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TITLE: PHASE II/III ENVIRONMENTAL SITE ASSESSMENT, SURFACE WATER/SEDIMENT STUDY

PART 1 - GENERAL INFORMATION

1. Introduction

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

Part 1 General Information: provides a general description of the requirement;

Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;

Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;

Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;

Part 5 Certifications: includes the certifications to be provided;

Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and

Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, the Task Authorization Form 572 Insurance Requirement, and any other annexes.

2. Summary

- (a) Public Works and Government Services Canada (PWGSC) on behalf of Aboriginal Affairs and Northern Development Canada (AANDC) has a requirement to complete the tasks at the Former AANDC Leased Industrial Properties (Sites 1 to 3), Couchiching First Nation, Fort Frances, Ontario.

The Bidder must make available the following resources to fulfill this requirement:

Project Director
Project Manager
Specialist – Environmental Site Assessment
Specialist – Sediment
Senior Environmental Scientist Engineer
Environmental Scientist Engineer
Senior Field Technician
Field Technician
Risk Assessor
Drafting/AutoCAD
Administrative Staff

- (b) The period of the contract is from date of contract award to 31 March 2016.

- (c) This solicitation will result in 1 winning bid and award of 1 contract.

- (d) Multiple bids from the same Bidder (or a bid from a Bidder and another bid from any of its affiliates) are not permitted in response to this bid solicitation. Each Bidder must submit only a single bid. For the purpose of this bid solicitation, individual members of a joint venture cannot participate in another bid, either by submitting a bid alone or by participating in another joint venture. If any Bidder submits more than one bid (or an affiliate also submits a bid), either on its own or as part of a joint venture, Canada will choose in its discretion which bid to consider.
- (e) Bidders must provide a list of names, or other related information as needed, pursuant to section 01 of Standard Instructions 2003.
- (f) For services requirements, Bidders in receipt of a pension or a lump sum payment must provide the required information as detailed in article 3 of Part 2 of the bid solicitation.
- (g) The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and Agreement on Internal Trade (AIT), Canada-Chile Free Trade Agreement (CCFTA) and Canada-Peru Free Trade Agreement (CPFTA).

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

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

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

The [2003](#) (2014-06-26) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: sixty (60) days

Insert: one hundred and twenty (120) days

2. Submission of Bids

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

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

3. Former Public Servants (if applicable)

Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny and reflect fairness in spending public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, Bidders must provide the information required below.

- (a) For the purposes of this clause,
- (i) "Former public servant" means a former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police and includes:
 - 1. an individual;
 - 2. an individual who has incorporated;
 - 3. a partnership made up of former public servants; or,
 - 4. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.
 - (ii) "Lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the Public Service.
 - (iii) "Pension" means a pension payable pursuant to the Public Service Superannuation Act, R.S., 1985, c. P-36, as indexed pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24.
- (c) If any of the Bidder's proposed resource(s) is an FPS in receipt of a pension as defined above, the Bidder must provide the following information:
- (i) name of former public servant; and
 - (ii) date of termination of employment or retirement from the Public Service.
- (d) If any of the Bidder's proposed resource(s) is an FPS who received a lump sum payment pursuant to the terms of a work force reduction program, the Bidder must provide the following information:
- (i) name of former public servant;
 - (ii) conditions of the lump sum payment incentive;
 - (iii) date of termination of employment;
 - (iv) amount of lump sum payment;
 - (v) rate of pay on which lump sum payment is based;
 - (vi) period of lump sum payment including start date, end date and number of weeks; and
 - (vii) number and amount (professional fees) of other contracts subject to the restrictions
 - (viii) of a work force reduction program.
- (e) For all contracts awarded during the lump sum payment period, the total amount of fee that may be paid to a FPS who received a lump sum payment is \$5,000, including the Goods and Services Tax or Harmonized Sales Tax.
- (f) By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

4. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

5. Applicable Laws

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

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

6. Optional Site Visit

It is recommended that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for a tour of the work site. The site visit will be held on:

September 10th at 1:30 pm at the La Place Rendez-Vous Hotel, 1201 Idylwild Drive, Fort Frances, Ontario.

Bidders are requested to communicate with the Contracting Authority three (3) working days before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders may be requested to sign an attendance form. Bidders who do not attend or send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (6 hard copies and 2 soft copies on *CD*)

Section II: Financial Bid (2 hard copies and 2 soft copies on *CD*)

Section III: Certifications (2 hard copies)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

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

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

(a) use 8.5 x 11 inch (216 mm x 279 mm) paper;

- (b) use a numbering system that corresponds to the bid solicitation.

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

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

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability as applicable and describe their approach in a thorough, concise and clear manner for carrying out the work.

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

Section II: Financial Bid

- 1.1 Bidders must submit their financial bid in accordance with Annex B, Basis of Payment and Attachment 3.1: Bidder's Pricing Table for Price Evaluation. The total amount of Applicable Taxes must be shown separately.
- 1.2 Exchange Rate Fluctuation

SACC Manual Clause C3011T (2013-11-06), Exchange Rate Fluctuation

SECTION III: CERTIFICATIONS

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. EVALUATION PROCEDURES

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria
- (b) An evaluation team composed of representatives of Canada will evaluate the bids. Canada may hire any independent consultant, or use any Government resources, to evaluate any bid. Not all members of the evaluation team will necessarily participate in all aspects of the evaluation.

1.1 TECHNICAL EVALUATION

1.1.1 Mandatory Technical Criteria

See Attachment 4.1: Technical Evaluation – Mandatory and Point Rated Requirements.

1.1.2 Point-Rated Technical Criteria

See Attachment 4.1: Technical Evaluation – Mandatory and Point Rated Requirements.

1.2 FINANCIAL EVALUATION

1.2.1 Mandatory Financial Criteria

- i) Bidders must submit their financial bid in accordance with Basis of Payments at Annex B and Attachment 3.1: Bidder's Pricing Table for Price Evaluation.
- ii) Pricing must be provided for all Firm and Task Authorized Requirements on Annex B, Basis of Payments and Attachment 3.1: Bidder's Pricing Table for Price Evaluation.
- iii) The Firm Hourly Rate proposed for the Resource Categories in Table 3, on the Basis of Payment, Annex B must be the same rates used for the ceiling price work.

1.2.2 Evaluation of Price – Bid

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

- 1.2.2 The price used in the evaluation will be the Total Final Evaluated Pricing (4) on Attachment 3.1: Bidder's Pricing Table for Price Evaluation.

2. BASIS OF SELECTION - Highest Combined Rating of Technical Merit and Price

To be declared responsive, a bid must:

- a. comply with all the requirements of the bid solicitation; and
 - b. meet all mandatory criteria; and
 - c. obtain the required minimum points for each criterion (R-4; R-5; R-6 and R-7) under Resource Rated Requirements,
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
 3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70% for the technical merit and 30% for the price.
 4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 70 %.

5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The following Table illustrates an example where the selection of the Bid for the resource category A is determined by 70/30 ratio of the technical and pricing score, respectively. The total available points equals 30 and the lowest evaluated price is \$50,000 (50).

Example of Bid Selection			
Highest Combined Rating of Technical Merit (70%) and Price (30%)			
Bidder	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	27	25	24
Bid Evaluated Price	\$60,000	\$55,000	\$50,000
Calculation	Technical Merit Score	Pricing Score	Combined Rating Total
Bidder 1	$27 \times 70 / 30 = 63.0$	$50 \times 30 / 60 = 25.0$	88.0
Bidder 2	$25 \times 70 / 30 = 58.3$	$50 \times 30 / 55 = 27.3$	85.6
Bidder 3	$24 \times 70 / 30 = 56.0$	$50 \times 30 / 50 = 30.0$	86.0
Bidder 1 is the Winner with the highest combined rating of 88 points.			

If two bidders obtain an identical overall score, the Bidder with the highest technical merit score will be determined the winner.

PART 5 - CERTIFICATIONS

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

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

1. CERTIFICATIONS REQUIRED PRECEDENT TO CONTRACT AWARD

1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 *Integrity Provisions - Bid of Standard Instructions 2003*. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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

1.3 STATUS AND AVAILABILITY OF RESOURCES

- (a) By submitting a bid, the Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives.
- (b) If the Bidder has proposed any individual who is not an employee of the Bidder, by submitting a bid, the Bidder certifies that it has the permission from that individual or his/her employer to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.

