



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

Health Canada / Santé Canada

Attn: Angel de Chantal
Email: angel.dechantal@canada.ca

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

Proposal To:
Health 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 thereof.

Proposition à:
Santé 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-annexées, au(x) prix indiqué(s).

Instructions : See Herein
Instructions: Voir aux présentes

Issuing Office – Bureau de distribution
Health Canada / Santé Canada
200, Eglantine Driveway
Tunney's Pasture
Ottawa Ontario K1A 0K9

Title – Sujet CanEPIC: Canadian Environment, Pregnancy, Infant & Child Study	
Solicitation No. – N° de l'invitation 1000213443	Date July 18 th 2019
Solicitation Closes at 2 :00pm – L'invitation prend fin à 14h00 on / le – August 6th 2019	Time Zone Fuseau horaire EDT
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 : Name: Angel de Chantal Email: angel.dechantal@canada.ca Telephone – téléphone : 613-790-9081	
Destination – of Goods, Services, and Construction: Destination – des biens, services et construction : See Herein – Voir ici	
Delivery required - Livraison exigée See Herein – Voir ici	
Vendor/firm Name and address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Facsimile No. – N° de télécopieur : Telephone No. – N° de téléphone :	
Name and title of person authorized to sign on behalf of Vendor/firm Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur	
<hr/> (type or print)/ (taper ou écrire en caractères d'imprimerie)	
<hr/> Signature	<hr/> Date



TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION 3

1.1 SECURITY REQUIREMENTS 3

1.2 STATEMENT OF WORK..... 3

1.3 DEBRIEFINGS 3

PART 2 - BIDDER INSTRUCTIONS 3

2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS 3

2.2 SUBMISSION OF BIDS..... 3

2.3 FORMER PUBLIC SERVANT..... 3

2.4 ENQUIRIES - BID SOLICITATION..... 5

2.5 APPLICABLE LAWS..... 5

PART 3 - BID PREPARATION INSTRUCTIONS..... 5

3.1 BID PREPARATION INSTRUCTIONS 5

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION 6

4.1 EVALUATION PROCEDURES..... 6

4.2 BASIS OF SELECTION..... 7

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION 7

5.1 CERTIFICATIONS REQUIRED WITH THE BID 7

5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION 8

PART 6 - RESULTING CONTRACT CLAUSES 8

6.1 SECURITY REQUIREMENTS 8

6.2 STATEMENT OF WORK..... 8

6.3 STANDARD CLAUSES AND CONDITIONS..... 8

6.4 TERM OF CONTRACT 9

6.5 AUTHORITIES 9

6.6 PROACTIVE DISCLOSURE OF CONTRACTS WITH FORMER PUBLIC SERVANTS 9

6.7 PAYMENT 9

6.8 INVOICING INSTRUCTIONS 11

6.9 CERTIFICATIONS AND ADDITIONAL INFORMATION..... 11

6.10 APPLICABLE LAWS..... 11

6.11 PRIORITY OF DOCUMENTS 11

6.12 INSURANCE – NO SPECIFIC REQUIREMENT 11

ANNEX A - STATEMENT OF WORK 12

ANNEX B - BASIS OF PAYMENT 15



PART 1 - GENERAL INFORMATION

1.1 Security Requirements

1. At the date of bid closing, the following conditions must be met:
 - (a) the Bidder must hold a valid organization security clearance as indicated in Part 6 - Resulting Contract Clauses;
 - (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicated in Part 6 - Resulting Contract Clauses;
 - (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
2. For additional information on security requirements, Bidders should refer to the [Contract Security Program of Public Works and Government Services Canada](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

1.2 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A.

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.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

The [2003](#) (2019-03-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

Bids must be submitted by email only to angel.dechantal@canada.ca by the date and time indicated in the bid solicitation. Emails, including attachments, must not be greater than 20mb. If required please submit your bid using multiple emails not to exceed Health Canada's server limitation.

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

2.3 Former Public Servant

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 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.

2.5 Applicable Laws

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

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

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 electronic copy (PDF) by email;

Section II: Financial Bid: One electronic copy (PDF) by email;

Section III: Certifications : One electronic copy (PDF) by email;

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 a numbering system that corresponds to the bid solicitation.



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 as per Annex B.

