date of Contract to \_\_\_\_\_ inclusive (*inserted at contract award*)

### 7.5 Authorities

#### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Dallas Scott  
Procurement Officer  
Public Services and Procurement Canada  
Acquisitions Branch  
Western Region

ATB Place, North Tower  
5<sup>th</sup> Floor, 10025 – Jasper Avenue  
Edmonton, AB T5J 1S6

Telephone: 780 – 224 – 7200  
Facsimile: 780 – 497 – 3510  
E-mail address: [dallas.scott@pwgsc-tpsgc.gc.ca](mailto:dallas.scott@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.

#### 7.5.2 Technical Authority

The Technical Authority for the Contract is:

(To be named in the contract)

The Technical Authority named above 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 Technical Authority, however the Technical 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.

#### 7.5.3 Procurement Authority

The Procurement Authority for the Contract is:

(To be named in the contract)

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

#### 7.5.4 Contractor's Representative

(To be completed by the bidder)

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

## 7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

## 7.7 Payment

### 7.7.1 Basis of Payment - Limitation of Expenditure

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, as determined in accordance with the Basis of Payment in Annex "B", to a limitation of expenditure of \$\_\_\_\_\_ (*insert the amount at contract award*). Customs duties are included and Applicable Taxes are extra.

### 7.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$\_\_\_\_\_ (*insert the amount at contract award*). Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
  - a. when it is 75 percent committed, or
  - b. four (4) months before the contract expiry date, or
  - c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.
3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.



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### 7.7.3 Method of Payment

#### 7.7.3.1 Progress Payments

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, up to **90** percent of the amount claimed and approved by Canada if:
  - a. an accurate and complete claim for payment using form [PWGSC-WR01](#), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
  - b. the amount claimed is in accordance with the basis of payment;
  - c. the total amount for all progress payments paid by Canada does not exceed **100** percent of the total amount to be paid under the Contract;
  - d. all certificates appearing on form [PWGSC-WR01](#) have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.
3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

#### 7.7.4 T1204 - Direct Request by Customer Department

SACC *Manual* clause [A9117C](#) (2007-11-30), T1204 - Direct Request by Customer Department

#### 7.7.5 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)

#### 7.7.6 SACC *Manual* clauses

[C0710C](#) (2007-11-30), Time and Contract Price Verification  
[C0711C](#) (2008-05-12), Time Verification

**OR**

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C0705C (2010-01-11), Discretionary Audit

## 7.8 Invoicing Instructions

### 7.8.1 Progress Payment Claim - Supporting Documentation required

1. The Contractor must submit a claim for payment using form [PWGSC-WR01](#), Claim for Progress Payment.

Each claim must show:

- a. all information required on form [PWGSC-WR01](#);
- b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- c. a list of all expenses;
- d. expenditures plus pro-rated profit or fee; *(if applicable)*
- e. the description and value of the milestone claimed as detailed in the Contract. *(if applicable)*

Each claim must be supported by: *(if applicable)*

- a. a copy of time sheets to support the time claimed;
  - b. a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
  - c. a copy of the monthly progress report.
2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
  3. The Contractor must prepare and certify one original and two (2) copies of the claim on form [PWGSC-WR01](#), and forward it to the Procurement Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Procurement Authority will then forward the claim to the Payment Office for the remaining certification and payment action.

4. The Contractor must not submit claims until all work identified in the claim is completed.

## 7.9 Certifications and Additional Information

### 7.9.1 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.

### 7.9.2 Disclosure Certification

On completion of the Work, the Contractor must submit to the Procurement Authority and to the Contracting Authority a copy of the Disclosure Certification attached as Annex "C" stating that all applicable disclosures were submitted or that there were no disclosures to submit under section 27 and 28 of general conditions [2040](#).

### 7.10 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.)*

### 7.11 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 [2040](#) (2016-04-04), General Conditions - Research & Development;
- (c) Annex "A", Statement of Work;
- (d) Annex "B", Basis of Payment;
- (e) Annex "C", Disclosure Certification;
- (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)).*

### 7.12 SACC Manual clauses

[A2000C](#) (2006-06-16), Foreign Nationals (Canadian Contractor)

**OR**

[A2001C](#) (2006-06-16), Foreign Nationals (Foreign Contractor)

[A9006C](#) (2012-07-16), Defence Contract

[A9062C](#) (2011-05-16), Canadian Forces Site Regulations

[B6800C](#) (2007-11-30), List of Non-consumable Equipment and Material

[G1005C](#) (2016-01-28), Insurance - No Specific Requirement

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## **ANNEX "A"**

### **STATEMENT OF WORK**

#### **1. TITLE**

HIGH-DIMENSIONALITY COLORIMETRIC ARRAYS FOR MICROBIAL AND ENVIRONMENTAL DETECTION-IDENTIFICATION

#### **2. BACKGROUND**

Detection and identification of unknown organisms and chemicals depends on testing a sample of the unknown agent using either: 1) a comparative library of knowns in some testing mode, or 2) a system which can discriminate and identify the components of the sample by various physical or chemical means. In the first case, DRDC has an opportunity to develop and exploit an inexpensive and versatile detector, based on high-dimensionality colorimetric arrays, essentially a test panel of responsive indicators arranged on a disposable filter paper fragment. The chemical nature of the responsive indicators is such that within a selection of 50-100 such indicators, millions of unique responses are possible, and unknown compounds will cause an unpredictable, but reproducible response. DRDC intends to collaborate on the development of such a device, by building a comparator library of known samples, against which unknowns can be tested.