1.4 EDUCATION AND EXPERIENCE

- (a) The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

PART 6 - RESULTING CONTRACT CLAUSES

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

1. Statement of Work

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

1.2 Task Authorization

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

1.2.1 Task Authorization Process:

1. The Technical Authority will provide the Contractor with a description of the task using the "Task Authorization" form specified in Annex D.
2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis(bases) and methods of payment as specified in the Contract.
3. The Contractor must provide the Technical Authority, within 10 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
4. The Contractor must not commence work until a TA authorized by the Technical Authority) has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

1.2.2 Task Authorization Limit

The Technical Authority may authorize individual task authorizations up to a limit of \$100,000.00, Goods and Services Tax or Harmonized Sales Tax included, inclusive of any revisions.

2. Standard Clauses and Conditions

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

2.1 General Conditions

2035 (2014-06-26), General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

3. Security Requirement

There is no security requirement applicable to this Contract.

4. Term of Contract

4.1 Period of the Contract

The period of contract is from date of contract to 31 March 2016 inclusive

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Helen Yari
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Ontario Region – Mississauga Office
Address: 33 City Centre Dr.
Mississauga, Ontario

Telephone: 905-615-2081
Facsimile: 905-615-2060
E-mail address: helen.yari@pwgsc-tpsgc.gc.ca

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

5.2 Project Authority

The Project Authority for the Contract is:

(To be provided at time of contract award)

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

5.3 Contractor's Representative *(to be confirmed at contract award)*

Name: _____
Title: _____
Telephone: _____
Facsimile: _____
Email: _____

6. Proactive Disclosure of Contracts with Former Public Servants *(if applicable)*

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

7. Payment

7.1 Firm Requirement:

7.1.1 Basis of Payment - Ceiling Price

For the Work described in the Project Requirements section (Section 7.0) of SOW and the PWGSC Workplan provided in Appendix B of the SOW in Annex A: The ceiling price amount is to include overhead, profit and all other related charges including labour, disbursements, travel, etc.

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, to a ceiling price of \$ _____ (*insert amount at contract award*) in accordance with A. Firm Requirement on the Basis of Payment, Annex B. Customs duties are *included* and Applicable Taxes are extra.

The ceiling price is subject to downward adjustment so as not to exceed the actual costs reasonably incurred in the performance of the Work and computed in accordance with the Basis of Payment.

7.2 Task Authorized Work (also identified as Optional Tasks):

7.2.1 Basis of Payment - Ceiling Price

For the Work described in Section 9.1 (Optional Tasks) of the SOW and the Optional Tasks listed in the Workplan provided in Appendix B of the SOW. in Annex A:

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, to a ceiling prices specified, in accordance with the Basis of Payment, Annex B. Customs duties are *included* and Applicable Taxes are extra.

The ceiling price is subject to downward adjustment so as not to exceed the actual costs reasonably incurred in the performance of the Work and computed in accordance with the Basis of Payment.

7.2.2 Basis of Payment - Firm Unit Price(s) or Firm Lot Price(s)

For the Work described in Section 9.2 Additional Work of the SOW in Annex A:

In consideration of the Contractor satisfactorily completing all of its obligations under the Task Authorization (TA), the Contractor will be paid *in accordance with the basis of payment, in Annex B*, under TA. Customs duties are *included* and Applicable Taxes are extra.

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

7.3 Limitation of Expenditure - Cumulative Total of all Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all authorized Task Authorizations (TAs), inclusive of any revisions, must not exceed the sum of \$ 150,000.00. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada will be authorized or paid to the Contractor unless an increase has been approved, in writing, by the Contracting Authority.
3. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - a. when it is 75 percent committed, or
 - b. four (4) months before the contract expiry date, or
 - c. as soon as the Contractor considers that the sum is inadequate for the completion of the Work required in all authorized TAs, inclusive of any revisions,whichever comes first.
4. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority, a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7.4 Method of Payments

For 7.1.1 and 7.2.1 Basis of Payment - Ceiling Price

7.4.1 Progress Payments

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work up to 90 percent of the amount claimed and approved by Canada if:
 - (a) an accurate and complete claim for payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - (b) the amount claimed is in accordance with the Basis of payment;
 - (c) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
 - (d) all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.
3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the right to make adjustments to the Contract from time to time during

the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

For 7.2.2 Basis of Payment - Firm Unit Price(s) or Firm Lot Price(s) above

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

7.5 SACC Manual Clauses

A9117C (2007-11-30), T1204 - Direct Request by Customer Department

C0305C (2008-05-12), Cost Submission

7.6 Discretionary Audit

SACC Manual Clause C0100C (2010-01-11), Discretionary Audit - Commercial Goods and/or Services

7.7 Time Verification

SACC Manual Clause C0711C (2008-05-12), Time Verification

8. Invoicing Instructions

8.1 Invoicing Instructions - Progress Claim

1. The Contractor must submit a claim for progress payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), Claim for Progress Payment.

Each claim must show:

- (a) all information required on form PWGSC-TPSGC 1111;
- (b) all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- (c) a list of all expenses;
- (d) holdback of 10%.

Each claim must be supported by:

- (a) a copy of time sheets to support the time claimed;
- (b) a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses. All travel and living expenses must be provided on a separate invoice from all direct expenses; and
- (c) a copy of the monthly progress report.

2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.

-
3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Contracting Authority for certification. The Contracting Authority will then forward the original and two (2) copies of the claim to the Technical Authority for appropriate certification after inspection and acceptance of the Work takes place, and onward submission to the Payment Office for the remaining certification and payment.
 4. The Contractor must not submit claims until all work identified in the claim is completed.

Task Authorized Work

8.2 Invoicing Instructions

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

Each invoice must be supported by:

- (a) a copy of time sheets to support the time claimed;
 - (b) a copy of the release document and any other documents as specified in the Contract (e.g. Task Authorized document);
 - (c) a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses. All travel and living expenses must be provided on a separate invoice from all direct expenses; and
 - (d) a copy of the monthly progress report and copy of the detailed monthly cumulative expenditure tracking report
2. Invoices must be distributed as follows:
 - (a) One (1) copy must be submitted in an electronic format to Project Authority identified under the section entitled "Authorities" of the Contract for certification and payment. Microsoft Word, Adobe Reader (.pdf) formats are acceptable.
 - (b) One (1) copy must be submitted in an electronic format to the Contracting Authority identified under the section entitled "Authorities" of the Contract. Microsoft Word, Adobe Reader (.pdf) formats are acceptable.

9. Certifications

Compliance with the certifications provided by the Contractor in its response to the RFP is a condition of the Contract and subject to verification by Canada during the entire Contract Period. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, under the default provision of the Contract, to terminate the Contract for default.

10. Applicable Laws

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

11. Priority of Documents

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

-
- (a) the Articles of Agreement;
 - (b) 2035 (2014-06-26) General Conditions – Higher Complexity - Services
 - (d) Annex A, Statement of Work;
 - (e) Annex B, Basis of Payment;
 - (h) Annex C, Insurance Requirements;
 - (i) the signed Task Authorizations (including all of its annexes, if any);
 - (j) the Contractor's bid dated _____, (*insert date of bid*), as clarified on _____ " *or* ", as amended on _____ " *and insert date(s) of clarification(s) or amendment(s)*).

12. Foreign Nationals (Canadian Contractor or Foreign Contractor)

- (a) SACC Manual clause A2000C (2006-06-16) Foreign Nationals (Canadian Contractor); or
- (b) SACC Manual clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor);

Whichever is applicable (to be determined in any resulting Contract)

13. Insurance – Specific Requirement

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

Solicitation No. - N° de l'invitation
EQ447-142718/A
Client Ref. No. - N° de réf. du client
EQ447-142718

Amd. No. - N° de la modif.
004
File No. - N° du dossier
TOR-4-37047

Buyer ID - Id de l'acheteur
tor016
CCC No./N° CCC - FMS No/ N° VME

ANNEX A

STATEMENT OF WORK

Phase II/III Environmental Site Assessment, Surface Water/Sediment Study

For

Public Works and Government Services Canada (PWGSC) Environmental Services

On Behalf of

Aboriginal Affairs and Northern Development Canada (AANDC)

(Attached Herein)

ANNEX B
BASIS OF PAYMENT

A. FIRM REQUIREMENT:

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payment:

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

2.1 **EQUIPMENT:** **Est.:** \$ _____

2.2 **RENTALS:** **Est.:** \$ _____

2.3 **MATERIALS AND SUPPLIES:** **Est.:** \$ _____

2.4 **TRAVEL AND LIVING EXPENSES:** **Est.:** \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable.
All travel must have prior authorization of Project Authority. All payments are subject to government audit.