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

4.1.1.1 Mandatory Technical Criteria

The bid must meet the mandatory technical criteria specified below. The Bidder must provide the necessary documentation to support compliance with this requirement.

Bids which fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately.

Instruction to bidders:

Write beside each of the criterion the relevant page number(s) from your bid that addresses the requirement identified for that criterion.

	Requirements	Met (Y/N)	Comments / Reference in Proposal
M1	The Bidder must demonstrate, by providing a certification letter, that they have access to health administrative database(s) in which cohort contains at least 2.5 million participants conducted in the province of Ontario assessing risk of birth outcomes, childhood atopic diseases and childhood cognitive development index that has information on maternal medication use during pregnancy, residential location of participants, maternal smoking and intention to breastfeed between 1998 and 2018.		
M2	The Bidder must demonstrate, by providing a detailed resume, that they have at least 3 years of experience in overseeing studies assessing risk of environmental factors on health outcomes.		
M3	The Bidder must demonstrate, by providing a detailed resume, that they have at least 3 years experience in overseeing epidemiological studies assessing risk of environmental factors on health outcome which include		



	development of concentration response curves for the impact of markers of air pollution on the development of health outcomes applying smoothers (i.e. spline adjustments).		
M4	<p>The Bidder must demonstrate, by providing 2 detailed project summaries conducted in the last 5 years, that the proposed resources has conducted multivariate regression models using environmental exposures.</p> <p>Project Descriptions must include:</p> <ol style="list-style-type: none"> 1. Name of the department; 2. Period of the work (start and end dates) 3. Brief description of the scope/complexity of the work 4. Description of required tasks/deliverables; 5. Contact information (name, telephone, email address) for the project authority. <p>Canada reserves the right to contact client references to validate experience.</p>		
M5	The Bidder must demonstrate, by providing a project plan, that they can begin the analysis in September 2019 and provide deliverables as per scheduled deliverable date outlined in the Activities and Timelines table of the Statement of Work (Annex A)		
M6	The Bidder must demonstrate, by providing a copy with their bid, that the proposed resource has a valid doctoral degree (PhD).		
M7	The Bidder must demonstrate that the proposed resource can deliver epidemiological analysis, by providing links to 2 peer-review scientific papers published in the last three years		

4.2 Basis of Selection

SACC Manual Clause [A0031T](#) (2010-08-16), Basis of Selection – 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. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

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

5.1 Certifications Required with the Bid

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

5.1.1 Integrity Provisions - Declaration of Convicted Offences



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

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – Required Documentation

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

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.1 Status and Availability of Resources

SACC Manual Clause [A3005T](#) (2010-08-16), Status and Availability of Resources

5.2.3.4 Education and Experience

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

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

There is no security requirement applicable to the Contract.

- Contractors must be escorted by an employee or Commissionaire at all times when visiting Government of Canada facilities.
- Information which is to be used in the development of the contracted product, as reference material or otherwise made available to the contractor must be unclassified material and considered to be releasable to the public by Health Canada/Public Health Agency of Canada and/or The Government of Canada.
- No Protected or Classified information is to be made available to the contractor, used in the production of the contracted product, or produced as a result of this contract.

6.2 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A.

6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

[2010C](#) (2018-06-21), General Conditions - Services (Medium Complexity) apply to and form part of the Contract.



6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from September 1st 2019 to March 15th 2022 inclusively.

6.4.2 Deliverables

Delivery of the Deliverables will be made as specified at Annex A of the Contract.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Angel de Chantal

Telephone: 613-790-9182

E-mail address: angel.dechantal@canada.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 identified at Contract award)

The Project Authority for the Contract is:

Name: _____

Telephone: ____ _

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 (to be identified at Contract award)

Name: _____

Telephone: ____ _

E-mail address: _____

6.6 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.