To this end, DRDC Suffield Research Centre has been exploring the utility of non-electronic passive sensors for volatile organic compounds (VOC). VOC may be produced by bacterial cells in culture or chemical compounds in the environment. The sensors are generally described as having multiple differentially responsive elements (10-100), having a response profile predominantly in the range of visible light, in a small array (less than 10 cm<sup>2</sup> in size, printed onto paper or membrane surfaces). Alternative small formats would be acceptable (e.g. plastic surfaces, stiffened membranes). The intended use of the arrays is in a variety of holders or vessels, which may be used to grow or capture various unknowns.

The main challenge of such a system is the ability to rapidly analyse and interpret the response of the array to any exposure. It is anticipated that the array provider will also have analytical tools either ready to use, cloud based, or in prototype.

#### **3. ACRONYMS**

DRDC	Defence Research and Development Canada
SRC	Suffield Research Centre
SOW	Statement of Work
TA	Technical Authority
VOC	Volatile organic compounds

#### **4. APPLICABLE DOCUMENTS & REFERENCES**

NONE

## 5. TASKS

Task 5.1 Contractor will develop and supply (freight prepaid) for experimental evaluation, colorimetric VOC detection arrays for detection and identification of chemical compounds. This may involve iteration of existing designs with novel response features, print matrices, or print patterns.

Task 5.2 Contractor will support experimental work at DRDC with comparative analysis, identification protocols and data comparisons.

Task 5.3 Contractor will assist in refinement of array design, quality assurance, and measurement techniques, towards obtaining data sufficiently reproducible and robust for use as a microbial, environmental and forensic sensor.

Task 5.4 Contractor will report summaries of data analyses, and status of diagnostic system development

## 6. DELIVERABLES

Deliverable	for Task	Description
6.1.1	5.1	provision of 250 VOC arrays for sensor development
6.1.2	5.1	provision of 250 VOC arrays for sensor development
6.1.3	5.1	provision of 250 VOC arrays for sensor development
6.1.4	5.1	provision of 250 VOC arrays for sensor development
6.2.1	5.1, 5.2	execute data analysis of VOC image files submitted from DRDC
6.2.2	5.2	Summary of comparative analysis
6.3	5.3	report on data analysis with error and reproducibility analysis
6.4	5.4	Contract close out report

## 7. DATE OF DELIVERY

Deliverable	Delivery date (months after contract award)
6.1.1	3 months
6.1.2	6 months
6.1.3	12 months
6.1.4	18 months
6.2.1	3-22 months continuing
6.2.2	22 months
6.3	22 months
6.4	24 months

## 8. LANGUAGE OF WORK

English

## 9. LOCATION OF WORK

The work must be performed on Contractor site.

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#### **10. TRAVEL**

The Contractor is not required to travel.

#### **11. MEETINGS**

Contractor will communicate updates and reports by teleconference or videoconference.

#### **12. GOVERNMENT SUPPLIED MATERIAL (GSM)**

DRDC Suffield SRC will supply image data from array experiments for comparative analysis.

#### **13. GOVERNMENT FURNISHED EQUIPMENT (GFE)**

None

#### **14. SPECIAL CONSIDERATIONS**

None

## ANNEX "B"

### BASIS OF PAYMENT

Payment will be made for time expended and other costs reasonably and properly incurred from the date of contract to contract completion in accordance with the following:

(Note: line items listed below are considered "As Applicable")

ITEM	DESCRIPTION	ESTIMATED COST
1.	Labour at firm (daily/hourly) rates. One day consists of 7.5 hours. The rates will be prorated for any period of more or less than one day.	
	<i>Title Name Days Rate/Day</i>	
A)		\$ _____
B)		\$ _____
C)		\$ _____
D)		\$ _____
E)		\$ _____
	<b>TOTAL ESTIMATED LABOR:</b>	\$ _____
2.	Material and supplies at laid down cost without mark-up, including	
	<i>List items</i>	
A)		\$ _____
B)		\$ _____
C)		\$ _____
3.	Purchased equipment at laid down cost without mark-up, including	
	<i>List items</i>	
A)		\$ _____
B)		\$ _____
C)		\$ _____
4.	Subcontracting at actual cost incurred without mark-up	
	<i>Subcontractor name</i>	
A)		\$ _____
5.	Travel and Living: the Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive ( <a href="http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp">http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp</a> ), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable. All travel must have prior authorization of the Technical Authority All payments are subject to government audit.	\$ _____
	OR	
	Authorized travel and living expenses in accordance with the University's Standard Travel Policy. Claims for travel expenses must include an explanation of who, where, when duration and purpose of travel. (Applicable to Universities only)	\$ _____

