

# GENERAL SERVICE AGREEMENT



<i>For Administrative Purposes Only</i>	
<p>Ministry Contract No.: CS14ESD-099</p> <p>Requisition No.: _____</p> <p>Solicitation No.(if applicable): _____</p> <p>Commodity Code: _____</p> <p><b>Contractor Information</b></p> <p>Supplier Name: Alan Kohut P.Eng</p> <p>Supplier No.: _____</p> <p>Telephone No.: (250) 744-7859</p> <p>E-mail Address: apkohut@telus.net</p> <p>Website: none</p>	<p><b>Financial Information</b></p> <p>Client: 048</p> <p>Responsibility Centre: 2941Q</p> <p>Service Line: 47234</p> <p>STOB: 6001</p> <p>Project: 2913277</p> <p><b>Template version:</b> April 1, 2013</p>

## TABLE OF CONTENTS

No.	Heading	Page
1.	<b>Definitions.....</b>	<b>1</b>
	1.1 General.....	1
	1.2 Meaning of "record" .....	1
2.	<b>Services.....</b>	<b>1</b>
	2.1 Provision of services .....	2
	2.2 Term .....	2
	2.3 Supply of various items .....	2
	2.4 Standard of care.....	2
	2.5 Standards in relation to persons performing Services.....	2
	2.6 Instructions by Province .....	2
	2.7 Confirmation of non-written instructions .....	2
	2.8 Effectiveness of non-written instructions .....	2
	2.9 Applicable laws .....	2
3.	<b>Payment.....</b>	<b>2</b>
	3.1 Fees and expenses .....	2
	3.2 Statements of accounts .....	3
	3.3 Withholding of amounts .....	3
	3.4 Appropriation.....	3
	3.5 Currency .....	3
	3.6 Non-resident income tax.....	3
	3.7 Prohibition against committing money .....	3
	3.8 Refunds of taxes .....	3
4.	<b>Representations and Warranties .....</b>	<b>4</b>
5.	<b>Privacy, Security and Confidentiality .....</b>	<b>4</b>
	5.1 Privacy .....	4
	5.2 Security .....	4
	5.3 Confidentiality .....	4
	5.4 Public announcements .....	5
	5.5 Restrictions on promotion .....	5
6.	<b>Material and Intellectual Property .....</b>	<b>5</b>
	6.1 Access to Material .....	5
	6.2 Ownership and delivery of Material.....	5
	6.3 Matters respecting intellectual property .....	5
	6.4 Rights relating to Incorporated Material .....	5
7.	<b>Records and Reports .....</b>	<b>5</b>
	7.1 Work reporting .....	5
	7.2 Time and expense records .....	6
8.	<b>Audit .....</b>	<b>6</b>

9.	<b>Indemnity and Insurance</b> .....	6
9.1	Indemnity .....	6
9.2	Insurance .....	6
9.3	Workers compensation.....	6
9.4	Personal optional protection .....	6
9.5	Evidence of coverage.....	6
10.	<b>Force Majeure</b> .....	7
10.1	Definitions relating to force majeure.....	7
10.2	Consequence of Event of Force Majeure .....	7
10.3	Duties of Affected Party .....	7
11.	<b>Default and Termination</b> .....	7
11.1	Definitions relating to default and termination.....	7
11.2	Province's options on default.....	8
11.3	Delay not a waiver .....	8
11.4	Province's right to terminate other than for default .....	8
11.5	Payment consequences of termination .....	8
11.6	Discharge of liability .....	8
11.7	Notice in relation to Events of Default.....	8
12.	<b>Dispute Resolution</b> .....	9
12.1	Dispute resolution process .....	9
12.2	Location of arbitration or mediation.....	9
12.3	Costs of mediation or arbitration.....	9
13.	<b>Miscellaneous</b> .....	9
13.1	Delivery of notices .....	9
13.2	Change of address or fax number .....	9
13.3	Assignment .....	9
13.4	Subcontracting.....	10
13.5	Waiver.....	10
13.6	Modifications .....	10
13.7	Entire agreement .....	10
13.8	Survival of certain provisions .....	10
13.9	Schedules.....	10
13.10	Independent contractor.....	10
13.11	Personnel not to be employees of Province.....	10
13.12	Key Personnel.....	11
13.13	Pertinent Information .....	11
13.14	Conflict of interest.....	11
13.15	Time .....	11
13.16	Conflicts among provisions.....	11
13.17	Agreement not permit nor fetter.....	11
13.18	Remainder not affected by invalidity.....	11
13.19	Further assurances .....	11
13.20	Additional terms .....	11
13.21	Governing law .....	12
14.	<b>Interpretation</b> .....	12
15.	<b>Execution and Delivery of Agreement</b> .....	12

**SCHEDULE A – SERVICES**

- Part 1 - Term
- Part 2 - Services
- Part 3 - Related Documentation
- Part 4 - Key Personnel

**SCHEDULE B – FEES AND EXPENSES**

- Part 1 - Maximum Amount Payable
- Part 2 - Fees
- Part 3 - Expenses
- Part 4 - Statements of Account
- Part 5 - Payments Due

**SCHEDULE C – APPROVED SUBCONTRACTOR(S)**

**SCHEDULE D – INSURANCE**

**SCHEDULE E – PRIVACY PROTECTION SCHEDULE**

**SCHEDULE F – ADDITIONAL TERMS**

**SCHEDULE G – SECURITY SCHEDULE**



THIS AGREEMENT is dated for reference the 9<sup>th</sup> day of October, 2013.

BETWEEN:

Alan Kohut P.Eng., doing business as Hy-Geo Consulting (the "Contractor") with the following specified address and e-mail address

1041 Laburnum Road  
Victoria, BC V8Z 2M9  
250-744-7859 (cell)  
[apkohut@telus.net](mailto:apkohut@telus.net)

AND:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by Minister of Environment (the "Province") with the following specified address and fax number:

PO Box 9362 Stn Prov Govt  
Victoria BC V8W 9M2  
4<sup>th</sup> Floor – 395 Waterfront Crescent  
Victoria BC V8T 5K7

Contract Monitor: Klaus Rathfelder  
250-356-5180 (phone)  
250-356-1202 (fax)  
[Klaus.Rathfelder@gov.bc.ca](mailto:Klaus.Rathfelder@gov.bc.ca)

The Province wishes to retain the Contractor to provide the services specified in Schedule A and, in consideration for the remuneration set out in Schedule B, the Contractor has agreed to provide those services, on the terms and conditions set out in this Agreement.

As a result, the Province and the Contractor agree as follows:

## 1 DEFINITIONS

### General

1.1 In this Agreement, unless the context otherwise requires:

- (a) "Business Day" means a day, other than a Saturday or Sunday, on which Provincial government offices are open for normal business in British Columbia;
- (b) "Incorporated Material" means any material in existence prior to the start of the Term or developed independently of this Agreement, and that is incorporated or embedded in the Produced Material by the Contractor or a Subcontractor;
- (c) "Material" means the Produced Material and the Received Material;
- (d) "Produced Material" means records, software and other material, whether complete or not, that, as a result of this Agreement, are produced by the Contractor or a Subcontractor and includes the Incorporated Material;
- (e) "Received Material" means records, software and other material, whether complete or not, that, as a result of this Agreement, are received by the Contractor or a Subcontractor from the Province or any other person;
- (f) "Services" means the services described in Part 2 of Schedule A;
- (g) "Subcontractor" means a person described in paragraph (a) or (b) of section 13.4; and
- (h) "Term" means the term of the Agreement described in Part 1 of Schedule A subject to that term ending earlier in accordance with this Agreement.

### Meaning of "record"

1.2 The definition of "record" in the *Interpretation Act* is incorporated into this Agreement and "records" will bear a corresponding meaning.

## 2 SERVICES

#### Provision of services

- 2.1 The Contractor must provide the Services in accordance with this Agreement.

#### Term

- 2.2 Regardless of the date of execution or delivery of this Agreement, the Contractor must provide the Services during the Term.

#### Supply of various items

- 2.3 Unless the parties otherwise agree in writing, the Contractor must supply and pay for all labour, materials, equipment, tools, facilities, approvals and licenses necessary or advisable to perform the Contractor's obligations under this Agreement, including the license under section 6.4.

#### Standard of care

- 2.4 Unless otherwise specified in this Agreement, the Contractor must perform the Services to a standard of care, skill and diligence maintained by persons providing, on a commercial basis, services similar to the Services.

#### Standards in relation to persons performing Services

- 2.5 The Contractor must ensure that all persons employed or retained to perform the Services are qualified and competent to perform them and are properly trained, instructed and supervised.

#### Instructions by Province

- 2.6 The Province may from time to time give the Contractor reasonable instructions (in writing or otherwise) as to the performance of the Services. The Contractor must comply with those instructions but, unless otherwise specified in this Agreement, the Contractor may determine the manner in which the instructions are carried out.

#### Confirmation of non-written instructions

- 2.7 If the Province provides an instruction under section 2.6 other than in writing, the Contractor may request that the instruction be confirmed by the Province in writing, which request the Province must comply with as soon as it is reasonably practicable to do so.

#### Effectiveness of non-written instructions

- 2.8 Requesting written confirmation of an instruction under section 2.7 does not relieve the Contractor from complying with the instruction at the time the instruction was given.

#### Applicable laws

- 2.9 In the performance of the Contractor's obligations under this Agreement, the Contractor must comply with all applicable laws.

### **3 PAYMENT**

#### Fees and expenses

- 3.1 If the Contractor complies with this Agreement, then the Province must pay to the Contractor at the times and on the conditions set out in Schedule B:
- (a) the fees described in that Schedule;

- (b) the expenses, if any, described in that Schedule if they are supported, where applicable, by proper receipts and, in the Province's opinion, are necessarily incurred by the Contractor in providing the Services; and
- (c) any applicable taxes payable by the Province under law or agreement with the relevant taxation authorities on the fees and expenses described in paragraphs (a) and (b).

The Province is not obliged to pay to the Contractor more than the "Maximum Amount" specified in Schedule B on account of fees and expenses.

#### Statements of accounts

- 3.2 In order to obtain payment of any fees and expenses under this Agreement, the Contractor must submit to the Province a written statement of account in a form satisfactory to the Province upon completion of the Services or at other times described in Schedule B.

#### Withholding of amounts

- 3.3 Without limiting section 9.1, the Province may withhold from any payment due to the Contractor an amount sufficient to indemnify, in whole or in part, the Province and its employees and agents against any liens or other third-party claims that have arisen or could arise in connection with the provision of the Services. An amount withheld under this section must be promptly paid by the Province to the Contractor upon the basis for withholding the amount having been fully resolved to the satisfaction of the Province.

#### Appropriation

- 3.4 The Province's obligation to pay money to the Contractor is subject to the *Financial Administration Act*, which makes that obligation subject to an appropriation being available in the fiscal year of the Province during which payment becomes due.

#### Currency

- 3.5 Unless otherwise specified in this Agreement, all references to money are to Canadian dollars.

#### Non-resident income tax

- 3.6 If the Contractor is not a resident in Canada, the Contractor acknowledges that the Province may be required by law to withhold income tax from the fees described in Schedule B and then to remit that tax to the Receiver General of Canada on the Contractor's behalf.

#### Prohibition against committing money

- 3.7 Without limiting section 13.10(a), the Contractor must not in relation to performing the Contractor's obligations under this Agreement commit or purport to commit the Province to pay any money except as may be expressly provided for in this Agreement.

#### Refunds of taxes

- 3.8 The Contractor must:
- (a) apply for, and use reasonable efforts to obtain, any available refund, credit, rebate or remission of federal, provincial or other tax or duty imposed on the Contractor as a result of this Agreement that the Province has paid or reimbursed to the Contractor or agreed to pay or reimburse to the Contractor under this Agreement; and
  - (b) immediately on receiving, or being credited with, any amount applied for under paragraph (a), remit that amount to the Province.

#### Public announcements

- 5.4 Any public announcement relating to this Agreement will be arranged by the Province and, if such consultation is reasonably practicable, after consultation with the Contractor.

#### Restrictions on promotion

- 5.5 The Contractor must not, without the prior written approval of the Province, refer for promotional purposes to the Province being a customer of the Contractor or the Province having entered into this Agreement.

### 6 MATERIAL AND INTELLECTUAL PROPERTY

#### Access to Material

- 6.1 If the Contractor receives a request for access to any of the Material from a person other than the Province, and this Agreement does not require or authorize the Contractor to provide that access, the Contractor must promptly advise the person to make the request to the Province.