2.5 **SUBCONTRACTS:** **Est.:** \$ _____

2.6 **OTHER DIRECT CHARGES:** **Est.:** \$ _____

Ceiling Price For A. Firm Requirement: \$ _____
(Applicable Taxes extra)

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

B. TASK AUTHORIZED (TA) WORK

The TA work on Table 1, Table 2 and Table 3 will be requested on an as and when requested basis and will be paid in accordance with the Basis of Payments identified:

Table - 1

Task No.	Task Description	Ceiling Price
1.	Site wide assessment of Dioxins and Furans as described in the Annex A – SOW under Task Authorized or Optional Requirements	\$
2.	Terrestrial environment/habitat assessment as per Annex A - SOW under Task Authorized or Optional Requirements	\$
3.	Sediment benthic and toxicity analysis and associated reporting and per Annex A - SOW under Task Authorized or Optional Requirements	\$
4.	APEC 15 – Borrow Source and Mill Site 3 Dump Assessment as per Annex A - SOW under Task Authorized or Optional Requirements	\$
5.	APEC 11 – Chemical analysis of contents of pails as per Annex A – SOW under Task Authorized or Optional Requirements	\$

Basis of Payment for Table 1:

For each Task identified in Table 1, the Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

Task No. 1

Basis of Payment

Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

2.1 **EQUIPMENT:** Est.: \$ _____

2.2 **RENTALS:** Est.: \$ _____

2.3 **MATERIALS AND SUPPLIES:** Est.: \$ _____

2.4 **TRAVEL AND LIVING EXPENSES:** Est.: \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable. All travel must have prior authorization of Project Authority. All payments are subject to government audit.

2.5 **SUBCONTRACTS:** Est.: \$ _____

2.6 **OTHER DIRECT CHARGES:** Est.: \$ _____

Ceiling Price For Task 1: \$ _____
(Applicable Taxes extra)

Task No. 2

Basis of Payment

Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

2.1 **EQUIPMENT:** Est.: \$ _____

2.2 **RENTALS:** Est.: \$ _____

2.3 **MATERIALS AND SUPPLIES:** Est.: \$ _____

2.4 **TRAVEL AND LIVING EXPENSES:** Est.: \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable.
All travel must have prior authorization of Project Authority. All payments are subject to government audit.

2.5 **SUBCONTRACTS:** Est.: \$ _____

2.6 **OTHER DIRECT CHARGES:** Est.: \$ _____

Ceiling Price For Task 2: \$ _____
(Applicable Taxes extra)

Task No. 3

Basis of Payment

Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

2.1 **EQUIPMENT:** Est.: \$ _____

2.2 **RENTALS:** Est.: \$ _____

2.3 **MATERIALS AND SUPPLIES:** Est.: \$ _____

2.4 **TRAVEL AND LIVING EXPENSES:** Est.: \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable. All travel must have prior authorization of Project Authority. All payments are subject to government audit.

2.5 **SUBCONTRACTS:** Est.: \$ _____

2.6 **OTHER DIRECT CHARGES:** Est.: \$ _____

Ceiling Price For Task 3: \$ _____
(Applicable Taxes extra)

Task No. 4

Basis of Payment

Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

- 2.1 **EQUIPMENT:** Est.: \$ _____
- 2.2 **RENTALS:** Est.: \$ _____
- 2.3 **MATERIALS AND SUPPLIES:** Est.: \$ _____
- 2.4 **TRAVEL AND LIVING EXPENSES:** Est.: \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable. All travel must have prior authorization of Project Authority. All payments are subject to government audit.

- 2.5 **SUBCONTRACTS:** Est.: \$ _____
- 2.6 **OTHER DIRECT CHARGES:** Est.: \$ _____

Ceiling Price For Task 4: \$ _____
(Applicable Taxes extra)

Task No. 5

Basis of Payment

Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work to a ceiling price in accordance with the following Basis of Payments. With the exception of the firm rate(s) and/or price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the estimated cost does not exceed the aforementioned Ceiling Price.

1. **LABOUR:** at the following all inclusive firm hourly rates includes overhead and profit:

	Resource Category	Name of Resource	Estimated Hours	Firm Hourly Rate	Total
1.1	_____	_____	_____	\$ _____	\$ _____
1.2	_____	_____	_____	\$ _____	\$ _____
1.3	_____	_____	_____	\$ _____	\$ _____
Etc.					
Total Estimate for Labour:					\$ _____

2. **DIRECT CHARGES:** at laid down cost without mark-up

2.1 **EQUIPMENT:** Est.: \$ _____

2.2 **RENTALS:** Est.: \$ _____

2.3 **MATERIALS AND SUPPLIES:** Est.: \$ _____

2.4 **TRAVEL AND LIVING EXPENSES:** Est.: \$ _____

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees" are applicable.
All travel must have prior authorization of Project Authority. All payments are subject to government audit.

2.5 **SUBCONTRACTS:** Est.: \$ _____

2.6 **OTHER DIRECT CHARGES:** Est.: \$ _____

Ceiling Price For Task 5: \$ _____
(Applicable Taxes extra)

The following firm unit prices are firm all inclusive prices for the duration of the contract. The total amount of Applicable Taxes are to be shown separately, if applicable.

Table - 2

Task No.	Description	Per Unit	Firm Unit Price
1	Borehole drilling to 3 metres including all monitoring, sampling, submission of samples, surveying and reporting of results associated with the borehole in accordance with the SOW.	Each	\$
2	Monitoring well installation including monitoring, sampling, submission of samples, surveying and reporting of results associated with the monitoring well in accordance with the SOW.	Each	\$
3	Test pit to 3 metres including all monitoring, sampling, submission of samples, surveying, and reporting of results associated with the test pit in accordance with the SOW.	Each	\$
4	Sediment sampling at one location including monitoring, sampling, submission of samples, surveying and reporting of results associated with the sediment samples in accordance with the SOW	Each	\$
5	Surface water sampling at one including monitoring, sampling, submission of samples, surveying and reporting of results associated with the sediment samples in accordance with the SOW	Each	\$
6	Groundwater disposal charges.	Drum	\$
7	Soil disposal charges.	Drum	\$
8	Monitor, sample and report results associated with an existing well (excluding laboratory analysis)	Each	\$
9	Cost to decommission a 3 metre deep well in accordance with O. Reg 903.	Each	\$
10	Analysis of one soil sample for PHCs	Each	\$
11	Analysis of one soil sample for PAHs	Each	\$
12	Analysis of one soil sample for Metals	Each	\$
13	Analysis of one soil sample for VOCs	Each	\$
14	Analysis of one soil sample for PHC subfraction	Each	\$
15	Analysis of one soil sample for pH	Each	\$
16	Analysis of one soil sample for grain size	Each	\$
17	Analysis of one soil sample for Dioxins and Furans	Each	\$
18	Analysis of one soil sample for PCBs	Each	\$
19	Analysis of one soil sample for Chlorophenols	Each	\$
20	Analysis of one groundwater sample for PHCs	Each	\$

Task No.	Description	Per Unit	Firm Unit Price
21	Analysis of one groundwater sample for PAHs	Each	\$
22	Analysis of one groundwater sample for Metals	Each	\$
23	Analysis of one groundwater sample for VOCs	Each	\$
24	Analysis of one groundwater sample for PHC subfraction	Each	\$
25	Analysis of one groundwater sample for Dioxins and Furans	Each	\$
26	Analysis of one groundwater sample for PCBs	Each	\$
27	Analysis of one groundwater sample for Chlorophenols	Each	\$
28	Analysis of one Sediment sample for PHCs	Each	\$
29	Analysis of one Sediment sample for PAHs	Each	\$
30	Analysis of one Sediment sample for Metals	Each	\$
31	Analysis of one Sediment sample for VOCs	Each	\$
32	Analysis of one Sediment sample for grain size	Each	\$
33	Analysis of one Sediment sample for Dioxins and Furans	Each	\$
34	Analysis of one Sediment sample for PCBs	Each	\$
35	Analysis of one Sediment sample for Chlorophenols	Each	\$
36	Analysis of one Sediment sample for pH	Each	\$
37	Analysis of one Surface water sample for PHCs	Each	\$
38	Analysis of one Surface water sample for VOCs	Each	\$
39	Analysis of one Surface water sample for PAHs	Each	\$
40	Analysis of one Surface water sample for Chlorophenols	Each	\$
41	Analysis of one Surface water sample for Dioxins and Furans	Each	\$
42	Analysis of one Surface water sample for metals	Each	\$
43	Analysis of one Surface water sample for methyl mercury	Each	\$
44	Analysis of one Surface water sample for TSS/TOC/DOC	Each	\$
45	Analysis of one Benthic sample (including replicates)	Each	\$
46	Analysis of one toxicity sample (including replicates)	Each	\$
47	Analysis of one Pore Water sample for VOCs	Each	\$

Task No.	Description	Per Unit	Firm Unit Price
48	Analysis of one Pore Water sample for PCHs	Each	\$
49	Analysis of one Pore Water sample for PAHs	Each	\$
50	Analysis of one Pore Water sample for chlorophenols	Each	\$
51	Analysis of one Pore Water sample for Dioxins and Furans	Each	\$
52	Analysis of one Pore Water sample for metals	Each	\$

3. Any additional tasks that are not identified in Table 1 and Table 2 above will be at the following firm all-inclusive hourly rate for each category of resources listed herein for the contract period. The total amount of Applicable Taxes are to be shown separately, if applicable.