6.7 Payment

6.7.1 Basis of Payment

Schedule of milestones			
#	Activities	Delivery date	All inclusive Fixe Price (excluding applicable taxes)
1	Link environmental exposures and birth data with relevant health administrative databases.	BY October 31 st 2019	\$



2	Conduct statistical analyses for interrelationships between different environmental factors & adverse birth outcomes (i.e. preterm birth & birth weight).	BY December 31 st 2019	\$
3	Conduct statistical analyses for interrelationships between different environmental factors & maternal health outcomes	BY March 15 th 2020	\$
4	Conduct statistical analyses for interrelationships between different environmental factors & childhood atopic diseases (i.e. asthma, allergic rhinitis and atopic dermatitis).	BY June 30 th 2020	\$
5	Complete linkages of forest fire smoke to study participants in the birth data & conduct statistical analyses for associations between forest fire smoke & adverse birth outcomes (i.e. preterm birth & birth weight)	BY March 15 th 2021	\$
6	Complete linkage of birth data to EDI data & conduct statistical analyses for associations between interrelationships between different environmental factors and early development indicators	BY June 30 th 2021	\$
7	Conduct statistical analyses for associations between forest fire smoke & childhood atopic diseases	BY March 15 th 2022	\$

6.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ _____. Customs duties are excluded 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% committed, or
 - b) four 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.

6.7.3 Electronic Payment of Invoices – Contract

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

- a. Direct Deposit (Domestic and International);

6.8 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- a) a copy of the release document and any other documents as specified in the Contract;
2. Invoices must be distributed as follows:

The electronic copy must be forwarded to the Project Authority and to hc.p2p.east.invoices-factures.est.sc@canada.ca for certification and payment.

6.9 Certifications and Additional Information

6.9.1 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.

6.10 Applicable Laws

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

6.11 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 [2010C](#) (2018-06-21), General Conditions - Services (Medium Complexity);
- c) Annex A, Statement of Work;
- d) Annex B, Basis of Payment;
- e) the Contractor's bid dated _____.

6.12 Insurance – No Specific Requirement

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



ANNEX A - STATEMENT OF WORK

1.1. Title:

CanEPIC: Canadian Environment, Pregnancy, Infant & Child Study

1.2. Introduction

The Clean Air Regulatory Agenda (CARA) of Health Canada (HC) recently approved a study to investigate two research objectives using specifically Ontario health data investigating the impact of outdoor air contaminants and other environmental factors on adverse health outcomes. Therefore, this contract aims to support the HC study entitled *CanEPIC: Canadian Environment, Pregnancy, Infant & Child Study*.

1.3. Objectives of the Requirement

HC requires the services of a contractor to address the following objectives through the use of health administrative data in the province of Ontario:

1. Evaluate the interrelationships between different environmental factors (e.g. greenness, walkability, noise, forest fire smoke, heat, etc.) both as independent risk factors and modifiers of the association between exposure to ambient air pollution during pregnancy and the risk of birth outcomes (i.e., preterm birth and birth weight), and maternal health outcomes, including maternal preeclampsia, gestational hypertension and gestational diabetes.
2. Evaluate the interrelationships between different environmental factors (i.e. greenness, walkability, noise, forest fire smoke, heat, etc.) both as independent risk factors and modifiers of the association between exposure to ambient air pollution during pregnancy/early life and the risk of adverse childhood atopic diseases (i.e. asthma, allergic rhinitis and atopic dermatitis) and early childhood developmental outcomes.

1.4. Background and Specific Scope of the Requirement

The contractor requires to have access to Ontario health administrative databases. The described health data from this study will be used by the intended contractor who has access to the data. The data will be used to assess objectives of this project. The project authority of Health Canada does not require access to this data. The data will only be used by the contractor in order to provide the intended deliverables (described in section 2.2)

Overview of the study

Study Population

The study population includes a retrospective cohort of pregnant women giving birth to live born singleton infants in the province of Ontario, Canada between April 1st 1998 and March 31st 2018. Mother-infant pair data must also capture information on maternal smoking status during pregnancy (i.e. yes or no) for the time period April 1st 2006 to March 31st 2014. The contractor must link mother-infant pair data to identify each mother's postal code of residence during pregnancy and to assess the child's vital status throughout the follow-up period. The contractor will identify birth outcomes (i.e. preterm delivery and low birth weight), childhood atopic diseases and early development index values through linkage with health administrative databases.

Exposure Assessment

The contractor will assign exposure to specific markers of outdoor air pollution (i.e. PM2.5, NO2, O3) and other environmental factors (i.e. greenness, walkability, noise, forest fire smoke, heat, etc.) using available data from satellite and land use regression models that will be provided by HC. The environmental data must be available across all postal codes of Ontario.