#### Ownership and delivery of Material

- 6.2 The Province exclusively owns all property rights in the Material which are not intellectual property rights. The Contractor must deliver any Material to the Province immediately upon the Province's request.

#### Matters respecting intellectual property

- 6.3 The Province exclusively owns all intellectual property rights, including copyright, in:

- (a) Received Material that the Contractor receives from the Province; and
- (b) Produced Material, other than any Incorporated Material.

Upon the Province's request, the Contractor must deliver to the Province documents satisfactory to the Province that irrevocably waive in the Province's favour any moral rights which the Contractor (or employees of the Contractor) or a Subcontractor (or employees of a Subcontractor) may have in the Produced Material and that confirm the vesting in the Province of the copyright in the Produced Material, other than any Incorporated Material.

#### Rights in relation to Incorporated Material

- 6.4 Upon any Incorporated Material being embedded or incorporated in the Produced Material and to the extent that it remains so embedded or incorporated, the Contractor grants to the Province:
- (a) a non-exclusive, perpetual, irrevocable, royalty-free, worldwide license to use, reproduce, modify and distribute that Incorporated Material; and
  - (b) the right to sublicense to third-parties the right to use, reproduce, modify and distribute that Incorporated Material.

### 7 RECORDS AND REPORTS

#### Work reporting

- 7.1 Upon the Province's request, the Contractor must fully inform the Province of all work done by the Contractor or a Subcontractor in connection with providing the Services.

## 10 FORCE MAJEURE

### Definitions relating to force majeure

10.1 In this section and sections 10.2 and 10.3:

- (a) "Event of Force Majeure" means one of the following events:
  - (i) a natural disaster, fire, flood, storm, epidemic or power failure,
  - (ii) a war (declared and undeclared), insurrection or act of terrorism or piracy,
  - (iii) a strike (including illegal work stoppage or slowdown) or lockout, or
  - (iv) a freight embargoif the event prevents a party from performing the party's obligations in accordance with this Agreement and is beyond the reasonable control of that party; and
- (b) "Affected Party" means a party prevented from performing the party's obligations in accordance with this Agreement by an Event of Force Majeure.

### Consequence of Event of Force Majeure

10.2 An Affected Party is not liable to the other party for any failure or delay in the performance of the Affected Party's obligations under this Agreement resulting from an Event of Force Majeure and any time periods for the performance of such obligations are automatically extended for the duration of the Event of Force Majeure provided that the Affected Party complies with the requirements of section 10.3.

### Duties of Affected Party

10.3 An Affected Party must promptly notify the other party in writing upon the occurrence of the Event of Force Majeure and make all reasonable efforts to prevent, control or limit the effect of the Event of Force Majeure so as to resume compliance with the Affected Party's obligations under this Agreement as soon as possible.

## 11 DEFAULT AND TERMINATION

### Definitions relating to default and termination

11.1 In this section and sections 11.2 to 11.4:

- (a) "Event of Default" means any of the following:
  - (i) an Insolvency Event,
  - (ii) the Contractor fails to perform any of the Contractor's obligations under this Agreement, or
  - (iii) any representation or warranty made by the Contractor in this Agreement is untrue or incorrect; and
- (b) "Insolvency Event" means any of the following:
  - (i) an order is made, a resolution is passed or a petition is filed, for the Contractor's liquidation or winding up,
  - (ii) the Contractor commits an act of bankruptcy, makes an assignment for the benefit of the Contractor's creditors or otherwise acknowledges the Contractor's insolvency,
  - (iii) a bankruptcy petition is filed or presented against the Contractor or a proposal under the *Bankruptcy and Insolvency Act* (Canada) is made by the Contractor,
  - (iv) a compromise or arrangement is proposed in respect of the Contractor under the *Companies' Creditors Arrangement Act* (Canada),
  - (v) a receiver or receiver-manager is appointed for any of the Contractor's property, or

- (vi) the Contractor ceases, in the Province's reasonable opinion, to carry on business as a going concern.

#### Province's options on default

- 11.2 On the happening of an Event of Default, or at any time thereafter, the Province may, at its option, elect to do any one or more of the following:
- (a) by written notice to the Contractor, require that the Event of Default be remedied within a time period specified in the notice;
  - (b) pursue any remedy or take any other action available to it at law or in equity; or
  - (c) by written notice to the Contractor, terminate this Agreement with immediate effect or on a future date specified in the notice, subject to the expiration of any time period specified under section 11.2(a).

#### Delay not a waiver

- 11.3 No failure or delay on the part of the Province to exercise its rights in relation to an Event of Default will constitute a waiver by the Province of such rights.

#### Province's right to terminate other than for default

- 11.4 In addition to the Province's right to terminate this Agreement under section 11.2(c) on the happening of an Event of Default, the Province may terminate this Agreement for any reason by giving at least 10 days' written notice of termination to the Contractor.

#### Payment consequences of termination

- 11.5 Unless Schedule B otherwise provides, if the Province terminates this Agreement under section 11.4:
- (a) the Province must, within 30 days of such termination, pay to the Contractor any unpaid portion of the fees and expenses described in Schedule B which corresponds with the portion of the Services that was completed to the Province's satisfaction before termination of this Agreement; and
  - (b) the Contractor must, within 30 days of such termination, repay to the Province any paid portion of the fees and expenses described in Schedule B which corresponds with the portion of the Services that the Province has notified the Contractor in writing was not completed to the Province's satisfaction before termination of this Agreement.

#### Discharge of liability

- 11.6 The payment by the Province of the amount described in section 11.5(a) discharges the Province from all liability to make payments to the Contractor under this Agreement.

#### Notice in relation to Events of Default

- 11.7 If the Contractor becomes aware that an Event of Default has occurred or anticipates that an Event of Default is likely to occur, the Contractor must promptly notify the Province of the particulars of the Event of Default or anticipated Event of Default. A notice under this section as to the occurrence of an Event of Default must also specify the steps the Contractor proposes to take to address, or prevent recurrence of, the Event of Default. A notice under this section as to an anticipated Event of Default must specify the steps the Contractor proposes to take to prevent the occurrence of the anticipated Event of Default.

## 12 DISPUTE RESOLUTION

### Dispute resolution process

- 12.1 In the event of any dispute between the parties arising out of or in connection with this Agreement, the following dispute resolution process will apply unless the parties otherwise agree in writing:
- (a) the parties must initially attempt to resolve the dispute through collaborative negotiation;
  - (b) if the dispute is not resolved through collaborative negotiation within 15 Business Days of the dispute arising, the parties must then attempt to resolve the dispute through mediation under the rules of the British Columbia Mediator Roster Society; and
  - (c) if the dispute is not resolved through mediation within 30 Business Days of the commencement of mediation, the dispute must be referred to and finally resolved by arbitration under the *Arbitration Act*.

### Location of arbitration or mediation

- 12.2 Unless the parties otherwise agree in writing, an arbitration or mediation under section 12.1 will be held in Victoria, British Columbia.

### Costs of mediation or arbitration

- 12.3 Unless the parties otherwise agree in writing or, in the case of an arbitration, the arbitrator otherwise orders, the parties must share equally the costs of a mediation or arbitration under section 12.1 other than those costs relating to the production of expert evidence or representation by counsel.

## 13 MISCELLANEOUS

### Delivery of notices

- 13.1 Any notice contemplated by this Agreement, to be effective, must be in writing and delivered as follows:
- (a) by fax to the addressee's fax number specified on the first page of this Agreement, in which case it will be deemed to be received on the day of transmittal unless transmitted after the normal business hours of the addressee or on a day that is not a Business Day, in which cases it will be deemed to be received on the next following Business Day;
  - (b) by hand to the addressee's address specified on the first page of this Agreement, in which case it will be deemed to be received on the day of its delivery; or
  - (c) by prepaid post to the addressee's address specified on the first page of this Agreement, in which case if mailed during any period when normal postal services prevail, it will be deemed to be received on the fifth Business Day after its mailing.

### Change of address or fax number

- 13.2 Either party may from time to time give notice to the other party of a substitute address or fax number, which from the date such notice is given will supersede for purposes of section 13.1 any previous address or fax number specified for the party giving the notice.

### Assignment

- 13.3 The Contractor must not assign any of the Contractor's rights under this Agreement without the Province's prior written consent.



## Subcontracting

- 13.4 The Contractor must not subcontract any of the Contractor's obligations under this Agreement to any person without the Province's prior written consent, excepting persons listed in the attached Schedule C. No subcontract, whether consented to or not, relieves the Contractor from any obligations under this Agreement. The Contractor must ensure that:
- (a) any person retained by the Contractor to perform obligations under this Agreement; and
  - (b) any person retained by a person described in paragraph (a) to perform those obligations fully complies with this Agreement in performing the subcontracted obligations.

## Waiver

- 13.5 A waiver of any term or breach of this Agreement is effective only if it is in writing and signed by, or on behalf of, the waiving party and is not a waiver of any other term or breach.

## Modifications

- 13.6 No modification of this Agreement is effective unless it is in writing and signed by, or on behalf of, the parties.

## Entire agreement

- 13.7 This Agreement (including any modification of it) constitutes the entire agreement between the parties as to performance of the Services.

## Survival of certain provisions

- 13.8 Sections 2.9, 3.1 to 3.4, 3.7, 3.8, 5.1 to 5.5, 6.1 to 6.4, 7.1, 7.2, 8.1, 9.1, 9.2, 9.5, 10.1 to 10.3, 11.2, 11.3, 11.5, 11.6, 12.1 to 12.3, 13.1, 13.2, 13.8, and 13.10, any accrued but unpaid payment obligations, and any other sections of this Agreement (including schedules) which, by their terms or nature, are intended to survive the completion of the Services or termination of this Agreement, will continue in force indefinitely, even after this Agreement ends.

## Schedules

- 13.9 The schedules to this Agreement (including any appendices or other documents attached to, or incorporated by reference into, those schedules) are part of this Agreement.

## Independent contractor

- 13.10 In relation to the performance of the Contractor's obligations under this Agreement, the Contractor is an independent contractor and not:
- (a) an employee or partner of the Province; or
  - (b) an agent of the Province except as may be expressly provided for in this Agreement.

The Contractor must not act or purport to act contrary to this section.

## Personnel not to be employees of Province

- 13.11 The Contractor must not do anything that would result in personnel hired or used by the Contractor or a Subcontractor in relation to providing the Services being considered employees of the Province.



#### Key Personnel

- 13.12 If one or more individuals are specified as "Key Personnel" of the Contractor in Part 4 of Schedule A, the Contractor must cause those individuals to perform the Services on the Contractor's behalf, unless the Province otherwise approves in writing, which approval must not be unreasonably withheld.

#### Pertinent information

- 13.13 The Province must make available to the Contractor all information in the Province's possession which the Province considers pertinent to the performance of the Services.

#### Conflict of interest

- 13.14 The Contractor must not provide any services to any person in circumstances which, in the Province's reasonable opinion, could give rise to a conflict of interest between the Contractor's duties to that person and the Contractor's duties to the Province under this Agreement.

#### Time

- 13.15 Time is of the essence in this Agreement and, without limitation, will remain of the essence after any modification or extension of this Agreement, whether or not expressly restated in the document effecting the modification or extension.

#### Conflicts among provisions

- 13.16 Conflicts among provisions of this Agreement will be resolved as follows:
- (a) a provision in the body of this Agreement will prevail over any conflicting provision in, attached to or incorporated by reference into a schedule, unless that conflicting provision expressly states otherwise; and
  - (b) a provision in a schedule will prevail over any conflicting provision in a document attached to or incorporated by reference into a schedule, unless the schedule expressly states otherwise.

#### Agreement not permit nor fetter

- 13.17 This Agreement does not operate as a permit, license, approval or other statutory authority which the Contractor may be required to obtain from the Province or any of its agencies in order to provide the Services. Nothing in this Agreement is to be construed as interfering with, or fettering in any manner, the exercise by the Province or its agencies of any statutory, prerogative, executive or legislative power or duty.

#### Remainder not affected by invalidity

- 13.18 If any provision of this Agreement or the application of it to any person or circumstance is invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provision to any other person or circumstance will not be affected or impaired and will be valid and enforceable to the extent permitted by law.

#### Further assurances

- 13.19 Each party must perform the acts, execute and deliver the writings, and give the assurances as may be reasonably necessary to give full effect to this Agreement.

#### Additional terms

- 13.20 Any additional terms set out in the attached Schedule F apply to this Agreement.