Table 3

Resource Category	Firm Hourly rate
Project Director	\$
Project Manager	\$
Specialist – Environmental Site Assessment	\$
Specialist – Sediment	\$
Senior Environmental Scientist Engineer	\$
Environmental Scientist Engineer	\$
Senior Field Technician	\$
Field Technician	\$
Drafting/AutoCAD	\$
Risk Assessor	\$
Administrative Staff	\$

Estimated Cost to a Limitation of Expenditure: \$ _____
(Applicable Taxes extra)

ANNEX C

INSURANCE REQUIREMENTS

1. Commercial General Liability Insurance

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
 - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
 - b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
 - c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
 - d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
 - e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
 - g. Employees and, if applicable, Volunteers must be included as Additional Insured.
 - h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
 - i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
 - j. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
 - k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

-
- i. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
 - m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
 - o. All Risks Tenants Legal Liability - to protect the Contractor for liabilities arising out of its occupancy of leased premises.
 - p. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.
 - r. Litigation Rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:

Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

2. Environmental Impairment Liability Insurance

1. The Contractor must obtain Contractors Professional Liability insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$5,000,000 per accident or occurrence and in the annual aggregate.
2. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
3. The Contractors Professional Liability policy must include the following:

- a. **Additional Insured:** Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
- b. **Notice of Cancellation:** The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
- c. **Separation of Insureds:** The policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
- d. **Contractual Liability:** The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
- e. **Incidental Transit Extension:** The policy must extend to losses arising from any waste, products or materials transported, shipped, or delivered via any transportation mode to a location beyond the boundaries of a site at which the Contractor or any entity for which the Contractor is legally liable is performing or has performed the operations described in the contract.

3. Errors and Omissions Liability Insurance

1. The Contractor must obtain Errors and Omissions Liability (a.k.a. Professional Liability) insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature but for not less than \$1,000,000 per loss and in the annual aggregate, inclusive of defence costs.
2. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
3. The following endorsement must be included:

Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.

Solicitation No. - N° de l'invitation
EQ447-142718/A
Client Ref. No. - N° de réf. du client
EQ447-142718

Amd. No. - N° de la modif.
004
File No. - N° du dossier
TOR-4-37047

Buyer ID - Id de l'acheteur
tor016
CCC No./N° CCC - FMS No/ N° VME

ANNEX D

TASK AUTHORIZATION FORM

(Will be made available to the Contractor upon award)

ATTACHMENT 3.1: BIDDER'S PRICING TABLE FOR PRICE EVALUATION

The pricing and rates proposed on Annex B, Basis of Payment will be used herein for price evaluation. Should there be any discrepancies in the prices or rates, the prices and/or rates on Annex B, Basis of Payment will prevail.

Applicable taxes will be excluded from price evaluation.

A. Firm Requirement: **Ceiling Price:** \$ _____

Total for A. Firm Requirement: \$ _____

B. Task Authorized Work

Estimated Quantities herein are an estimate only for price evaluation and not a guarantee of work.

Table - 1

Task No.	Task Description	Ceiling Price
1.	Site wide assessment of Dioxins and Furans as described in the Annex A – SOW under Task Authorization Work	\$
2.	Terrestrial environment/habitat assessment as per Annex A - SOW under Task Authorized or Optional Requirements	\$
3.	Sediment benthic and toxicity analysis and associated reporting and per Annex A - SOW under Task Authorized or Optional Requirements	\$
4.	APEC 15 – Borrow Source and Mill Site 3 Dump Assessment as per Annex A - SOW under Task Authorized or Optional Requirements	\$
5.	APEC 11 – Chemical analysis of contents of pails as per Annex A – SOW under Task Authorized or Optional Requirements	\$
Total for Table 1 (sum of Ceiling Prices)		\$

Table 2:

Task No.	Description	Est. Qty. (A)	Firm Unit Price (B)	Extended Total (A x B)
1	Borehole drilling to 3 metres including all monitoring, sampling, submission of samples, surveying and reporting of results associated with the borehole in accordance with the SOW.	1 Each	\$	\$
2	Monitoring well installation including monitoring, sampling, submission of samples, surveying and reporting of results associated with the monitoring well in accordance with the SOW.	1 Each	\$	\$
3	Test pit to 3 metres including all monitoring, sampling, submission of samples, surveying, and reporting of results associated with the test pit in accordance with the SOW.	1 Each	\$	\$

Task No.	Description	Est. Qty. (A)	Firm Unit Price (B)	Extended Total (A x B)
4	Sediment sampling at one location including monitoring, sampling, submission of samples, surveying and reporting of results associated with the sediment samples in accordance with the SOW	1 Each	\$	\$
5	Surface water sampling at one including monitoring, sampling, submission of samples, surveying and reporting of results associated with the sediment samples in accordance with the SOW	1 Each	\$	\$
6	Groundwater disposal charges.	1 Drum	\$	\$
7	Soil disposal charges.	1 Drum	\$	\$
8	Monitor, sample and report results associated with an existing well (excluding laboratory analysis)	1 Each	\$	\$
9	Cost to decommission a 3 metre deep well in accordance with O. Reg 903.	1 Each	\$	\$
10	Analysis of one soil sample for PHCs	1 Each	\$	\$
11	Analysis of one soil sample for PAHs	1 Each	\$	\$
12	Analysis of one soil sample for Metals	1 Each	\$	\$
13	Analysis of one soil sample for VOCs	1 Each	\$	\$
14	Analysis of one soil sample for PHC subfraction	1 Each	\$	\$
15	Analysis of one soil sample for pH	1 Each	\$	\$
16	Analysis of one soil sample for grain size	1 Each	\$	\$
17	Analysis of one soil sample for Dioxins and Furans	1 Each	\$	\$
18	Analysis of one soil sample for PCBs	1 Each	\$	\$
19	Analysis of one soil sample for Chlorophenols	1 Each	\$	\$
20	Analysis of one groundwater sample for PHCs	1 Each	\$	\$
21	Analysis of one groundwater sample for PAHs	1 Each	\$	\$
22	Analysis of one groundwater sample for Metals	1 Each	\$	\$
23	Analysis of one groundwater sample for VOCs	1 Each	\$	\$
24	Analysis of one groundwater sample for PHC subfraction	1 Each	\$	\$
25	Analysis of one groundwater sample for Dioxins and Furans	1 Each	\$	\$
26	Analysis of one groundwater sample for PCBs	1 Each	\$	\$
27	Analysis of one groundwater sample for Chlorophenols	1 Each	\$	\$

Task No.	Description	Est. Qty. (A)	Firm Unit Price (B)	Extended Total (A x B)
28	Analysis of one Sediment sample for PHCs	1 Each	\$	\$
29	Analysis of one Sediment sample for PAHs	1 Each	\$	\$
30	Analysis of one Sediment sample for Metals	1 Each	\$	\$
31	Analysis of one Sediment sample for VOCs	1 Each	\$	\$
32	Analysis of one Sediment sample for grain size	1 Each	\$	\$
33	Analysis of one Sediment sample for Dioxins and Furans	1 Each	\$	\$
34	Analysis of one Sediment sample for PCBs	1 Each	\$	\$
35	Analysis of one Sediment sample for Chlorophenols	1 Each	\$	\$
36	Analysis of one Sediment sample for pH	1 Each	\$	\$
37	Analysis of one Surface water sample for PHCs	1 Each	\$	\$
38	Analysis of one Surface water sample for VOCs	1 Each	\$	\$
39	Analysis of one Surface water sample for PAHs	1 Each	\$	\$
40	Analysis of one Surface water sample for Chlorophenols	1 Each	\$	\$
41	Analysis of one Surface water sample for Dioxins and Furans	1 Each	\$	\$
42	Analysis of one Surface water sample for metals	1 Each	\$	\$
43	Analysis of one Surface water sample for methyl mercury	1 Each	\$	\$
44	Analysis of one Surface water sample for TSS/TOC/DOC	1 Each	\$	\$
45	Analysis of one Benthic sample (including replicates)	1 Each	\$	\$
46	Analysis of one toxicity sample (including replicates)	1 Each	\$	\$
47	Analysis of one Pore Water sample for VOCs	1 Each	\$	\$
48	Analysis of one Pore Water sample for PCHs	1 Each	\$	\$
49	Analysis of one Pore Water sample for PAHs	1 Each	\$	\$
50	Analysis of one Pore Water sample for chlorophenols	1 Each	\$	\$
51	Analysis of one Pore Water sample for Dioxins and Furans	1 Each	\$	\$
52	Analysis of one Pore Water sample for metals	1 Each	\$	\$
Total for Table 2 (Sum of Extended Total)				\$