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6.	<b>Other direct charges at actual cost incurred without mark-up, including (list any other costs which may be applicable, giving an estimated cost for each e.g. computing costs, long distance telephone/facsimile charges, reproduction, shipping).</b>		
	<i>List Items</i>		
A)			\$ _____
B)			\$ _____
C)			\$ _____
D)			\$ _____
E)			\$ _____
7.	<b>Computing charges at standard university rates.</b> <i>(Applicable to Universities only)</i>		
8.	<b>Standard University Overhead as follows:</b> <i>(Applicable to Universities only)</i>		
A)	at a maximum 65% of on-campus labour (item 1)		\$ _____
B)	at a maximum 30% of off-campus labour (item 1)		\$ _____
C)	at a maximum 2% of travel expenses (item 6)		\$ _____
	<b>TOTAL ESTIMATED OVERHEAD:</b>		\$ _____
9.	<b>Firm profit, not to exceed</b>		
	<i>Item</i>	<i>Profit Margin</i>	<i>Above</i>
A)		_____ %	\$ _____
B)		_____ %	\$ _____
C)		_____ %	\$ _____
	<b>TOTAL ESTIMATED COST TO A LIMITATION OF EXPENDITURE</b>		\$ _____

With the exception of the firm rate(s) and price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Technical Authority, and provided that the estimated cost does not exceed the aforementioned Limitation of Expenditure.

APPLICABLE TAXES: The applicable taxes are not included in the amounts above. The applicable taxes are to be shown as a completely separate item on each invoice.

F.O.B. Point: Defence Research and Development Canada – Suffield Research Centre



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**ANNEX "C"**

**DISCLOSURES CERTIFICATION**

This document is to be completed and signed by the Contractor at the completion of the subject contract and submitted to the Contracting Officer and the Technical Authority designated below:

**Contracting Authority**

Dallas Scott  
Procurement Officer  
Public Works & Government Services Canada  
Procurement and Compensation Branch,  
Western Region  
ATB Place, North Tower, 5th Floor  
10025 Jasper Avenue NW  
Edmonton, AB T5J 1S6

**Technical Authority**

(T.A.)  
Defence Research & Development Canada –  
Suffield Research Centre  
P.O. Box 4000 Main  
Medicine Hat, AB T1A 8K6

**CONTRACT TITLE:** HIGH-DIMENSIONALITY COLORIMETRIC ARRAYS FOR MICROBIAL AND ENVIRONMENTAL DETECTION-IDENTIFICATION  
(Department of -----, Prof. -----)

Please tick appropriate box:

- ☐ We hereby certify that all applicable disclosures were submitted in compliance with Section 28, General Conditions 2040 - Research and Development.

**YOUR ATTENTION IS DRAWN TO SECTION 28, REGARDING IMPLICATIONS ON NON-DISCLOSURE OF** any Technical Documentation, Prototypes, Inventions and Technical Information arising during the performance of work pursuant to the above identified contract.

OR

- ☐ We hereby certify that there are no disclosures to submit under the above-referenced Contract, referred to in Section 28, General Conditions 2040 - Research and Development.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Contractor Name

\_\_\_\_\_  
Date

## ANNEX "D"

### EVALUATION CRITERIA

#### 1. MANDATORY TECHNICAL CRITERIA

In their proposals, bidders must demonstrate they meet the following mandatory technical criteria. Failure to meet any of the mandatory technical criteria will render the bid non-responsive and it will be given no further consideration.

	CRITERIA	MET	NOT MET
M1	Bidder has experience (as evidenced by published works) in various applications of passive colorimetric sensors		
M2	Sensors must contain a multi-row-column "array" or 1-row linear arrangement of sensitive features (spots), which may be detected using non-specialized scanners or cameras.		
M3	Sensor features must be comprised of different chemical species which can respond to different volatile compounds, yielding differential color changes, without the need for additional reagents.		
M4	Sensors must be printed on (filter paper or membrane), such that they can be utilized in small format holders, petri plates, or flow- through manifolds. Hard matrices (e.g. glass, metal) will not be acceptable.		
M5	Maximum dimensions of the multi-row "array" format must not be greater than 30 mm by 40 mm.		
M6	Sensors must be shipped/stored in sealed pouches or containers to prevent inadvertent exposure to atmospheric contaminants.		
M7	Array sensors must contain between 40 and 100 features, including registration or alignment marks. At least 80% of the spots must be unique.		
M8	Bidder must supply current analytical tools (Software) for sensor data analysis either by means of locally installable versions, compatible with Windows operating systems (WIN7, 8, or 10) or by web-based tools, and will maintain software with such updates or replacements as may arise during the contract period.		
M9	Bidder must support project by providing access to expert users, developers, or analysts as required for technical support and analytical problem solving.		

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**ANNEX "E"**

**ELECTRONIC PAYMENT INSTRUMENTS**

The Bidder accepts to be paid by 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)