## Governing law

- 13.21 This Agreement is governed by, and is to be interpreted and construed in accordance with, the laws applicable in British Columbia.

## 14 INTERPRETATION

### 14.1 In this Agreement:

- (a) "includes" and "including" are not intended to be limiting;
- (b) unless the context otherwise requires, references to sections by number are to sections of this Agreement;
- (c) the Contractor and the Province are referred to as "the parties" and each of them as a "party";
- (d) "attached" means attached to this Agreement when used in relation to a schedule;
- (e) unless otherwise specified, a reference to a statute by name means the statute of British Columbia by that name, as amended or replaced from time to time;
- (f) the headings have been inserted for convenience of reference only and are not intended to describe, enlarge or restrict the scope or meaning of this Agreement or any provision of it;
- (g) "person" includes an individual, partnership, corporation or legal entity of any nature; and
- (h) unless the context otherwise requires, words expressed in the singular include the plural and *vice versa*.

## 15 EXECUTION AND DELIVERY OF AGREEMENT

- 15.1 This Agreement may be entered into by a separate copy of this Agreement being executed by, or on behalf of, each party and that executed copy being delivered to the other party by a method provided for in section 13.1 or any other method agreed to by the parties.

The parties have executed this Agreement as follows:

<p>SIGNED on the <u>11<sup>th</sup></u> day of <u>OCTOBER</u>, 20<u>13</u> by the Contractor (or, if not an individual, on its behalf by its authorized signatory or signatories):</p> <p><u>A.P. Kohut</u></p> <p>Signature(s)</p> <p><u>ALAN P. KOHUT</u></p> <p>Print Name(s)</p> <p><u>SR. HYDROGEOLOGIST / PRINCIPAL</u></p> <p>Print Title(s)</p>	<p>SIGNED on the <u>15<sup>th</sup></u> day of <u>OCTOBER</u>, 20<u>13</u> on behalf of the Province by its duly authorized representative:</p> <p><u>[Signature]</u></p> <p>Signature</p> <p><u>TARIK DESSOUKI</u></p> <p>Print Name</p> <p><u>SECTION HEAD</u></p> <p>Print Title</p>
---	---

## Schedule A – Services

### PART 1. TERM:

The term of this Agreement commences on November 1, 2013 and ends on March 28, 2014.

### PART 2. SERVICES:

#### Outputs

The Contractor must:

1. Develop a methodology for constructing a conceptual model of the hydrologic inputs and outputs of aquifers in BC using readily available information. Where data are adequate, the methodology should provide quantitative estimates of the regional aquifer water budget. The methodology should be applicable to all aquifer types and climatic regimes in the province.
2. Include protocols to assist and guide water managers and licensing personnel through a process for
  - Establishing the likely aquifer type(s) for an area or watershed of interest or location of a specific license application
  - Defining the key and desirable information and data requirements
  - Determining the primary data sources to be reviewed, and potential secondary sources
  - Developing a conceptual level understanding of the hydrogeologic flow regime for the aquifer, including the key recharge and discharge processes
  - Assessing the degree of connectivity between the aquifer and surface waters, and the likelihood of pumping impacts on surface water flows
  - Estimating annual volumes of the aquifer water budget to the extent that data are available or can be estimated
  - Assessing the groundwater development potential available for licensing
3. Address uncertainty in the methodology by identifying and describing key data and data gaps that potentially affect the aquifer conceptual model and aquifer budget estimates. Investigate the feasibility of a qualitative risk factor and/or a factor of safety that reflects the level of uncertainty for use in groundwater allocation and licensing.
4. Apply the water budget methodology to the Abbotsford-Sumas aquifer. The results should include:
  - A demonstration of how a water manager or licensing official would apply the methodology and protocols to a specific aquifer
  - Description of the general flow patterns, recharge and discharge areas and expected hydraulic connection to surface water, and guidance on how pumping could affect flow patterns and exiting groundwater uses and affect on surface water
  - Estimates of the volume of inputs and outputs to the aquifer on an average annual basis
  - Estimates of the volume of groundwater development potential on an annual basis, and a description of any relevant issues
  - An assessment of data availability and gaps, including discussion of how data gaps and uncertainty should be addressed in determining groundwater development potential for licensing

#### Inputs

The Ministry of Environment will provide:

1. Access to Ministry of Environment (MoE) groundwater related databases and reports. MoE can assist with the gathering of data and reports that are reasonably available and needed to support this project.

2. Information about the proposed licensing policy if needed to complete this work. This information is confidential and subject to confidentiality conditions in the contract. In addition the contractor may be required to sign a confidentiality agreement.

### **Outcomes**

Through the delivery of the Services the Province wishes to realize the following outcomes and, without limiting the obligation of the Contractor to comply with other provisions of this Part, the Contractor must use commercially reasonable efforts to achieve them:

1. Develop a general approach to form preliminary conceptual models and water budgets to support anticipated licensing of groundwater, and
2. Demonstrate the groundwater budget methodology by application to the Abbotsford-Sumas aquifer.

The parties acknowledge that the Contractor does not warrant that these outcomes will be achieved.

### **Reporting and Meeting Requirements**

The contractor must participate in up to two in-person meetings at the government offices to discuss the status and direction of the project.

The contractor shall prepare one draft and one final report detailing all work listed above. Additionally the report must include:

- An assessment of the aquifer budget methodology including discussion about its applicability and limitations for groundwater licensing
- Recommendations on appropriate use of the methodology in groundwater licensing
- Recommendations for potential future improvements and enhancements of the methodology

The draft report must be completed no later than February 28, 2014 to provide a 2-week review period for government staff. The final report must be completed by March 28, 2014.

### **PART 3. RELATED DOCUMENTATION:**

1. The Contractor must perform the Services in accordance with the obligations set out in this Schedule A including any engagement letter, Solicitation document excerpt, proposal excerpt or other documentation attached as an Appendix to, or specified as being incorporated by reference in, this Schedule.
2. The following are Appendices to this Schedule A: not applicable

### **PART 4. KEY PERSONNEL:**

1. The Key Personnel of the Contractor are: Alan Kohut, P.Eng, Sr. Hydrogeologist

## Schedule B – Fees and Expenses

### 1. MAXIMUM AMOUNT PAYABLE:

**Maximum Amount:** Despite sections 2 and 3 of this Schedule, \$10,000 is the maximum amount which the Province is obliged to pay to the Contractor for fees and expenses under this Agreement (exclusive of any applicable taxes described in section 3.1(c) of this Agreement).

### 2. FEES:

#### Flat Rate

**Fees:** \$10,000 for performing the Services during the Term.

### 3. EXPENSES:

None

### 4. STATEMENTS OF ACCOUNT:

**Statements of Account:** In order to obtain payment of any fees and expenses under this Agreement, the Contractor must deliver to the Province at the end of the Term or, if the Contractor completes the Services before that time, on the completion of the Services, a written statement of account in a form satisfactory to the Province containing:

- (a) the Contractor's legal name and address;
- (b) the date of the statement;
- (c) the Contractor's calculation of all fees claimed under this Agreement, including a declaration that the Services for which the Contractor claims fees have been completed;
- (d) a chronological listing, in reasonable detail, of any expenses claimed by the Contractor with receipts attached, if applicable, and, if the Contractor is claiming reimbursement of any GST or other applicable taxes paid or payable by the Contractor in relation to those expenses, a description of any credits, rebates, refunds or remissions the Contractor is entitled to from the relevant taxation authorities in relation to those taxes;
- (e) the Contractor's calculation of all applicable taxes payable by the Province in relation to the Services;
- (f) a description of this Agreement to which the statement relates;
- (g) a statement number for identification; and
- (h) any other billing information reasonably requested by the Province.

### 5. PAYMENTS DUE:

**Payments Due:** Within 30 days of the Province's receipt of the Contractor's written statement of account delivered in accordance with this Schedule, the Province must pay the Contractor the fees and expenses (plus all applicable taxes) claimed in the statement if they are in accordance with this Schedule. Statements of account or contract invoices offering an early payment discount may be paid by the Province as required to obtain the discount.

**Schedule C – Approved Subcontractor(s)**

Not applicable.

**Schedule D – Insurance**

Not applicable.

**Schedule E – Privacy Protection Schedule**

Not applicable.

**Schedule F – Additional Terms**

Not applicable.

**Schedule G – Security Schedule**

Not applicable.

## Burrage, Barbara CSNR:EX

---

**From:** Alan Kohut [alankohut@icloud.com]  
**Sent:** Friday, December 13, 2013 5:05 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Re: Abbotsford-Sumas Aquifer

Ok, let's go back to 10.

Al

> On Dec 13, 2013, at 2:17 PM, "Rathfelder, Klaus ENV:EX" <Klaus.Rathfelder@gov.bc.ca> wrote:  
>  
> UPDATE: Just received email canceling section meeting. So 10:00 works now, or we can still do 1:00, whatever you prefer.  
>  
> -----Original Message-----  
> From: Alan Kohut [mailto:alankohut@icloud.com]  
> Sent: Friday, December 13, 2013 2:06 PM  
> To: Rathfelder, Klaus ENV:EX  
> Subject: Re: Abbotsford-Sumas Aquifer  
>  
> How about meeting for lunch or after?  
>  
> Al  
>  
>> On 2013-12-13, at 1:56 PM, "Rathfelder, Klaus ENV:EX" <Klaus.Rathfelder@gov.bc.ca> wrote:  
>>  
>> Wednesday would be great, but we have a section meeting from 1030-12. Could we meet before or after?  
>>  
>> -----Original Message-----  
>> From: Alan Kohut [mailto:alankohut@icloud.com]  
>> Sent: Friday, December 13, 2013 1:34 PM  
>> To: Rathfelder, Klaus ENV:EX  
>> Subject: Re: Abbotsford-Sumas Aquifer  
>>  
>> Hi Klaus, Wednesday would be good for me, say 10:00 am?  
>>  
>> Al  
>>

>> Alan Kohut P.Eng.  
>> Sr. Hydrogeologist  
>> Hy-Geo Consulting  
>>  
>> office: 250-658-1701  
>> cell: 250-744-7859  
>> www.hy-geo.com  
>>  
>>  
>>  
>>> On 2013-12-13, at 1:13 PM, "Rathfelder, Klaus ENV:EX" <Klaus.Rathfelder@gov.bc.ca> wrote:  
>>>  
>>> Al,  
>>>  
>>> Sorry I have not replied. Are you available on Wed, Thur or  
Friday?  
>>>  
>>> -----Original Message-----  
>>> From: Alan Kohut [mailto:apkohut@telus.net]  
>>> Sent: Wednesday, November 27, 2013 4:06 PM  
>>> To: Rathfelder, Klaus ENV:EX  
>>> Cc: 'Alan Kohut'; Wei, Mike ENV:EX  
>>> Subject: Re: Abbotsford-Sumas Aquifer  
>>>  
>>> Thank Klaus, perhaps you and I can meet over coffee to discuss progress sometime during the week of Dec 9 if you are available.  
>>>  
>>> Al  
>>>  
>>>> On 2013-11-27, at 2:23 PM, Rathfelder, Klaus ENV:EX wrote:  
>>>>  
>>>> Okay. Looks like Mike has no openings in the near term. I'll try again in the early new year. Klaus  
>>>>  
>>>> -----Original Message-----  
>>>> From: Alan Kohut [mailto:alankohut@icloud.com]  
>>>> Sent: Wednesday, November 27, 2013 10:04 AM  
>>>> To: Rathfelder, Klaus ENV:EX  
>>>> Subject: Re: Abbotsford-Sumas Aquifer  
>>>>  
>>>> Apologies Klaus. Dec. 5 is not good for me  
>>>>  
>>>> Al

s.22

s.22



>>>>  
>>>> On 2013-11-27, at 9:45 AM, "Rathfelder, Klaus ENV:EX" <Klaus.Rathfelder@gov.bc.ca> wrote:  
>>>>  
>>>> Al,  
>>>>  
>>>> That sounds good. Just to confirm, are you available on Dec 5, say around 11:00. I want to get it booked on Mike's calendar before someone else jumps in.  
>>>>  
>>>> Klaus  
>>>>  
>>>> -----Original Message-----  
>>>> From: Alan Kohut [mailto:alankohut@icloud.com]  
>>>> Sent: Tuesday, November 26, 2013 5:04 PM  
>>>> To: Wei, Mike ENV:EX  
>>>> Cc: Rathfelder, Klaus ENV:EX  
>>>> Subject: Re: Abbotsford-Sumas Aquifer  
>>>>  
>>>> I could follow up with Gwynn Graham.  
>>>>  
>>>> Al  
>>>>  
>>>>  
>>>>  
>>>>> On Nov 26, 2013, at 12:58 PM, "Wei, Mike ENV:EX" <Mike.Wei@gov.bc.ca> wrote:  
>>>>>  
>>>>> s.22 but Gwyn Graham was his supervisor.  
>>>>>  
>>>>> Mike  
>>>>>  
>>>>> -----Original Message-----  
>>>>> From: Rathfelder, Klaus ENV:EX  
>>>>> Sent: Tuesday, November 26, 2013 12:55 PM  
>>>>> To: Wei, Mike ENV:EX; 'Alan Kohut'  
>>>>> Subject: RE: Abbotsford-Sumas Aquifer  
>>>>>  
>>>>> I think that could be a good approach for estimating flux if either the model is available or if Basil could make the runs for us.  
>>>>>  
>>>>> A model could also be useful as an approach for confirming or evaluating the algorithm that Al is developing.  
>>>>>  
>>>>> Maybe these are some things to discuss if we are able to meet.  
>>>>>