Table 3

	Resource Category	Estimated Hours (B)	Firm Hourly Rate (A)	Extended Total (A x B)
1.	Project Director	2	\$	\$
2.	Project Manager	20	\$	\$
3.	Specialist – Environmental Site Assessment	10	\$	\$
4.	Specialist – Sediment	10	\$	\$
5.	Senior Environmental Scientist Engineer	15	\$	\$
6.	Environmental Scientist Engineer	15	\$	\$
7.	Senior Field Technician	15	\$	\$
8.	Field Technician	10	\$	\$
9.	Risk Assessor	1	\$	\$
10..	Drafting/AutoCAD	1	\$	\$
11.	Administrative Staff	2	\$	\$
Total for Table 3 (Sum of Extended Total)				\$

Total Cost B. Task Authorized Work: \$ _____
(Total Cost B = Total for Table 1 + Table 2 + Table 3)

Total Final Evaluated Price \$ _____
(Total Cost for A. Firm Requirement + Total Cost B. Task Authorized Work)

ATTACHMENT 3.2: BASIC INFORMATION FORM

<i>(to be filled in by Bidder)</i>	
Bidder's full legal name	
Authorized Representative of Bidder	Name
	Title
	Address
	Telephone #
	Fax #
	Email
Bidder's Procurement Business Number (PBN) <i>[see the Standard Instructions 2003]</i>	
Type of Organization	<input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation
Year Established	
Number of Employees	

Signature of Authorized Representative of Bidder	
Name	
Signed	
Date	

ATTACHMENT 4.1: TECHNICAL EVALUATION – MANDATORY AND POINT RATED REQUIREMENTS

1.1 Technical Evaluation

1.1.1 Mandatory Technical Criteria

Each bid will be reviewed for compliance with the following mandatory requirements. A Bid that does not comply with each and every mandatory requirement will be considered non-responsive (or non-compliant) and will be disqualified.

M #	CORPORATE MANDATORY CRITERIA	- Cross reference to where information found in proposal
M1	<p>The Bidder must be a Consulting Firm licensed, certified or otherwise authorized to provide the environmental site assessment services to the full extent that required by federal or provincial law applicable to the federal or Provincial projects in Canada.</p> <p>The bidder must provide a copy of the valid Certificate of Approval or Authorization or a confirmation letter from the Association of Professional Engineers of Ontario or the Association of Professional Geoscientists of Ontario or equivalent license and/or certificate from the other Canadian provinces.</p>	
M2	<p>The bidder must demonstrate Corporate project experience, in the past 10 years for a minimum of 4 completed projects where project must meet the following criteria:</p> <ol style="list-style-type: none"> 1. Minimum of 2 Projects must be contracted with Government of Canada. 2. 2 demonstrated projects must involve Environmental Site Assessment on actual or former commercial and/or industrial lands with minimum of project value of \$250,000. 3. 2 demonstrated projects must involve sediment characterization and contaminated sediment risk assessment 4. 1 demonstrated project must involve environmental site assessment including sampling and analysis of dioxins and furannes 5. The bidder must provide the following information for each project in order to satisfy the corporate project experience: <ul style="list-style-type: none"> - Project Title: - Project Scope and Description: - Project Value: - Completion Date:..... - Name of key personnel responsible for the delivery of the project - Two references, including name of client organization, and names, titles, telephone numbers, fax numbers, and e-mail addresses for the primary and secondary client contacts. 	

	<p>Note: For the purposes of this evaluation a “completed project” is defined as a series of tasks similar in nature to those described in this– Statement of Work, and for which a specific contract was completed with all deliverables including final reports.</p> <p>“Bidder” means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform a contract for goods, services or both. It does not include the parent, subsidiaries or other affiliates of the bidder, or its subcontractors.</p> <p>The Government of Canada includes individual department, agency, Crown Corporation or corporate entity in Federal level.</p>	
M3	<p>The Bidder must provide a plan (to a maximum of 4 pages, excluding Gantt Chart and Organizational Chart) as to how the resulting contract will be managed.</p> <p>The following contents must be included in the proposed plan:</p> <ol style="list-style-type: none"> 1. Work Plan: The work plan must demonstrate an understanding of all of the overall objectives and technical aspects of the work as detailed in the Statement of Work, along with a demonstrated understanding of the logistical and administrative aspects of the work. This includes but is not limited to elements such as: the overall project objectives, the technical requirements of each of the tasks in the SOW, role of Health & Safety and Quality Assurance/Quality Control, specific QA/QC required for dioxins and furans related aspects, reporting requirements, meeting requirements, project timelines, project budget controls, role of communication, project coordination, working in northern Ontario, and community interaction/involvement. 2. Project Schedule: The Project Schedule must include an action plan and a Gantt Chart showing how services will performed and completed on schedule. Major milestones corresponding to each major task and deliverable should be clearly identified in the action plan along with implementation strategies shown in sequence by fiscal year. 3. Understanding of Client User’s Philosophies, Values and Goals (i.e. Aboriginal Affairs and Northern Development Canada, Couchiching First Nation): Demonstrate the Bidder’s understanding of the broader goals of the project as they related to working in a government context, addressing the complexities associated with a project of this scope, the multi-disciplinary nature of the project and public involvement. This includes but is not limited to: understanding of the sensitive nature of the project, understanding of the many stakeholders and maintaining relationships, , understanding of the project goals, the overall AANDC project work and objectives. 4. Quality Management/Quality Assurance: The proposal must Identify and describe quality management issues and provide 	

	<p>quality assurance procedures to mitigate these issues.</p> <p>5. Organizational Chart of the Bidder's Team: The organizational chart must clearly illustrate the organizational structure of the Bidder's team. This includes but is not limited to identifying all team members, including field work teams, identification of position titles with specific names and internal reporting structure,</p> <p>6. Risk Management: The risk management must identify risk management issues, the associated challenges and constraints, and the proposed plan and solutions to mitigate each of the identified issues. This must include, but is not limited to, : identification of common and project specific risks associated with this work the processes to be implemented for evaluating risks, and implementing and maintaining risk management processes/procedures,</p> <p>7. Project Reporting: The project reporting must clearly identify project reporting relationships and provide a project reporting structure that addresses the challenges with the multi-disciplinary and multi-jurisdictional reporting relationships associated with the project</p>	
M #	RESOURCE MANDATORY CRITERIA	Cross reference information where it can be found in the proposal
M4	<p>The Bidder must provide the names, titles and roles of the key team members that will be assigned to fulfill the requirements of this RFP. In addition, the Bidder must provide a brief description of the relevant experience for each of the identified key team members.</p> <p>The Bidder must make available minimum of one key resource in the following Core Categories. Each resource must meet the minimum requirements as described in M5 to M8 below.</p> <ul style="list-style-type: none"> • Project Manager • Specialist – Environmental Site Assessment • Specialist – Sediment • Senior Field Technician <p>Note1: The proposed resource cannot be listed in more than 2 positions.</p> <p>Note 2; The assigned Project Manager and the ESA Specialist must have worked on at least 2 projects identified under Corporate Mandatory criteria (M2).</p>	

M5	The proposed Project Manager must demonstrate a minimum of 10 years experience, within the past 15 years, in preparing and supervising the environmental site assessment (i.e. Phase II/III ESA) and must meet the qualifications identified in section 168.1 of the Ontario Environmental Protection Act and Ontario Regulation 153/04, as amended up to date or obtain the equivalent license and/or certificate from the other Canadian provinces.	
M6	The proposed Specialists (Specialist – Environmental Site Assessment must demonstrate a minimum of 10 years experience, within the past 15 years, in preparing and supervising the environmental site assessment (i.e. Phase II/III ESA) and must meet the qualifications identified in section 168.1 of the Ontario Environmental Protection Act and Ontario Regulation 153/04, as amended up to date or obtain the equivalent license and/or certificate from the other Canadian provinces.	
M7	The proposed Specialist – Sediment must demonstrate a minimum of 10 years experience, within the past 15 years, in the field of sediment assessment. Expertise in sediment chemistry (e.g., chemical fate, transport and speciation, etc.), sediment toxicity testing, benthic community assessment, food chain effects and environmental statistics for the design, implementation, and interpretation of bio-assessments.	
M8	The proposed senior field technician must demonstrate a minimum of ten (10) years of experience in environmental site assessment under the CSA Standard.	