2. Requirements



2.1. Tasks, Activities, Deliverables and Milestones

Activites and Timelines

Schedule of milestones			
#	Activities	Deliverable	Delivery date
1	Link environmental exposures and birth data with relevant health administrative databases.	Provide report of identified links	BY October 31 st 2019
2	Conduct statistical analyses for interrelationships between different environmental factors & adverse birth outcomes (i.e. preterm birth & birth weight).	Provide results of analysis in an excel spread sheet	BY December 31 st 2019
3	Conduct statistical analyses for interrelationships between different environmental factors & maternal health outcomes	Provide results of analysis in an excel spread sheet	BY March 15 th 2020
4	Conduct statistical analyses for interrelationships between different environmental factors & childhood atopic diseases (i.e. asthma, allergic rhinitis and atopic dermatitis).	Provide results of analysis in an excel spread sheet	BY June 30 th 2020
5	Complete linkages of forest fire smoke to study participants in the birth data & conduct statistical analyses for associations between forest fire smoke & adverse birth outcomes (i.e. preterm birth & birth weight)	Provide results of analysis in an excel spread sheet	BY March 15 th 2021
6	Complete linkage of birth data to EDI data & conduct statistical analyses for associations between interrelationships between different environmental factors and early development indicators	Provide results of analysis in an excel spread sheet	BY June 30 th 2021
7	Conduct statistical analyses for associations between forest fire smoke & childhood atopic diseases	Provide results of analysis in an excel spread sheet	BY March 15 th 2022

2.2. Method and Source of Acceptance

All deliverables and services rendered under this contract are subject to inspection and acceptance by the Technical Authority. Deliverables are to be provided in PDF or excel format. The Technical Authority reserves the right to reject any deliverables that are not considered satisfactory, or require their correction before payment will be authorized.

Electronic correspondence will take place to guarantee that the deliverables will be presented on time and of acceptable quality. The Technical Authority must be advised in writing, of any deviation from the Statement of Work, or the Terms and Conditions outlined in the Contract.



2.3. Project Management Control Procedures

The Technical Authority will maintain regular communication with the contractor through monthly meetings over the phone to track the progress

3. Additional Information

3.1. Canada's Obligations

Health Canada will maintain regular communication with the contractor to ensure that the reports are delivered in time.

3.2. Contractor's Obligations

Unless otherwise specified, the contractor must use its own equipment and software for the performance of this Statement of Work. The contractor will complete the work described above in a timely manner according to the timeline outlined above and will maintain regular contact with the Technical Authority.

3.3. Location of Work, Work site and Delivery Point

The work outlined in this contract will be carried out on the premises of the Contractor. Due to existing workload and deadlines, all personnel assigned to this contract must be ready to work in close and frequent contact with the Technical Authority and other departmental personnel.

3.4. Language of Work

The work will be done in English.



ANNEX B - BASIS OF PAYMENT

Schedule of milestones				
#	Activities	Deliverable	Delivery date	All inclusive Fixe Price (exluding applicable tax)
1	Link environmental exposures and birth data with relevant health administrative databases.	Provide report of indentified links	BY October 31 st 2019	\$
2	Conduct statistical analyses for interrelationships between different environmental factors & adverse birth outcomes (i.e. preterm birth & birth weight).	Provide results of analysis in an excel spread sheet	BY December 31 st 2019	\$
3	Conduct statistical analyses for interrelationships between different environmental factors & maternal health outcomes	Provide results of analysis in an excel spread sheet	BY March 15 th 2020	\$
4	Conduct statistical analyses for interrelationships between different environmental factors & childhood atopic diseases (i.e. asthma, allergic rhinitis and atopic dermatitis).	Provide results of analysis in an excel spread sheet	BY June 30 th 2020	\$
5	Complete linkages of forest fire smoke to study participants in the birth data & conduct statistical analyses for associations between forest fire smoke & adverse birth outcomes (i.e. preterm birth & birth weight)	Provide results of analysis in an excel spread sheet	BY March 15 th 2021	\$
6	Complete linkage of birth data to EDI data & conduct statistical analyses for associations between interrelationships between different environmental factors and early development indicators	Provide results of analysis in an excel spread sheet	BY June 30 th 2021	\$
7	Conduct statistical analyses for associations between forest fire smoke & childhood atopic diseases	Provide results of analysis in an excel spread sheet	BY March 15 th 2022	\$
TOTAL COST				\$
APPLICABLE TAX (HST)				\$