>>>>> Klaus  
>>>>>  
>>>>> -----Original Message-----  
>>>>> From: Wei, Mike ENV:EX  
>>>>> Sent: Tuesday, November 26, 2013 12:36 PM  
>>>>> To: Rathfelder, Klaus ENV:EX; 'Alan Kohut'  
>>>>> Subject: RE: Abbotsford-Sumas Aquifer  
>>>>>  
>>>>> Basil Hii of Environment Canada may have done a modflo model on the NO3 flux to the USA?  
>>>>>  
>>>>> Mike  
>>>>>  
>>>>> -----Original Message-----  
>>>>> From: Rathfelder, Klaus ENV:EX  
>>>>> Sent: Tuesday, November 26, 2013 12:35 PM  
>>>>> To: 'Alan Kohut'  
>>>>> Cc: Wei, Mike ENV:EX  
>>>>> Subject: RE: Abbotsford-Sumas Aquifer  
>>>>>  
>>>>> Al,  
>>>>>  
>>>>> Yes, I will pursue the pumping data, either formally or informally.  
>>>>>  
>>>>> I don't think we need to quantify usage for the Washington side, but a water balance limited to the Canadian side would require an estimate of the flux across the international border. Does that help?  
>>>>>  
>>>>> I was thinking it might be a good time to get together with Mike and discuss the overall approach and firm up expectations. Mike is very busy these days but has a few slots open Thursday morning Dec 5. Do you think that would be helpful, and if so, could you make it on Dec 5?  
>>>>>  
>>>>> Klaus  
>>>>>  
>>>>> -----Original Message-----  
>>>>> From: Alan Kohut [mailto:apkohut@telus.net]  
>>>>> Sent: Tuesday, November 26, 2013 9:41 AM  
>>>>> To: Rathfelder, Klaus ENV:EX  
>>>>> Subject: Abbotsford-Sumas Aquifer  
>>>>>  
>>>>> Hi Klaus, I was wondering if the Ministry could send out letters to the major water users requesting available information on their groundwater use (pumping records) during the past year or two. The ones that come to mind would be :  
>>>>>  
>>>>> The City of Abbotsford

>>>>> Clearbrook Waterworks District

>>>>> Fraser Valley Trout Hatchery

>>>>>

>>>>> Also could you clarify whether I need to include the Washington State portion of the aquifer and will need to contact Washington Sate Dept of Ecology.

>>>>>

>>>>> A1

>

## **Burrage, Barbara CSNR:EX**

---

**From:** Alan Kohut [apkohut@telus.net]  
**Sent:** Thursday, December 19, 2013 3:17 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Re: Basil Hii 1999 Report

Thanks Klaus.

Best wishes for the holiday season and New Year !

Al

On Dec 19, 2013, at 2:17 PM, "Rathfelder, Klaus ENV:EX" <[Klaus.Rathfelder@gov.bc.ca](mailto:Klaus.Rathfelder@gov.bc.ca)> wrote:

Al,

Thanks for the report, I will look it over.

Thanks also for the update yesterday and a good discussion. It sounds like you are giving the project a lot of thought and are forming concepts on how to proceed. Hopefully, Mike can fill in some of the details on the WSA tomorrow.

Here is the link to the Washington State Water Resources inventory that I mentioned. Not sure how applicable this is to BC, but it does provide another approach to consider.

[http://www.ecy.wa.gov/programs/wr/rights/wrpenapp\\_avail.html](http://www.ecy.wa.gov/programs/wr/rights/wrpenapp_avail.html)

Wishing you and your family a joyful holiday season.

Klaus

---

**From:** Alan Kohut [mailto:[apkohut@telus.net](mailto:apkohut@telus.net)]  
**Sent:** Wednesday, December 18, 2013 1:37 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Basil Hii 1999 Report

Hi Klaus, attached is a copy of the 1999 Environment Canada report I received from Gwyn Graham for your records.

Al

Alan Kohut P.Eng.  
Sr. Hydrogeologist  
Hy-Geo Consulting

office: 250-658-1701  
cell: 250-744-7859  
[www.hy-geo.com](http://www.hy-geo.com)

Draft Scope of Work  
Development and Application of a Groundwater Budget Methodology  
September 18, 2013

## **Background**

The Water Protection & Sustainability Branch of the Ministry of Environment (MoE) recently prepared two proposals for groundwater related studies under the WAMR 5-year funding program:

1. Development and application of a general framework for preparing preliminary conceptual models and groundwater budgets to support groundwater licensing (Attachment A);
2. Development of groundwater quality objectives for the Abbotsford-Sumas aquifer (Attachment B).

There was not sufficient budget to fund both projects. Consequently, available funding is allocated to a revised project that addresses common objectives of the two projects, as the initial phase of work. This scope of work is for the revised and combined project detailed below.

## **Project Objectives**

The two main common objectives of the combined project are:

1. Develop a general approach to form preliminary conceptual models and water budgets to support anticipated licensing of groundwater, and
2. Demonstrate the groundwater budget methodology by application to the Abbotsford-Sumas aquifer.

## **Scope of Work**

1. **Groundwater Budget Methodology:** Develop a methodology to organize the understanding of aquifers and preliminary water budgets for aquifers based on readily available data. The main goal of the methodology is to estimate the amount of groundwater available for licensing without causing long-term injury to other licensees or other uses of the groundwater resource (including use of surface water from streams connected aquifers). The developed methodology should be applicable to all aquifer types<sup>1</sup>. Information about the proposed licensing policy will be provided if needed to complete this work.

Although a few heavily used aquifers are highly characterized, most aquifers in the province have only general and basic information available, such as:

- Driller reported data available in WELLS (static water levels, yields, and lithology)
- Provincial observation well data (groundwater levels)
- Aquifer classification (type, boundary, vulnerability, ranking, average well depth, static water level, and yield)

---

<sup>1</sup> Wei, M., D. Allen, K. Ronneseth, A. Kohut, S. Grasby, and B. Turner, (in press). Cordilleran Hydrogeological Region, Chapter 9, Groundwater Resources in Canada, Geological Survey of Canada.

It is not practical to conduct detailed characterization of all aquifers for purposes of licensing. Therefore, the methodology should address data sources, and should be flexible enough to address a range of aquifer characterization.

When the availability and quality of aquifer characterization information is poor, there will be greater uncertainty in the groundwater budget. To address uncertainty, the methodology should also guide users on:

- Key data gaps that affect reliability of the methodology, and
- Some type of measure or qualitative grade of reliability and/or a factor of safety on the quantity of groundwater available for licensing.

2. **Abbotsford-Sumas Aquifer Data:** Compile and review available hydrogeologic data for the Abbotsford-Sumas aquifer. Attachment C is a preliminary list of available data and reports. MoE can assist with gathering of additional data and reports that are reasonably available and as needed to support this project. Assess data availability and data gaps.
3. **Demonstrate Methodology:** Demonstrate application of the water budget methodology for the Abbotsford-Sumas aquifer. The resulting conceptual model and water budget will support the development of groundwater quality objectives. To the extent possible, the results should include:
  - Description of the general flow patterns, recharge and discharge areas and expected hydraulic connection to surface water, and guidance on how pumping could affect flow patterns and existing groundwater uses and affect on surface water.
  - Estimates of the volume of inputs and outputs to the aquifer on an average annual basis.
  - Estimates of the volume of groundwater development potential on an annual basis, and a description of any relevant issues.
  - An assessment of data availability and gaps, and how these should be addressed in determining groundwater development potential for licensing.
4. **Report:** Prepare one draft and one final report detailing all work listed above. Include an overall assessment of the aquifer budget methodology, and its applicability and limitations for groundwater licensing. Provide recommendations on appropriate use of the methodology in groundwater licensing, and potential future improvements and enhancements.
5. **Meetings and Coordination:** The contractor shall participate in a kickoff meeting and a maximum of two project meetings to discuss the project status.

**Schedule**      Kickoff meeting – following contract execution  
                         Status meetings – as needed (up to 2)  
                         Draft report – February 28, 2014 (assume 2 week review period)  
                         Final report – March 28, 2014

**Budget**        The available budget is \$10,000. Payment will be on a lump sum basis.

## ATTACHEMENT A WAMR Proposal for Water Budget Framework

**Project Name:** Developing Conceptual Models and Preliminary Water Budgets for Aquifers to Support Observation Well Monitoring and Future Groundwater Licensing.

**Status:** New.

**Project Description:** Observation wells are established to monitor sustainable use of groundwater in developed aquifers. However, interpretation (and reporting) of the monitoring data cannot be done without the hydrogeological context. The major physical processes that affect the sources of inputs and outputs of groundwater in the aquifer (and how long term pumping might affect change to those inputs and outputs), the quantification of those sources of inputs and outputs in the form of a water budget (see Figure 1), and the physical area that the observation well data represents are important contextual information needed for interpretation of observation well data. The priority of this developmental work reflects the government's commitment to license groundwater in Living Water Smart (supports decision-making by Regional Water Managers) and continued emphasis to improve management of groundwater (e.g., Office of the Auditor General's report recommendations 1 and 2; State of Water Reporting; and LEAN project for the observation well network data collection).

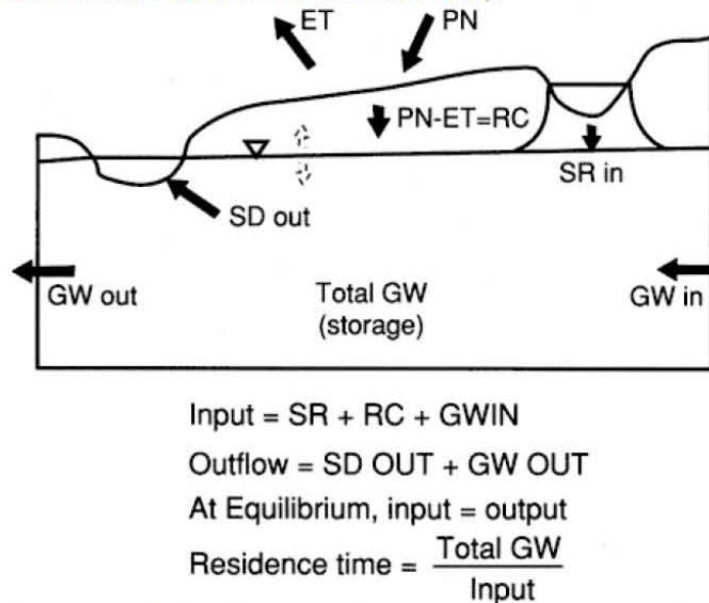


Figure 1. Schematic diagram showing conceptual model and symbolic water budget for an aquifer (PN=precipitation, ET=evapotranspiration, RC=recharge, SR=recharge from stream, SD=discharge to stream, GWIN=lateral groundwater inflow, and GWout=lateral groundwater discharge. Note groundwater pumping (not shown) would be another source of outflow for the aquifer. Imbalance between input and outflow will result in a change in storage or change in groundwater level in the aquifer (measured by an observation well). Source of diagram: Kansas Geological Survey.

This project proposes to develop and implement an approach to form preliminary conceptual model and water budget for aquifers that have observation wells, or aquifers for which observation wells have been identified as needed (Kohut, 2009). The project will focus on those priority aquifers that have not necessarily been well studied (e.g., the aquifer at Twin Lakes in the Okanagan, Similkameen River, Mill Bay, Hornby Island, Norrish Creek in the Shuswap). The main reasons for focussing on the less studied aquifers are:



- 1) These aquifers represent the vast majority of aquifers in BC, and
- 2) A systematic way to acquire preliminary understanding for those priority aquifers, is needed to help inform decision-making.