1.1.2 Point Rated Technical Criteria

R #	Corporate Rated Criteria	Scoring Scheme	Demonstrated Experience - Cross reference to proposal
R-1	The bidder should demonstrate the project experience within the past 10 years in relates to Environmental Site Assessment (ESA) on actual or former commercial and/or industrial lands, for the minimum project value of \$250,000.00 Canadian dollar.	3 projects: 20 points 4 or more projects: 40 points Maximum available: 40 points	
R-2	The bidder should demonstrate the project experience within the past 10 years for sediment studies that relate to sediment characterization and contaminated sediment risk assessment.	3 projects: 20 points 4 or more projects: 40 points Maximum available: 40 points	
R-3	The bidder should demonstrate the project experience within the past 10 years, in relates to Phase II and/or III environmental site assessment that involved sampling and analysis of dioxinees and furannes.	2 project: 10 points 3 projects: 20 points 4 or more projects: 40 points Maximum available: 40 points	
R #	Resource Rated Requirements	Scoring Scheme	Demonstrated Experience - Cross reference to proposal
R-4	The proposed Project Manager should possess the required knowledge and experience related to the environmental site assessment.	<u>Education & Certification (Max 20 points)</u> Graduate degree related to environmental earth science, geology, and engineering relevant to this SOW with accredited certifications – 20 points Undergraduate degree related to environmental earth science, geology, and engineering relevant with this SOW with accredited certifications – 15 points College diploma related to environmental earth science, geology, and engineering relevant	

		<p>with the SOW with accredited certifications – 10 points</p> <p><u>Experience (Max 150 points):</u></p> <p>Years of experience: (Max 30 points)</p> <p>121 - 180 months – 10 points 181 - 240 months – 20 points More than 240 months – 30 points</p> <p>Demonstration of experience. (Max 120 points):</p> <ul style="list-style-type: none"> • ESA on First Nation lands (20pts) • ESA in Northern Environment (20 pts) • Integration and work planning(10 pts) • Project Management Involvement (schedule and cost, change control, communication, project risk (40 pts) • Health and safety plans (10 pts). 	
<p>For R4 - Total Maximum Point available 170 / Total Minimum Points required 119 (70%)</p>			
<p>R-5</p>	<p>The proposed Specialist – Environmental Site Assessment, should possess the required knowledge and experience related to the environmental site assessment.</p>	<p><u>Education & Certification (Max 20 points)</u></p> <p>Graduate degree related to environmental science, geology, and engineering with accredited certifications – 20 points</p> <p>Undergraduate degree related to environmental science, geology, and engineering with accredited certifications – 15 points</p> <p>College diploma related to environmental science, geology, and engineering with accredited certifications – 10 points</p> <p><u>Experience (Max 120 points):</u></p> <p>Years of experience: (Max 30 points)</p> <p>121 - 180 months – 10 points 181 - 240 months – 20 points</p>	

		<p>More than 240 months – 30 points</p> <p>Demonstration of experience. (Max 90 points):</p> <ul style="list-style-type: none"> • ESA on First Nation lands (20pts) • ESA in Northern Environment (20 pts) • Assessment of Dioxins and Furannes (10 pts) • Planning and designing environmental sampling and analysis work plans (10 pts) • Senior technical advice (10pts) • Directing complex site assessment work (10 pts) • Making recommendations (10 pts) • Preparing reports (10 pts) 	
<p>For R5 - Total Maximum Points available 140 / Total Minimum Points required 98 (70%)</p>			
<p>R-6</p>	<p>The proposed Specialist – Sediment, should possess the required knowledge and experience related to the environmental site assessment.</p>	<p><u>Education & Certification (Max 20 points)</u></p> <p>Graduate degree related to environmental science, geology, and engineering with accredited certifications – 20 points</p> <p>Undergraduate degree related to environmental science, geology, and engineering with accredited certifications – 15 points</p> <p>College diploma related to environmental science, geology, and engineering with accredited certifications – 10 points</p> <p><u>Experience (Max 130 points):</u></p> <p>Years of experience: (Max 30 points)</p> <p>121 - 180 months – 10 points 181 - 240 months – 20 points More than 240 months – 30 points</p> <p>Demonstration of experience under each bullet will receive 10 points. (Max 100 points):</p> <ul style="list-style-type: none"> • Assessment of sediment in 	

		<p>Northern Environments</p> <ul style="list-style-type: none"> • Planning and designing sediment studies to characterize the sediment chemistry and assess the risks posed by contaminated sediments • Developing standard operating procedures • Regulatory compliance oversight • Senior review • Senior technical advice • Technical lead -sediment • Directing complex sediment studies • Making recommendations • Preparing reports 	
<p>For R6 - Total Maximum Points available 150 / Total Minimum Points required 105 (70%)</p>			
<p>R7</p>	<p>The proposed Senior Field Technician should possess the knowledge and experience in conducting Environmental Site Assessment Phase II-III</p>	<p><u>Education & Certification (Max 20 points)</u></p> <p>Undergraduate degree related to environmental earth science, geology, and engineering with accredited certifications – 20 points</p> <p>College diploma related to environmental science, geology, and engineering with accredited certifications – 10 points</p> <p><u>Experience (Max 140 points):</u></p> <p>Years of experience: (Max 30 points)</p> <p>121 - 180 months – 10 points 181 - 240 months – 20 points More than 240 months – 30 points</p> <p>Demonstration of experience. (Max 110 points):</p> <ul style="list-style-type: none"> • ESA on First Nation lands (20pts) • ESA in Northern Environment (20 pts) • Assessment of Dioxins and Furannes (10 pts) • drilling methodologies (10 pts); 	

Solicitation No. - N° de l'invitation
EQ447-142718/A
Client Ref. No. - N° de réf. du client
EQ447-142718

Amd. No. - N° de la modif.
004
File No. - N° du dossier
TOR-4-37047

Buyer ID - Id de l'acheteur
tor016
CCC No./N° CCC - FMS No/ N° VME

		<ul style="list-style-type: none">• occupational health and safety (10pts) ;• sampling methodologies (groundwater, surface water, soil, sediment, etc)(10pts);• waste management (10 pts);• geology/hydrogeology (10 pts);• decontamination protocols(10 pts)	
For R7 - Total Maximum Points available 160 / Total Minimum Points required 112 (70%)			
Total Maximum 740 Points			

Lessons in Environmental Investigations – The Importance of a Thorough Phase I ESA

Kerri Hurley¹, Jennifer Sifton², Jason Dobbie³ and Randy Sinukoff³

¹ Aboriginal Affairs and Northern Development Canada, Thunder Bay ON (AANDC) ² Public Works and Government Services Canada, Toronto ON (PWGSC) ³ Neegan Naynowan Stantec LP, Markham ON (NNS)



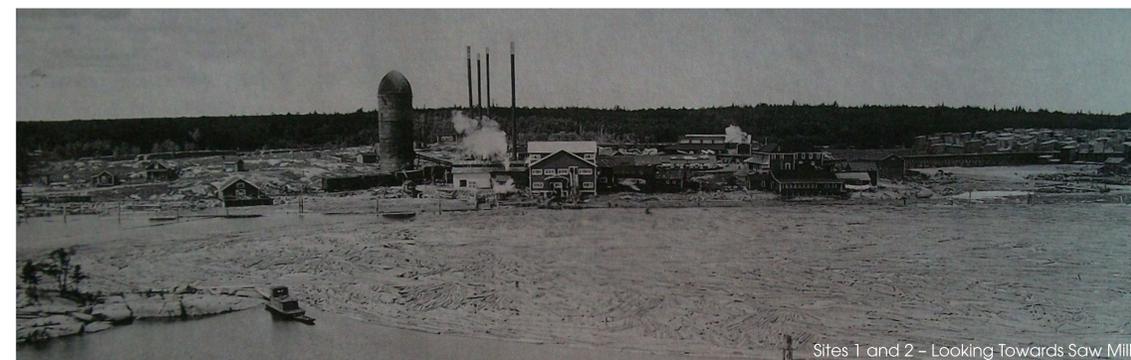
Site 1 - Tie Pickling



Site 2 - Saw Mill Site



Site 2 - Saw Mill Site



Sites 1 and 2 - Looking Towards Saw Mill

Introduction

In November 2007, AANDC and Couchiching First Nation began the detailed environmental site assessment (ESA) of a 55 hectare parcel of land which was the former location of a saw mill. The investigation was scoped based on information from previously completed ESAs at the property. During a project meeting at Couchiching in February 2008, an Elder informed the project team of an area where wood treatment may have taken place, which had not been identified in previous studies. The identified area was within a residential area near the shore of Rainy Lake. Investigation of the area revealed concentrations of dioxins and furans in soil exceeding CCME guidelines.