For aquifers with observation wells, the area of interpretation will be confirmed. For aquifers for which an observation well is recommended, the area for siting an observation well will also be identified. Preliminary conceptual models and water budgets would be developed for the main types of aquifers identified in Wei et al, 2009 to test applicability of the approach.

**Link to Management Actions:** The proposed project directly supports management of groundwater resources by:

- Developing and implementing a method to organize the understanding of aquifers and preliminary water budgets for aquifers based on readily available data to support anticipated licensing of groundwater.
- Guiding actions of other agencies with authority to regulate activities that affect groundwater (e.g., Regional Health Authorities).
- Helping to identify major knowledge gaps for aquifers to guide enhancement of groundwater monitoring.

**Project Details:** The project is proposed for 5 years, starting at \$10,500 in year 1 (develop protocol and implement for up to 2 aquifers), \$12,500 in year 2 (up to 3 aquifers) and \$15,000 in years 3-5 (up to 5 aquifers per year, for a total of up to 20 aquifers).

**Outcomes:** A brief (e.g., 4-8 page) profile summary will be developed for each aquifer, containing a description of the aquifer (e.g., location, main hydrogeologic and water use characteristics and likely physical processes), the conceptual model, preliminary water budget and how it was developed, the observation well water level patterns and trends and area of applicability, as well as a prioritized list of data/information gaps and references. The summary will also contain a general discussion on any issues related to groundwater availability and recommendations that relate to continued monitoring and future allocation of the resource.

**Partners:** Regional FLNRO staff.

**Cost:**

Partner	Revenue Contribution \$ (% of total)	In-Kind Contribution \$ (% of total)	Total Contribution
MoE	\$0	\$10,000 (80%)	\$10,000
FLNRO	\$0	\$2,500 (20%)	\$2,500
Total	\$0	\$12,500 (100%)	\$12,500

**Ability to Defer Funding:** The project can be deferred as there is no immediate mandate to complete this work. However, given the vast number of developed but “less studied” aquifers (hundreds) in BC and anticipated mandate to license groundwater, this work should begin now. Funding of this project will demonstrate an ongoing ministry commitment to the OAG’s recommendation of characterizing priority aquifers and enhancement of management of the resource.



## **ATTACHEMENT B**

### **WAMR Proposal for Abbotsford Aquifer Groundwater Quality Objectives**

**Project Name:** 9G130337, Abbotsford Aquifer Groundwater Quality Objectives, Lower Mainland

**Status:** New

**Project Description:** The Abbotsford- Sumas aquifer is arguably the most heavily used and economically important aquifer in the province. The aquifer is a shallow, highly productive unconfined aquifer that straddles the international border south of Abbotsford. It covers about 180 sq.-km with approximately equal areas in Canada and the US. The aquifer is vulnerable to contamination because pollutants can readily infiltrate and migrate to the shallow water table. Nitrate contamination above drinking water standards is widespread in the aquifer south of Abbotsford, extending across the international border. The primary source of contamination is the historic use and improper storage of fertilizer and manure in agricultural areas. This issue has been the focus of significant research and management initiatives by regional, provincial, and federal agencies, including ongoing participation in an international task force. Groundwater is very important to the regional economy because it is heavily used for agricultural, commercial, industrial, and municipal activities. Much of the regional population depends on groundwater from private and community wells. Similarly, groundwater is heavily used on the US side, and health officials in Washington State have recently begun to more vigorously enforce drinking water standards. Additionally, groundwater supports base flows in many surface streams and the quantity and quality of groundwater discharges affects the habitat health of the streams.

The goal of the proposed project is to develop site-specific groundwater quality objectives for the Abbotsford- Sumas aquifer. The purpose of these objectives is to provide a scientific basis for supporting sustainable management of this important groundwater resource. Once approved, the groundwater quality objective will constitute official ministry policy and will provide guidance for resource managers to use in protecting the groundwater uses. The groundwater quality objectives must be considered in decisions affecting groundwater quality such as waste discharge authorization, environmental assessments, enforcements, and treatment technology. They are also used in conjunction with other management initiatives to achieve environmental conditions that support sustainable use of the groundwater resource.

Site-specific water quality objectives are routinely developed in BC to protect and manage surface water resources, especially for water bodies that are, or potentially will be, significantly impacted by human activities. However, to date there are no approved groundwater quality objectives in the province, and only one is currently under development for the Osoyoos aquifer. This is a significant gap in the stewardship of water resources, as groundwater is critical to both human activities and aquatic habitats.

**Link to Management Actions:** The proposed project directly supports management of groundwater resources in Abbotsford by:

- Guiding preparation of ministry permits, plans, and orders pertaining to waste discharges
- Guiding actions of other agencies with authority to regulate activities that affect groundwater quality
- Providing benchmarks for assessing the ministries performance in protecting groundwater uses
- Helping to prioritize groundwater monitoring programs and budgets



**Project Details:** Development of groundwater quality objectives will follow the process used for surface water bodies and involves four main steps:

1. Conduct a groundwater quality assessment: This is the most work intensive portion of the project and will entail substantial data assimilation and interpretation. The components of the assessment include but are not limited to: a) characterizing the hydrogeologic conditions including identification of dominant flow patterns, recharge and discharge areas and rates; b) estimating the groundwater use, including the type, quantity, and distribution of uses; c) compiling, analyzing, and summarizing available groundwater quality data and characterizing the present distribution of groundwater quality; and d) characterizing and estimating contaminant sources and waste discharges for existing and future conditions.
2. Identifying the parameters of concern and setting preliminary groundwater quality objectives: Preliminary groundwater quality objectives are based on approved water quality guidelines and are set to protect the most sensitive existing and potentially future groundwater uses (e.g., drinking water; industrial, agricultural, and aquatic life uses). The preliminary groundwater quality objectives are evaluated against existing data to determine their suitability.
3. Monitoring program evaluation: Existing and proposed monitoring capabilities are evaluated and/or developed to meet two main goals: a) to determine if the objectives are being met; and b) to establish long-term trends in groundwater quality.
4. Report preparation and review: A report detailing the results above is prepared and distributed to stakeholders for review and comment. Upon revision, the final report is approved by the ADM.

A two-year project schedule is proposed. Step 1 will be completed by an independent contractor in year 1. A budget of \$25,000 is requested to complete this task. Steps 2 through 4 will be completed in year 2 by the MoE Water Protection & Sustainability Branch in partnership with regional FLNRO staff.

**Outcomes:** Major outcomes are: a) a detailed groundwater quality assessment; b) monitoring program review and evaluation; and c) development of groundwater quality objectives to support ongoing management actions.

**Partners:** Regional FLNRO staff in the Lower Mainland will assist MoE in completing this project.

**Cost:**

Partner	Revenue Contribution \$ (% of total)	In-Kind Contribution \$ (% of total)	Total Contribution
MoE	\$0	\$10,000 (80%)	\$10,000
FLNRO	\$0	\$2,500 (20%)	\$2,500
Total	\$0	\$12,500 (100%)	\$12,500

**Ability to Defer Funding:** The project can be deferred as there is no mandate to complete this work. However, groundwater quality issues in Abbotsford have been ongoing for years with no foreseeable near term resolution. Funding of this project will demonstrate an ongoing ministry commitment to resolving this problem.

**ATTACHEMENT C**  
**Preliminary Listing of Reports and Data for the Abbotsford-Sumas Aquifer**

**Reports on Hydrogeology**

Zubel, M. (Feb 1982). Drilling and Construction, Observation Wells 272, 273, 274 Abbotsford District No. 81-11 Sumas Prairie ARDSA Program

- Report on drilling and construction of Observation Wells for District of Abbotsford.
- Includes well drilling and completion description, hydrochemistry results, lithologic log and construction details, location plan of well sites, well records, sieve analysis, laboratory water analysis reports, photographs.

Groundwater Section, (1983). Completion Report Farmer Road Well No. 3

- Investigation of deeper, semi-confined aquifer. Includes lithology and pump test results

Groundwater Section, (May 1987). Groundwater Supply Capability Abbotsford Upland

- Includes description of study area, general geology, groundwater occurrence and movement, groundwater level trends, recharge estimates, groundwater use, and a groundwater budget
- Maps and data include surficial geology maps, geologic cross-sections, water level elevations, observation well hydrographs, recharge calculations and estimates

Piteau Associates, (2004). Assessment of Groundwater Source Options, Abbotsford and Haztic Areas B.C.

- An assessment of groundwater sustainability for existing municipal water wells and groundwater development potential for additional high capacity water wells.
- Includes detailed description of hydrogeology, data compilation, and groundwater budget

Scibek, J and D.M. Allen (2005) Groundwater Sensitivity to Climate Change: Abbotsford-Sumas Aquifer in British Columbia, Canada and Washington State, US.

- Assesses effects of climate change on aquifer recharge using GW and climate modeling tools
- Recharge is estimated to decrease by about 5% over the next 20 years, and by 12-15% by 2070 in comparison to historic levels.
- Changes would not significantly affect streamflow. GW levels could drop in upland areas, potentially affecting dry season base flows.

Groundwater Solutions, (2007). Hydrogeological Study for the Clearbrook Waterworks District.

- Hydrogeological assessment within the Abbotsford-Sumas Aquifer relevant to operation of the existing municipal well field.
- Includes detailed description of hydrogeology and data compilation

## **Reports on Groundwater Quality**

MOE, (1989). Nitrate Contamination of the Abbotsford Aquifer, British Columbia, prepared by Kohut A.P., Sather, S., Kwong, J., and Chwoka, F., Groundwater Section, Water Management Branch, Ministry of Environment, British Columbia

- Documents nitrate contamination in the Abbotsford aquifer above drinking water standards.
- Aquifer is shallow with nonpumping water depths near surface to 40 m. Aquifer thickness is up to 60 m. Recharge area is the upland central portion of the aquifer. GW flow is radially outward from the recharge area.
- High nitrate concentrations correlate with high TDS and chloride suggesting main source is inappropriately stockpiled poultry manure. Absence of tritium in shallow samples suggests a long history of nitrate contamination.

MOE, (1991). Abbotsford Upland Aquifers, Groundwater Quality Assessment and Objectives for Nitrate Nitrogen. Rodney Zimmerman, Groundwater Section, Water Management Branch, Ministry of Environment, British Columbia

- Good description hydrogeology and groundwater quality including components of the groundwater budget
- Provides rationale for development of GW quality objectives. Proposes GW quality objectives of 10 mg-N/L Nitrate and 1 mg-N/L Nitrite for protection of drinking water supply.

Roth, R. (1994). Survey of Nitrate-Nitrogen In the Groundwater South of the Abbotsford Airport, Geography Co-operative Program, University of Victoria.

- Further documents nitrate contamination in the Abbotsford aquifer above drinking water standards, focusing on the area south of the airport.
- Nitrate ranged from <0.02 to 43, with lowest near the airport and highest to the south. Concentrations also decrease with depth.
- Nitrate correlates with high TDS and conductance suggesting a source of manure. Nitrate also correlate with low pH, likely caused by oxidation of ammonium to nitrate.

MoE, (1995). Fraser Valley Groundwater Monitoring Program Final Report, V. Carmichael, M. Wei, L. Ringham

- Comprehensive GW Quality investigation of 192 community wells and 75 private wells throughout the Fraser Valley
- Exceedance of DW standards occurred most frequently for nitrate, pH, iron and manganese
- Showed nitrate exceedances were concentrated in Abbotsford and are attributed to human activities.

EnvCan and USGS, 1997. Ground-Water Quality Data from the Abbotsford-Sumas Aquifer of Southwestern British Columbia and Northwestern Washington State

- Comprehensive GW Quality investigation spanning both sides of the border
- Nitrate above the DW standard is the greatest WAQ issue. Concentrations of trace elements and other nutrients were small. 23 VOCs and pesticides were detected, but at levels below DW standards

Mitchell, R.J., R.S. Babcock, H. Hirsch, L. McKee, R.A. Matthews, J. Vandersypen (2005). Water Quality: Abbotsford-Sumas Final Report, Department of Geology and the Institute for Watershed Studies, Western Washington University

- GW characterization within the U.S. portion of the Abbotsford aquifer.
- Vast majority of samples had nitrate-N > 3 mg/L. Highest concentrations are to the north near the border and in shallow wells.
- Nitrate concentrations in the southern portion of the study areas were low. Believed to be due to denitrification occurring in peat deposits dispersed in the area.
- Surface water sampling of streams showed elevated nitrate levels, in part due to discharge of shallow GW. Nitrate concentrations in shallow GW and surface streams do not appear to be decreasing.

EnvCanada, (2006). Abbotsford-Sumas Aquifer, British Columbia, Canada, Groundwater Quality Survey - Nitrate and Bacteria, B. Hii, M. Zubel, D. Scovill, G. Graham, S. Marsh and O. Tyson

- Comprehensive assessment of nitrate and bacteria levels in 150 wells throughout the Abbotsford aquifer.
- 60% of nitrate samples were above 3 mg-N/L and highest levels were in areas dominated by agricultural activities. Coliform bacteria was detected at 12 sites, which was thought to reflect local conditions, and is not reflective of the regional conditions.

Wassenaar, L. and T. Baisden, (2011). Efficacy of BMPs to Amend Nitrate Contamination in Groundwater Systems – A Canadian Experience for Comparison to New Zealand

- Shows that voluntary agricultural BMPs have not been effective at reducing nitrate levels, similar to findings throughout the world. States “The efficacy of voluntary BMPs in amending aquifer nitrate contamination has yet to be been successfully demonstrated in the scientific literature.”
- BMPs may have shifted use to chemical fertilizers, which results in residual nitrogen in soil that is more easily leached to GW.

### **Provincial Observation Well Data**

Observation Well	Water level data	GW Quality data	GW Quality parameters
Obs Well No 2	1962-present	1985-present. Annual or semi-annual No data - 1998,99	General WQ indications Nutrients Inorganics and metals
Obs Well No 8	1962-present		
Obs Well No 14	1972-1999	1986-1994 - Annual 2008-09 - 3 rounds	Same as above
Obs Well No 15	1972-present	1986-1994 - Annual 2003-12 - Semi-annual	Same as above
Obs Well No 272	1981-present	1986-1994 - 4 rounds 2003-13 - Semi-annual	Same as above
Obs Well No 273	1981-present	1986-1998 - 4 rounds 2003-06 - Semi-annual	Same as above
Obs Well No 274	1981-2002	1985-1990 - 5 rounds	Same as above
Obs Well No 299	1987-present	1987-1991 - 3 rounds 2004-13 - Semi-annual	Same as above
Obs Well No 301	1988-present	1988-1991 - 3 rounds 2003-13 - Semi-annual	Same as above

## **Burrage, Barbara CSNR:EX**

---

**From:** Alan Kohut [apkohut@telus.net]  
**Sent:** Tuesday, November 26, 2013 9:41 AM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Abbotsford-Sumas Aquifer

Hi Klaus, I was wondering if the Ministry could send out letters to the major water users requesting available information on their groundwater use (pumping records) during the past year or two. The ones that come to mind would be :

The City of Abbotsford  
Clearbrook Waterworks Distrtict  
Fraser Valley Trout Hatchery

Also could you clarify whether I need to include the Washington State portion of the aquifer and will need to contact Washington Sate Dept of Ecology.

Al



## **Burrage, Barbara CSNR:EX**

---

**From:** Dessouki, Tarik ENV:EX  
**Sent:** Tuesday, October 29, 2013 11:10 AM  
**To:** Ralph, Laura ENV:EX  
**Subject:** FW: Contract status for Abbotsford-Sumas Aquifer

Hi Laura,

Do you know if this was sent to Klaus or his administrative assistant? If I recall correctly, it had her name (although I cannot remember it) listed on the envelope to return.

Thanks,  
td

---

**From:** Rathfelder, Klaus ENV:EX  
**Sent:** Tuesday, October 29, 2013 11:06 AM  
**To:** Dessouki, Tarik ENV:EX  
**Subject:** FW: Contract status for Abbotsford-Sumas Aquifer

Hi Tarik,

Regarding the aquifer budget/Abbotsford project contract, I believe you have signed it, but the contractor, Al Kohut, has not received the signed contract. Do you know the procedure for getting this to him? Sorry to bother you about this, but trying to track this down so he can start work.

Thanks,  
Klaus

---

**From:** Cameron, Sandra ENV:EX  
**Sent:** Tuesday, October 29, 2013 10:25 AM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** RE: Contract status for Abbotsford-Sumas Aquifer

I don't have any information. I suggest contacting him directly.

Thank you.

**From:** Rathfelder, Klaus ENV:EX  
**Sent:** Tuesday, October 29, 2013 9:35 AM  
**To:** Cameron, Sandra ENV:EX  
**Subject:** Contract status for Abbotsford-Sumas Aquifer

Sandra,

Our contractor has not received the contract, which I believe Tarik has signed. Do you have any further information, or should I contact Tarik directly?

Thanks,  
Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Friday, October 25, 2013 10:15 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Hi Klaus, thanks for your note. I have not seen the signed copy yet. Perhaps it is in the mail ?

Al

On 2013-10-25, at 2:40 PM, Rathfelder, Klaus ENV:EX wrote:

Al,

I was checking to see if you received the signed contract from our office. I know it was signed but I am not sure about the procedure for getting it back to you.

Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Thursday, October 10, 2013 1:05 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

I'll pop by at 10 am if that works for you.

Al

On Oct 10, 2013, at 9:25 AM, "Rathfelder, Klaus ENV:EX" <[Klaus.Rathfelder@gov.bc.ca](mailto:Klaus.Rathfelder@gov.bc.ca)> wrote:

Yes, I am in all day. See you then, Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Wednesday, October 9, 2013 6:43 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Thanks Klaus, will you be in the office friday? I can drop off the signed copies then.

Al

On 2013-10-09, at 4:15 PM, Rathfelder, Klaus ENV:EX wrote:

Al,

I have received approval to waive the liability insurance requirement and the Security schedule. I have also made minor changes to Schedule A, including a stipulation that a confidentiality agreement may be required.

Please review the attached contract, and if in agreement with the contents, please follow the instructions for signing below.

- 1 If mailing or couriering, please print 2 copies and sign both where indicated. Then send **both complete copies** to:

Physical Address:  
Water Protection and Sustainability Branch  
Ministry of Environment  
Attn: Klaus Rathfelder  
4th floor, 395 Waterfront Cres  
Victoria BC V8T 5K7

Mailing address:

Water Protection and Sustainability Branch  
Ministry of Environment  
Attn: Klaus Rathfelder  
PO Box 9362 Stn Prov Govt  
Victoria BC V8W 9M2

- 2 Alternatively, you may print 1 copy and sign where indicated, then scan the **complete copy** and return to me by email,  
or

Once countersigned, a copy of the agreement will be returned to you for your files. Please ensure that all future correspondence and invoices reference the contract number *CS14ESD-099*.

Thanks. I look forward to working with you on this project.

Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Sunday, October 6, 2013 9:20 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Cc:** Wei, Mike ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Thanks Klaus, I have reviewed the document and Schedule A looks fine to me.

Given the low risk associated with this project, can the  
general liability requirements be waived? Also, is Schedule G. Security Schedule necessary for this project?

Al

Alan Kohut P.Eng.  
Sr. Hydrogeologist  
Hy-Geo Consulting

office: 250-658-1701  
cell: 250-744-7859  
[www.hy-geo.com](http://www.hy-geo.com)

On 2013-10-03, at 11:00 AM, Rathfelder, Klaus ENV:EX wrote:

Al,

Thanks for coming in on Tuesday and for a good discussion about the project.

I have received approval for contracting from the ADM. Accordingly I have prepared a draft Schedule A of the contract for your review.

Mike also indicated that a major outcome should be the ability to assess groundwater connectivity with surface waters, which I have included. Please have a look and give us your thoughts. This is an initial draft and we can modify further to address any concerns that you may have.

Note that I have set up payment on a flat rate basis. However, if you prefer to work on an hourly basis and submit monthly invoices, we can set it up that way too.

Also attached is information on the relationship between SW-GW interaction and aquifer type that you may find useful. This is part of a draft report that I am working on which looks at tools for quantifying streamflow depletion due to GW pumping.

Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Tuesday, September 24, 2013 5:09 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Cc:** Wei, Mike ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Hi Klaus, next Tuesday would be good for me to meet with you. In the case of testing the methodology for Abbotsford I'm not sure a thorough review of all of the data is necessary given the number of reports already completed for the area. In terms of the WB methodology perhaps we need to determine what essential information or components are required, and the degree of quality or accuracy of that information available.

Al

On 2013-09-24, at 3:32 PM, Rathfelder, Klaus ENV:EX wrote:

Thank you Al for your feedback. I am available to meet Tue-Fri of next week if that is convenient for you. Mike is unavailable, as he is full time on the drafting of the WSA. Alternatively, we can hash out your concerns via email or phone.

A few initial thoughts/questions: Is a thorough review of the hydrogeologic data essential for testing of the WB methodology? Could a partial data review or available interpretations in existing reports suffice? If not, is there a way of splitting the work so that we can assist and reduce your work load?

Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Tuesday, September 24, 2013 1:46 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Cc:** Wei, Mike ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Hi Klaus, I reviewed the draft scope of work. My only concern would be the time involved to compile and review the hydrogeologic data for the Abbotsford Aquifer. I can see reviewing the pertinent reports but examining all the data would be an onerous task. Perhaps we should meet to discuss further when convenient for you.

Al

On 2013-09-19, at 3:50 PM, Alan Kohut wrote:

Thanks for your note Klaus. I will review the draft and get back to you early next week as I have been away and need to catch up on some items this week.

Al

Alan Kohut P.Eng.  
Sr. Hydrogeologist  
Hy-Geo Consulting

office: 250-658-1701  
cell: 250-744-7859  
[www.hy-geo.com](http://www.hy-geo.com)

On 2013-09-19, at 12:18 PM, Rathfelder, Klaus ENV:EX wrote:

Al,

Hope you had an enjoyable summer and are doing good.

After some thought on the best way to approach, we have prepared a draft scope of work that focuses on developing a water balance framework to support licensing. The methodology would be tested on the Abbotsford-Sumas aquifer.

Please have a look at the draft, and give us your thoughts about the approach and feasibility of this work.

Thanks,

Klaus

---

**From:** Alan Kohut [<mailto:apkohut@telus.net>]  
**Sent:** Friday, April 12, 2013 1:08 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Cc:** Wei, Mike ENV:EX  
**Subject:** Re: Help with Abbotsford-Sumas Aquifer

Thanks Klaus for the additional information.

Al

On 2013-04-12, at 12:59 PM, Rathfelder, Klaus ENV:EX wrote:

<WAMR Proposal Conceptual Model and Water Budget 2013 (2) kr.docx>

<Draft SOW Abbotsford GW balance 091913.docx>

Alan Kohut P.Eng.  
Sr. Hydrogeologist  
Hy-Geo Consulting

office: 250-658-1701  
cell: 250-744-7859  
[www.hy-geo.com](http://www.hy-geo.com)

<Draft contract for Aquifer water budget methodology 100313.doc><Surface-GW Characterization - draft.docx>

<Aquifer budget and application, Contract CS14ESD-099, 100913.doc>



## **Burrage, Barbara CSNR:EX**

---

**From:** Dessouki, Tarik ENV:EX  
**Sent:** Wednesday, October 9, 2013 3:13 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Cc:** Ho, Raymond CSNR:EX  
**Subject:** Re: contract review - CS14ESD-099

Approved.

Thanks Klaus and Raymond.

Tarik

---

**From:** Rathfelder, Klaus ENV:EX  
**Sent:** Wednesday, October 09, 2013 02:33 PM Pacific Standard Time  
**To:** Dessouki, Tarik ENV:EX  
**Subject:** FW: contract review - CS14ESD-099

Hi Tarik,

Regarding the contract with Al Kohut, our contractor on the WAMR project, there is an issue with insurance coverage. However, according to Raymond Ho, the insurance requirement can be waived due to the low value and low risk of the project, provided we have approval from the expense authority. So I am requesting approval to waive insurance coverage. If agreeable an email approval is acceptable according to Raymond's instruction below. A copy of the current draft contract is attached for your consideration.

Thanks,  
Klaus

---

**From:** Ho, Raymond CSNR:EX  
**Sent:** Tuesday, October 8, 2013 4:40 PM  
**To:** Rathfelder, Klaus ENV:EX  
**Subject:** FW: contract review - CS14ESD-099

Hi Klaus,

I've reviewed this contract and have provided my comments within the GSA document. Once the items I've commented on are addressed, this contract will be fine to proceed.