The history of the site was more complex than previously documented. Six families living in the area were relocated giving the project team the ability to refocus the work from rapid data collection in the residential area, to a more holistic and strategic approach involving historical research, public communications, and risk management.

Historical Land Uses

Note: Historic activities not limited to land.

Mill Site 1

- Wood treatment (Alexander Bruce & Company) – 1911 to 1926.
- Saw mill and rail line with potential wood treatment (J.A. Mathieu Company) – 1926 to 1957.
- Ministry of Natural Resources (MNR) Building with aircraft fuelling – 1940s to 1990s.

Mill Site 2

- Saw mill (several burners/stacks, planer mill, dry kiln, fuel/oil shed, tramways, residences, school house, barns, maintenance buildings, cook houses) with potential wood treatment (Northern Construction Company, J.A. Mathieu Company, Faragher Lumber) – 1907/1908 to 2000 (limited operations).
- Portable dry batch asphalt plant (Border Paving) – 1981 to mid 1980s.
- Rainy Lake Airways with repair and refueling – Late 1950s/1960s to 1990s.

Mill Site 3

- Former saw mill (Preston Bell Furniture and Lumber, Fort Frances Lumber Company) – 1904 to 1910.

Investigation Background

- From 1993 to 2010, numerous ESAs completed by others at Mill Sites 1 and 2 including Phase II/III ESAs, sediment and surface water sampling, remediation and, human health and ecological risk assessments.
- Over 1000 sampling points during previous investigations.
- “Ad Hoc” investigations responding to public concern, therefore, appropriate investigation(s) and sequences not evaluated effectively.
- Risks to land uses not completely understood or adequately investigated. Resulted in the relocation of families from Mill Sites 1 and 2.

2010 Phase I ESA

- Acquired information through non-traditional sources:
 - Correlated and confirmed historical information gathered during previous ESAs by others.
 - Interviewed residents and Elders of Couchiching First Nation and former site employees.
 - Interviewed former AANDC employee relating to:
 - Historical operations/activities/notable events (i.e., fires) at Mill Sites 1 and 2 dating back to 1904.
 - Title/lease summaries associated with Mill Sites 1 to 3 dating back to 1904.
 - Reviewed video filmed at Mill Sites 1 and 2 dating to 1930s and 1940s.
- Requested information from 12 regulatory agencies.
- Reviewed aerial photographs from 1946 to 1992.
- Researched sources at the Fort Frances Museum.
- Analyzed data gaps in 1993 to 2010 ESAs.

Phase I ESA Results

- Identified 15 areas of potential environmental concern including: former railway tie pickling operation, dipping ponds/wood treatment areas, significant mill fires, large smoke stacks/burners, fuel storage areas, areas of known subsurface impacts, dump sites, areas of infilling, an asphalt plant, etc.
- Chemicals of potential concern included volatile organic compounds, petroleum hydrocarbons, dioxins and furans, polycyclic aromatic hydrocarbons, metals, chlorophenols, and ethylene glycol.

Lessons Learned

- Exercise care responding to public concern with priority. At Couchiching this resulted in not following the FCSAP 10-step process. Data collected were useful in helping to focus subsequent work.
- Start at Step 1 and work through the 10-step process.
- Phase I ESA is a necessary step to consolidate information and gain holistic understanding of the Site.
- Communication with members of the community was key as many had valuable information that hadn't been documented. A common weakness of Phase I ESAs is finding appropriate and knowledgeable people to interview, from whom the detailed history of a site can be assembled. For a site with history such as this, this information is key to plan the path forward.
- Do not assume that previous ESAs were complete. ESA practices have evolved and previous work may not meet current standards.
- A thorough Phase II ESA at sites where there are historical concerns/impacts is important. Understanding the history of the site from the Phase I ESA provides the foundation upon which to design a testing program that characterizes site conditions.

Future/On-Going Investigations Since 2010/2011 Phase I ESA

- Since the Phase I ESA, the following documents/investigations have been completed:
 - Hot Spot Analysis and Gap Analysis (2010/2011).
 - Detailed Workplan for Mill Sites 1 to 3 (2011).
 - Community Open Houses (2012, 2013).
 - Phase II/III ESA of 6 APECs and background sampling (2012/2013).
 - Environmental assessments (FCSAP Step 5) to continue.



Canada

Aboriginal Affairs and Northern Development Canada

Neegan Naynowan Stantec LP

Affaires autochtones et Développement du Nord Canada

ANNEX A

STATEMENT OF WORK

Phase II/III Environmental Site Assessment, Surface Water/Sediment Study

For

Public Works and Government Services Canada (PWGSC) Environmental Services

On Behalf of

Aboriginal Affairs and Northern Development Canada (AANDC)

1.0 Introduction

Public Works and Government Services Canada (PWGSC) Environmental Services on behalf of Aboriginal Affairs and Northern Development Canada (AANDC) is requesting a technical proposal and cost estimate to complete a Phase II/III Environmental site Assessment (ESA) including a surface water/sediment study at the Former AANDC Leased Industrial Properties (Sites 1 to 3), Couchiching First Nation, Fort Frances, Ontario.

2.0 Site Description and Background Information

The Couchiching First Nation occupies the Couchiching Reserve, which is located north of Fort Frances, Ontario. Access to the community is via Highway #11. The community is bordered by Rainy Lake to the south and east and wilderness lands to the north, and west.

A lumber and planer mill, the J.A. Mathieu Sawmill, was operated in Couchiching for about 50 years since the early 1920's. The Sawmill was owned and operated by J.A. Mathieu, although the land was leased from the Couchiching Band of Indians (Bosgoed, 1996). The Sawmill was originally established in 1908 and was formally taken over by J.A. Mathieu in the 1920's. Also, located on the site was another sawmilling operation, (Faragher Lumber), which also leased its land from Couchiching First Nation (last lease was signed in 1980) (Bosgoed, 1996). Two seaplane bases and an asphalt plant (Border Paving) were also operated on the property. The sawmill site was reported to be abandoned (Bosgoed, 1996) and has been vacant since the early 1990s.

Various environmental site investigations have been completed on the subject site since 1993 by Bosgoed Project Consultants Ltd, Neegan Burnside and DST Consulting Engineers (DST). The early investigations mainly focused at the former Rainy Lake Airways Site and the former J.A. Mathieu Sawmill site. Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs) and Lead were the initial parameters of concern at this site. A Phase II/III Environmental Issue Inventory was completed by Bosgoed Project Consultants Ltd in 1995/1996 at the former J.A. Mathieu Sawmill site. Results indicated that PHC contamination was present at both the site of the most recent and original saw mill operations. It is indicated that the contamination is possibly the results of leaks and drips from refuelling operations and leaking equipment/storage containers.

Neegan Burnside completed an environmental assessment of a Former Sawmill Site in 2003. Results indicated that some soil and sediment samples were impacted with PHCs.

In 2007, DST was retained by Couchiching First Nation to complete a comprehensive Remedial Investigation and Options Analysis at the former J.A. Mathieu Sawmill Site. The assessment initially focused on investigating known areas of soil contamination identified by previous consultants working at the site.

During the initial stage of DST work, Couchiching First Nation elders identified a previously unknown location of a "dipping pond" used to treat and preserve lumber. This site is reportedly located at the 90 degree corner on Harry's Road, south of Highway 11. A site investigation conducted by DST in January 2009 identified dioxin and furan impacts in soil and groundwater in the vicinity of the former wood treatment area on Harry's Road and at the former Sawmill site.

In 2009, as part of Remedial Investigation and Option analysis project, DST also undertook a Human Health Preliminary Qualitative Risk Assessment (HHPQRA) that indicated a human health risk was present in the area of the former wood treatment area on Harry's Road. DST also completed dust sampling in the homes on Harry's Road, the Bingo Hall and the former Rainy Lake Airways Hangar building. It was found that the concentrations of dioxins and furans in the dust samples were difficult to characterize since there are many sources of these chemicals. However, after additional investigations, it was determined that some but not all, of the dioxins and furans in the Bingo Hall, McPherson and Jourdain residences could potentially be attributed to the former sawmill site.

DST was then asked to complete a surficial soil sampling program throughout the Harry's Road area to investigate the concentrations of various chemicals possibly used in the treatment and preserving processes of wood. Based on the results, it was determined that zinc salts (most likely Zinc Chloride) and Tetrachlorophenol (TCP) were used at the former wood treatment area on Harry's Road. TCP had chlorinated dioxins and furans which were found at specific locations along Harry's Road. Zinc exceeded the Canada Council of Ministers of the Environment (CCME) criteria at some soil sampling locations at Harry's Road and Former Rainy Lake Airways Hangar. Concentrations of Dioxins and Furans in soil exceeded CCME criteria at locations at Harry's Road and Former Rainy Lake Airways Hangar as well.