Contract number CS14ESD-099 has been assigned.

In Schedule A, Part 2, "Inputs" section, the possible use of confidential information is mentioned. Section 5.3 on page 5 addresses the treatment of confidential information. If you would like the contractor to sign a Confidentiality Agreement, here is the template:

[http://csdgwwt.bcgov/fin/contract/cabinet/confid\\_agmt\\_2pty\\_pssg.doc](http://csdgwwt.bcgov/fin/contract/cabinet/confid_agmt_2pty_pssg.doc)

Per your other e-mail, I'll answer your questions here regarding Schedules D and G.

Schedule D – Insurance: This contract was direct-awarded, is low-value, and the services are being provided from the contractor's office with no fieldwork involved. This appears low-risk in potential for harm to third-parties. Therefore, the requirement for Commercial General Liability insurance may be removed by making Schedule D not applicable. If a waiver of the CGL insurance is desired, then please have the expense authority for this contract approve by response to this e-mail or signing a printed copy. Ensure a copy is placed in your contract file.

Schedule G – Security: In the majority of contracts, this schedule may be stated as "not applicable". It's applicable only when highly sensitive, confidential information is involved, such as cabinet or treasury board documents. Complying with the Schedule G requirements may also be expensive for the contractor.

Attached is a suggested e-mail format for sending the contract out for signing. If e-mailing the contract, please first "Save as PDF" to prevent any changes on the final document.

Once you have a fully signed contract, please send a hardcopy original with the completed Request to Contract (RTC) to Contract Clerk Annette LaJeunesse in my office.

Thanks,

**Raymond Ho | Contract Officer | Client Services Branch**  
**Corporate Services for the Natural Resource Sector**  
3rd Floor - 2975 Jutland Rd., Victoria, BC  
Phone: (250) 356-9821 | Fax: (250) 356-5496

---

**From:** Rathfelder, Klaus ENV:EX  
**Sent:** Thursday, October 3, 2013 11:08 AM  
**To:** Ho, Raymond CSNR:EX  
**Subject:** contract review

Hi Raymond,

Per our discussion, attached is a draft contract and a signed request for contract form for your review.

Thank you for your assistance.

Klaus

Groundwater Hydrologist  
Water Protection & Sustainability Branch  
Ministry of Environment  
4th floor, 395 Waterfront Cres  
Victoria BC V8T 5K7  
Phone: (250) 387-1326

# **REQUEST TO CONTRACT FORM**

## **Instructions for Use**

**Note: This form is an internal document to be used by the Ministries of Environment (MOE) and Agriculture and Lands (MAL).**

The Request to Contract Form must be completed to initiate all contracts as well as to modify contracts that increase the dollar value of the contract or extend the contract into a new fiscal year. This form replaces the current MOE/MAL Request for Approval – Contract Services Form and the MOE Executive Contract Pre-Approval Form. It is intended to be completed in 3 phases of the contract process:

- Part A: Planning;
- Part B: Awarding;
- Part C: Modifying.

As this is an internal form, email approvals are acceptable as long as this document is included in the email stream.

The goal of this form is to reduce the paperwork of those contracts that conform to policy and to highlight the most common policy errors which sometimes occur. A 'no' answer on any of the policy compliance questions may indicate an additional risk in proceeding and additional documentation may be required.

A quarterly compliance report will be completed by the Finance and Administration Branch and reported to the Executive.

**Do not print out the “Instructions for Use” page or the “Footnotes” page for inclusion in the contract file.**

### **Part A – Pre-Approval (Planning)**

Part A provides the Expense Authority (EA) with the information required to make an informed decision whether or not to proceed with a contract. **EA approval must be obtained before the procurement process is initiated.**

At this point, some divisions **MAY** also require Executive approval (ADM or Executive Director). At their discretion, Executive may require a pre-approval signature in Part A. The Executive member should advise their Client Services Branch (CSB) and branch directors of any pre approval requirements and related thresholds.

Part A also provides the coding data needed by administrative staff.

### **Part B – Contract Approval (Award)**

Part B is to be completed after the selection of the vendor but **before** the vendor signs the contract. If the awarded contract matches the figures and details provided in Part A, the EA's signature is not required in Part B as the EA will sign the contract. If the contract does not match the figures and details provided in Part A, the EA must sign Part B to approve any increase in the dollar value of the contract, and/or when a change in the procurement process reduces the number of vendors given the opportunity to bid.

*Example of Change in the Procurement Process:*

If the original Procurement Process chosen in Part A was the Open Competitive Process (100), then later changed to a Direct Award (200-207), the EA must approve the new Procurement Process as it reduces the number of potential vendors. However, if the original Procurement Process chosen in Part 2 was a Direct Award, then later changed to an Open Competitive Process allowing more vendors to participate, no additional approval is required from the EA.

### **Part C – Modifications**

Part C must be completed to modify an existing contract when the modification will increase the dollar value of the contract or when it will extend the contract into another fiscal year. As these situations have budgetary implications, the EA's signature is required to verify that policy compliance questions have been considered. If a modification does not have any budgetary implications, then Part C does not need to be completed. If a Division's Executive requires pre-approval signature in Part A, then their signature is required in Part C.

# REQUEST TO CONTRACT

☐ AGRICULTURE AND LANDS  
☒ ENVIRONMENT

## PART A – PLANNING (See Instructions)

<b>DIVISION/BRANCH</b>	<b>Environmental Sustainability &amp; Strategic Policy / Water Protection</b>	<b>LOCATION/ REGION:</b>	<b>Victoria</b>
<b>PROJECT TITLE: Development and Application of a Groundwater Budget Methodology</b>			
<b>CONTRACT MANAGER/MONITOR NAME:</b>	<b>Klaus Rathfelder</b>	<b>PHONE:</b>	<b>250-356-5180</b>
<b>DESCRIBE THE LOCATION/SERVICES/PURPOSE OF NEED:</b>	Development and testing of an aquifer water balance methodology using readily available data. The project supports groundwater licensing by helping to develop a protocol for assessing and quantifying the amount of available groundwater for allocation.		
<b>WHY CAN EXISTING STAFF RESOURCES NOT FILL THE NEED?</b>	There is no staff available to complete this work. The identified contractor has extensive experience in hydrogeologic assessments and is knowledgeable of provincial groundwater regulations.		
<b>DESCRIBE THE IMPACT ON PROGRAM DELIVERY IF NOT APPROVED</b>	Would limit the ability to quantify the amount of available groundwater for allocation, which could negatively impact informed decision making in regards to groundwater licensing and groundwater stewardship.		

CORE POLICY COMPLIANCE CHECKLIST		Y	N	n/a
1.	If a <u>Corporate Supply Arrangement</u> (CSA) is available, are the goods or services being purchased through the CSA? (CPPM 6.3.2.c.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.	For service contracts over \$100,000, has a Cost Benefit Justification (CBJ) been prepared? If yes, attach the CBJ and include in the contract file. (CPPM 6.3.1.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.	If this contract is being direct awarded to a contractor that has been used for similar work in the previous 3 months (3 months from previous expiry date), the new contract must be approved by an expense authority with authority for the combined total of the contracts. Has the appropriate expense authority approved the contract? (CPPM 6.3.1.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.	Can you confirm this contract does not constitute an <u>employer/employee relationship</u> ? (CPPM 6.3.1.7).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

BEST PRACTICES CHECKLIST		Y	N	n/a
1.	Has a <u>Risk Assessment</u> been prepared to determine the possible need for additional insurance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

PROCUREMENT PROCESS - SEE FOOTNOTES FOR CODE DESCRIPTION		
<input type="checkbox"/> 100 OPEN COMPETITIVE PROCESS	<input type="checkbox"/> 204 DIRECT AWARD – CONFIDENTIALITY	<input type="checkbox"/> 400 SELECTED VENDOR FROM PRE-QUALIFICATION LIST
<input type="checkbox"/> 200 DIRECT AWARD – PUBLIC SECTOR ORG.	<input type="checkbox"/> 205 DIRECT AWARD – NOTICE OF INTENT	<input type="checkbox"/> 401 COMPETITION AMONG VENDORS ON A PRE-QUALIFICATION LIST
<input type="checkbox"/> 201 DIRECT AWARD – SOLE SOURCE	<input type="checkbox"/> 206 DIRECT AWARD – NO JUSTIFICATION	<input type="checkbox"/> 500 PURCHASE FROM A CORPORATE SUPPLY ARRANGEMENT
<input type="checkbox"/> 202 DIRECT AWARD – EMERGENCY	<input checked="" type="checkbox"/> 207 DIRECT AWARD – UNDER \$25,000	<input type="checkbox"/> 600 OTHER PURCHASE PROCESS
<input type="checkbox"/> 203 DIRECT AWARD – SECURITY, ORDER	<input type="checkbox"/> 300 DIRECT INVITATION TO SELECTED VENDORS	<input type="checkbox"/> 601 OTHER – CONTINUING AGREEMENTS

If Direct Award, Contractor's legal name: Alan P. Kohut, P. Eng., Hy-Geo Consulting

Rational for Direct Award to this contractor: Contractor has extensive knowledge of hydrogeology throughout the province, has conducted hydrogeologic assessments of many aquifers including the Abbotsford-Sumas Aquifer, and is knowledgeable of provincial groundwater regulations.

If a Direct Award was selected under **201**, **206** or **207** above, has your program used these services in the past year? Y ☐ N ☒

If yes:

- Please state the end date of the previous contract and the contract value:
- Please state if the opportunity was competitively bid or direct awarded:

Will a Direct Award purchase obligate government to this vendor for future purchases or services? (e.g. licensing, maintenance, etc.) Y ☐ N ☒ N/A ☐

Provide details:

# PART A CONTINUED – PLANNING

## (See Instructions)

### CONTRACT DETAILS

<b>ANTICIPATED TERM OF AGREEMENT:</b>		<b>FROM DATE:</b> November 1, 2013	<b>TO DATE:</b> March 30, 2014		
<b>RECOVERABLE?</b> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>					
RECOVERED FROM (FULL NAME): AMOUNT OF RECOVERY: \$ PERCENTAGE: %					
<b>ESTIMATED VALUE OF CONTRACT:</b> \$10,000		<b>NOTE: LEGAL REVIEW IS REQUIRED FOR SERVICE CONTRACTS OVER \$250,000 OR WHEN MODIFICATIONS ARE MADE TO THE APPROVED TEMPLATES.</b> HAS A LEGAL REVIEW BEEN OBTAINED? Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/>			
<b>CLIENT</b>	<b>RESPONSIBILITY</b>	<b>SERVICE LINE</b>	<b>STOB</b>	<b>PROJECT</b>	<b>AMOUNT</b>
048	2941Q	47234	6001	2913277	\$10,000

### CONTRACT CATEGORY - SEE FOOTNOTES FOR CODE DESCRIPTION

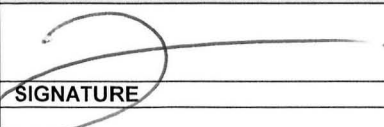
<input type="checkbox"/> GMA	<input checked="" type="checkbox"/> PRA	<input type="checkbox"/> BSA
<input type="checkbox"/> HR/LR	<input type="checkbox"/> PM	<input type="checkbox"/> OP
<input type="checkbox"/> IT	<input type="checkbox"/> COM	<input type="checkbox"/> OTH

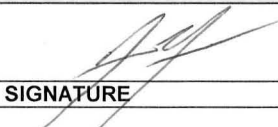
### AIT/TILMA EXCLUSION LIST - SEE FOOTNOTES FOR CODE DESCRIPTION

<input type="checkbox"/> 100 PURCHASE SUBJECT TO AIT	500 EXCLUDED – SECURITY, ORDER, ETC	<input type="checkbox"/>
<input checked="" type="checkbox"/> 200 PURCHASE BELOW APPLICABLE AIT THRESHOLD	600 EXCLUDED – PRODUCT COMPATIBILITY/EXCLUSIVE RIGHTS	<input type="checkbox"/>
<input type="checkbox"/> 300 PURCHASE OF AN EXEMPTED COMMODITY/SERVICE	700 EXCLUDED – PROCUREMENT OF PROTOTYPE	<input type="checkbox"/>
<input type="checkbox"/> 400 EXCLUDED – EMERGENCY	800 EXCLUDED – REGIONAL /ECONOMIC DEVELOPMENT	<input type="checkbox"/>

**NOTE:** If your Procurement Process changes to reduce the number of vendors given the opportunity to bid from that indicated in 'Procurement Process' section above, then the EA must approve the change in Part B before awarding the contract. EA approval can be by email as long as this document is included as an attachment to the email from the EA.

Provide details of Procurement Process change:

<b>EXPENSE AUTHORITY APPROVAL</b> email approval acceptable	
	DATE <u>Sept 26, 2013</u>
PRINT NAME <u>TARIK DESSOUK</u>	

<b>EXECUTIVE APPROVAL (if required)</b> email approval acceptable	
	DATE <u>Oct 02/13</u>
PRINT NAME <u>M Zadoros</u>	



**PART B – AWARD**  
(Complete for new contracts only- See Instructions)

**CONTRACTOR (FULL LEGAL NAME):**

**CONTRACTOR'S 'DOING BUSINESS AS' NAME (IF APPLICABLE):**

**ADDRESS:**

**CONTRACT NUMBER:**

**PHONE NUMBER:**

**EMAIL ADDRESS:**

**WCB NUMBER:**

**CONFIRMATION OF CONTRACT DETAILS FROM PART A**

Has there been any changes to the value or term of the contract from the 'Contract Details' section in Part A? Y ☐ N ☐

If no, then the Qualified Receiver/Contract Monitor is the only approval required below.

If yes, Expense Authority and Executive approval (if required in Part A) is required for an increase to the dollar value and an end date extending into an additional fiscal year.

**TERM OF AGREEMENT:**

**From Date:**

**To Date:**

**Total Value: \$**

**CORE POLICY COMPLIANCE CHECKLIST**

(for construction contracts click n/a where appropriate)

Y N N/A

1.	For <u>service</u> contracts with an aggregate value over \$75,000, inclusive of all potential extensions, did you advertise on <u>BC Bid</u> ? (CPPM 6.3.2.c.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	For <u>service</u> contracts between \$25,000 and \$75,000 did you use a competitive process that is appropriate to the value, complexity and profile of the business opportunity? Opportunities must be posted on BC Bid or at least three quotes must be obtained. (CPPM 6.3.2.c.5) Documentation of the procurement process is required in the working file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	For all contracts under \$25,000, did you compete to the extent reasonable and cost-effective? Documentation is required in the file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	If a pre-qualification list of contractors was used, was the contract awarded through a competitive process as described in the list (for contracts over \$75,000, the opportunity must go to all vendors on the list) ? (CPPM 6.3.2.c.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	If the General Services Agreement or approved construction template was not used, did you obtain Legal Services and <u>Risk Management</u> approval? <b>Documentation of approval must be kept in the contract file.</b> (CPPM 6.3.3.e.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Does <b>Schedule A</b> clearly identify specific and measurable contract deliverables? (CPPM 6.3.6.c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Does <b>Schedule A</b> clearly identify the process the ministry will use to monitor the contractor's performance (e.g. frequency & format of reporting requirements)? (CPPM 6.3.6.c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	If sub-contractors will be providing any services, are they identified in <b>Schedule C</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Has a Certificate of Insurance been requested confirming all applicable insurance as required in <b>Schedule D</b> ? (CPPM 6.3.3.e.11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Will the contract be signed by <b>both</b> parties before the start date of the contract (the contractor must sign first)? (CPPM 6.3.3.e.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Is the contract written in the <b>legal</b> name of the contractor (do not write the contract in the name of an individual if the contract is with an organization)? (CPPM 6.3.3.e.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**BEST PRACTICES CHECKLIST**

1.	If a contractor is ineligible for WCB (including Personal Optional Protection), has the EA given approval to proceed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	If the contract crosses fiscal years, does <b>Schedule A</b> include language that work must not proceed in the new fiscal year until you have confirmed appropriation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Has a WorkSafe BC (WCB) <u>clearance letter</u> been obtained for inclusion in the contract file?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	For contracts including travel expenses, have you attached the per diem rates as an appendix and referenced the appendix in <b>Schedule B</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QUALIFIED RECIEVER/  
CONTRACT MONITOR**

Signature  
PRINT NAME

Date

**EXPENSE AUTHORITY (if required) email  
approval acceptable**

Signature  
PRINT NAME

Date

**EXECUTIVE APPROVAL (if required) email  
approval acceptable**

Signature  
PRINT NAME

Date

## PART C – MODIFICATIONS

(Complete for modifications of an existing contract only if there is an increase to the dollar value or if the contract is being extended into another fiscal year – See Instructions)

CONTRACT NUMBER:

MODIFICATION #:

REASON FOR MODIFICATION:

ORIGINAL CONTRACT TOTAL \$

PREVIOUS CONTRACT TOTAL: \$

MODIFICATION AMOUNT: \$

NEW CONTRACT TOTAL: \$

PREVIOUS CONTRACT TERM: From:

To:

NEW CONTRACT TERM: From:

To:

### CORE POLICY COMPLIANCE – MODIFICATIONS (See instructions)

Y

N

N/A

1. Is the existing contract still open? Contracts cannot be modified after they have expired. CPPM 6.3.2.a.11

☐

☐

☐

2. Does the modification format comply with the Modification Agreement and the clauses as stated in CPPM 6.3.3.e.9?

☐

☐

☐

### BEST PRACTICES CHECKLIST

3. The modification amount(s) must be added to the original amount of the contract to determine the new total for approval requirements. Has the appropriate expense authority approved the Modification Agreement?

☐

☐

☐

4. Is the modification compliant with the terms of the contract solicitation process (RFP etc.) or within 20% of original value? If no, include documentation to explain why the opportunity has not been offered to other vendors.

☐

☐

☐

5. If this contract has been modified more than twice, have you included documentation to explain why the opportunity has not been offered to other vendors?

☐

☐

☐

EXPENSE AUTHORITY APPROVAL email approval acceptable

Signature

Date

PRINT NAME

EXECUTIVE APPROVAL (if required) email approval acceptable

Signature

Date

PRINT NAME



## FOOTNOTES FOR CODE DESCRIPTIONS

### Procurement Process DFF - List of Values

<u>Code</u>	<u>Description</u>
100	<b>Open competitive process:</b> An open competitive process (e.g., Invitation to Quote, Request for Proposal, Joint Solution Procurement, Invitation to Tender, or other) has been utilized, normally by advertising the opportunity on BC Bid. Core policy requires an open competitive process for amounts over \$75,000.
200	<b>Direct Award - Public sector organization:</b> Contracts for acquisitions (of goods, services, and construction) and disposals may be negotiated and directly awarded without competitive process where the contract is with another government organization.
201	<b>Direct Award - Sole source:</b> Contracts for acquisitions (of goods, services, and construction) and disposals may be negotiated and directly awarded without competitive process where the ministry can strictly prove that only one contractor is qualified to provide the goods, services or construction or is capable of engaging in a disposal opportunity.
202	<b>Direct Award – Emergency:</b> Contracts for acquisitions (of goods, services, and construction) and disposals may be negotiated and directly awarded without competitive process where an unforeseeable emergency exists and the goods, services or construction could not be obtained in time by means of a competitive process.
203	<b>Direct Award - Security, order, etc.:</b> Contracts for acquisitions (of goods, services, and construction) and disposals may be negotiated and directly awarded without competitive process where a competitive process would interfere with a ministry's ability to maintain security or order or to protect human, animal or plant life or health.
204	<b>Direct Award – Confidentiality:</b> Contracts for acquisitions (of goods, services, and construction) and disposals may be negotiated and directly awarded without competitive process where the acquisition is of a confidential or privileged nature and disclosure through an open bidding process could reasonably be expected to compromise government confidentiality, cause economic disruption or be contrary to the public interest.
205	<b>Direct Award - Notice of Intent:</b> A Notice of Intent must be posted on BC Bid when a contract for goods valued at more than \$10,000, or a contract for services or construction valued at more than \$50,000, is to be directly awarded on the basis that there is only one vendor that can provide the services required
206	<b>Direct Award - No justification:</b> Where a direct award has been made which is not justified under one of the exceptional conditions specified in the Core Policy Manual section 6.3.3 a (1), or a Notice of Intent has not been issued, or it is provided for under another policy.
207	<b>Direct Award – Under \$25,000 –</b> Contracts for acquisitions may be negotiated and directly awarded without competitive process where the value is less than \$25,000 for services and construction or less than \$10,000 for goods, and it is not reasonable or cost effective to openly compete the acquisition.
300	<b>Direct Invitation to selected vendors:</b> A competitive solicitation which is issued to a limited list of vendors and not advertised on BC Bid.
400	<b>Selected vendor from pre-qualification list:</b> A contract that is issued to a vendor on a pre-qualification list without undertaking a competitive process.
401	<b>Competition among vendors on a pre-qualification list:</b> A competitive solicitation which is issued to a limited list of vendors selected from a pre-qualification list.
500	<b>Purchase from a Corporate Supply Arrangement:</b> A purchase from a pre-established corporate supply arrangement such as a MSO, SO, the Queen's Printer or other as identified in CPPM 6.3.2 a (1).
600	<b>Other Purchase Process:</b> Other recognized procurement process, such as the purchase card.
601	<b>Other – Continuing Agreements:</b> For second and subsequent years of multi-year agreements.
602	<b>Other – Transfer Under Agreement:</b> For grants (both Conditional and Unconditional), Transfers and Entitlements.

### Agreement on Internal Trade DFF - List of Values

<u>Code</u>	<u>Description</u>
100	<b>Purchase subject to AIT:</b> The purchase is over the AIT thresholds (\$25K for goods and \$100K for services and construction) and is not excluded or exempted under any other provision of the AIT or other category below.
200	<b>Purchase below applicable AIT threshold:</b> The purchase is under the AIT thresholds (\$25K for goods and \$100K for services and construction).
300	<b>Purchase of an exempted commodity/service:</b> The purchase is for goods, services or construction that is exempted from coverage of the AIT by virtue of its specific reference in Chapter 5 of the agreement (e.g., health and social services).
400	<b>Excluded – Emergency:</b> A purchase where an unforeseeable situation of urgency exists and the goods, services or construction cannot be obtained in time by means of an open procurement.
500	<b>Excluded - Security, order, etc.:</b> A purchase where compliance with the open tendering provisions set out in Chapter 5 of the AIT would interfere with the Province's ability to maintain security or order or to protect human, animal or plant life or health.
600	<b>Excluded - Product compatibility/exclusive rights:</b> A purchase which must: ensure compatibility with existing products; recognize exclusive rights, such as exclusive licenses, copyright and patent rights; or maintain specialized products that must be maintained by the manufacturer or its representative.
700	<b>Excluded - Procurement of prototype:</b> The procurement of a prototype or a first good or service to be developed in the course of and for a particular contract for research, experiment, study or original development, but not for any subsequent purchases.
800	<b>Excluded - Regional/Economic development:</b> A purchase which, under exceptional circumstances, may be excluded by the Province from the application of Chapter 5 of the AIT for regional and economic development purposes.

### Code Descriptions for STOB 60, 61, and 63

The following definitions are to be used to classify contracts in STOBs 60, 61, and 63 which fall into the categories listed. If the contract does not fit into one of these broad categories, it should be excluded from the analysis. If the contract falls into more than 1 category, choose the predominant category.

Recoverable contracts should be identified as such and will be excluded from the information submitted to central agencies if submission is required.

**GMA** (General Management Advice) – Contracts providing information for, or advice on, the planning and/or management of programs.

**HR/LR** (Human Resources & LR) – Contracts providing Human Resources services or human resource related services such as coaching/facilitation and organizational design.

**IT** (IT Consulting) – Consulting services related to information technology. This would include contracts consulting on systems development or management of systems. It would not include the work done to develop the system, writing code, data entry etc.

**PRA** (Policy, Research and Analysis) – Contracts providing planning services that contribute to or recommend policy, or consultation on policy issues; contracts that provide research and analysis to advise in program management.

**PM** (Project Management) – Contracts where an external project manager is hired to run a project or facilitate activities.

**COM** (Communications) – Contracts providing professional services related to the planning writing, preparation or distribution of communications

**BSA** (Business Support & Administrative) – Contracts where administrative support is supplied such as administrative service, filing, cataloguing, records administration, etc. Also includes Secretariat support services.

**OP** (Operational) – Contracts where non consulting type work is being performed that is performing a service that does not fit into one of the categories above. Examples include data entry, building fences, maintenance activities, writing and delivery of training program

**OTH** (Other) - Contracts which do not fall into any of the above categories.