As part of the Remedial Investigations and Options Analysis work, DST submitted two draft reports entitled Remedial Investigation and Options Analyses, Former Rainy Lake Airways Site, dated May 2010 and Remedial Investigation and Options Analyses, Former J.A. Mathieu Sawmill Site, July 2010. DST concluded that soil at the former Rainy Lake Airways site is contaminated above the applicable CCME criteria with petroleum hydrocarbons, volatile organic compounds (VOCs) such as BTEX and PAHs. According to the report, the groundwater is contaminated with PHCs, PAHs, VOCs and metals. Also, based on environmental site investigations completed by DST in 2007 and 2009, it was concluded that there are several areas at the former J.A. Mathieu site, which are impacted by various historical activities, and thus exhibit different contaminant types. Due to the widespread locations of contamination across the former sawmill site, DST has broken down the site into 6 areas of contamination requiring remediation/risk assessment or further investigation.

In 2010/2011, Neegan Naynowan Stantec LP (NNS) completed a Phase I Environmental Site Assessment (ESA). Based on NNS observations, 15 areas of potential environmental concern (APEC) were identified. Site 1 (APECs 1-3) contains Harry's Road Dipping Pond, a former Ministry of Natural Resources (MNR) base and the Works Yard. Site 2 (APECs 4-11) contains the former Rainy Lake Airways site, the former sawmill, former tramway area and former dump site. Site 3 (APEC 14 and 15) contains the historic presence of a saw mill circa 1904-1910 and operated by Preston Bell Furniture and Lumber Company Ltd. as well as the Fort Frances Lumber Company.

The northeast portion of the Site 3 is reported to be the former Canadian National Railway (CNR) sand and gravel pit and was being used as a storage area for drums, metal debris, etc. APECs 12 and 13 relate to the Sand Bay shoreline, and presence of potential and actual dioxin and furan impacts at Sites 1, 2 and 3. APECs 12 and 13 are considered to be present on all 3 sites.

A detailed workplan for the site was developed and can be found in the document entitled *Workplan for Detailed Testing Program, Former INAC Leased Industrial Properties (Sites 1 to 3) Couchiching First Nation, Fort Frances, Ontario*, prepared by Neegan Naynowan Stantec LP, dated July 15, 2011.

In Sept/Oct 2012 a Phase II/III ESA was undertaken by NNS at Site 1. Soil and groundwater were found to be contaminated with various VOCs, PHCs, Dioxins and Furans (PCDD/F) and metals at various areas at Site 1. Full delineation for all contaminants of potential concern (COPCs) was not achieved.

In Sept/Oct 2013 a Phase II/III ESA was undertaken by NNS at APEC 4, APEC 10 and APEC 14. Soil and groundwater were found to be contaminated with various VOCs, PHCs, dioxins and furans, and metals at various areas across APEC 4. Full delineation of APEC 4 was not achieved. APEC 10 was investigated for soil impacts related to the former Transformer pack. No PHCs and polychlorinated byphenols (PCBs) were identified in the soils at this APEC. No soil impacts associated with PHCs, VOCs, PAHs, Dioxins and Furans, Chlorophenols, and metals was identified at APEC 14. Groundwater impacts for various metals including cadmium, copper and iron were identified at APEC 14.

Site plans showing for APECs 1 through 15 showing previously identified exceedances are provided in Appendix A.

3.0 Current Site Assessment Status

Site 1:

APECs 1, 2 and 3 – Work has been completed at Site 1 with the most recent investigation occurring in 2012. The most recent data collected can be found in Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 1, 2, 3, and Reference Area, Couchiching First Nation; Neegan Naynowan Stantec LP, March 28, 2013. Further work delineating the contaminants of concern (COCs) was recommended.

Site 2:

APEC 4 - Work has been completed at APEC 4 with the most recent investigation occurring in 2013. The most recent data collected can be found in *Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 4, 10, and 14, Couchiching First Nation*; Neegan Naynowan Stantec LP, March 31, 2014. The extent of impacted soil and groundwater was not delineated. Further work delineating the COCs is required.

APEC 5 – Investigation and remediation work has occurred at this APEC with the most recent intrusive work completed in 2009 by DST. Further work to delineate was recommended.

APEC 6 – Some characterization has been completed. The intent of further work at this APEC is to fully characterize the pile to support off-site disposal.

APEC 7 – Some investigative activities have been completed at this APEC, with the most recent completed by DST (DST, 2010). Please note there is soil, groundwater and sediment contamination identified at this APEC as a result of the former sawmill activities.

APEC 8 - Some investigative activities have been completed at this APEC, with the most recent completed by DST (DST, 2010). Further work is required to assess potential sources of contamination identified by the Phase I ESA, 2010 and to fully delineate the contamination.

APEC 9 - Some investigative activities have been completed at this APEC, with the most recent completed by DST (DST, 2010). Further work is required to assess potential sources of contamination identified by the Phase I ESA, 2010 and to fully delineate the contamination.

APEC 10 - Work has been completed at APEC 10 with the most recent investigation occurring in 2013. The most recent data collected can be found in *Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 4, 10, and 14, Couchiching First Nation*; Neegan Naynowan Stantec LP, March 31, 2014. Soil impacted with PHCs and PCBs was not identified in the area of the former Transformer pack. No further work is recommended to address this specific APEC.

APEC 11 – No work has been completed to address the 2-20L pails of unknown content identified at APEC 11. The pails are considered to still be present at the site, however, this will be confirmed by CFN when the snow has melted.

APEC 12 – Sand Bay Rainy Lake – Sediment sampling has been completed at Rainy Lake in 2003 and 2010 and surface water sampling has been completed in 2003 and 2008.

APEC 13 – Area Wide Dioxins and Furans – A site investigations completed at various APECs have included Dioxins and Furans, however an area wide study has not been completed.

Site 3:

APEC 14 – Work was completed at Site 3 in 2013. The data collected can be found in *Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 4, 10, and 14, Couchiching First Nation; Neegan Naynowan Stantec LP, March 31, 2014*. Soil impacts associated with PHCs, VOCs, PAHs, Dioxins and furans, Chlorophenols, and metals was not identified. Groundwater impacts for various metals including cadmium, copper and iron were identified. No further investigative work at this APEC is warranted at this time. An updated round of sampling may be warranted to ensure we have sufficient and current results to complete a Site Specific Risk Assessment (SSRA).

Off-Site Assessment Work:

Reference/Background sampling was completed in 2012 and the data collected can be found in the report entitled *Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 1, 2, 3, and Reference Area, Couchiching First Nation; Neegan Naynowan Stantec LP, March 28, 2013*.

APEC 15 – is considered off-site and will likely not be included in the scope of work. The bidder must provide a cost for investigation of this APEC, however it is considered an option and work at this APEC may not be authorized.

4.0 Objectives

The long-term, overall objective of the study is to determine if there are unacceptable risks to human health and/or ecological health arising from exposure to the COCs identified on the entire Site (Sites 1, 2 and 3). If unacceptable risks are identified, a remedial and/or risk management strategy will be established to reduce the levels or exposure to contaminants of concern as well as reduce federal liability associated with the site.

The objectives of this study are to:

- Collect the data necessary to fully assess and delineate (vertically/horizontally) all APECs to enable the completion of a detailed SSRA for the entire site including Sand Bay Rainy Lake water lot. The SSRA will inform the development of a remediation/risk management plan.
- Complete the study no later than March 31, 2016.

5.0 Available Reports/Data

- Draft-Environmental Assessment, Rainy Lake Airways Site, Couchiching First Nation, Dominion Soil Thunder Bay Ltd (DST), June 1994 (25 pages);
- Environmental Investigation, Former Rainy Lake Airways Refuelling Site Couchiching First Nation, Prepared for Couchiching First Nation by Dominion Soil Thunder Bay Ltd (DST), February 1995 (53 pages);
- Phase II Environmental Issues Inventory Report for the Couchiching First Nation, Bosgoed Project

- Consultants Ltd., March 1995 (56 pages);
- Groundwater and Surface Water Sampling, Couchiching First Nation, Ontario, Dominion Soil Thunder Bay Ltd (DST) May 1995 (11 pages);
 - Phase III Environmental Issues Inventory, J.A. Mathieu Sawmill, Couchiching First Nation, Bosgoed Project Consultants Ltd., February 1996 (36 pages);
 - Report on the Environmental Assessment of a Former Sawmill Site Couchiching First Nation, Neegan Burnside, May 2003 (31 pages);
 - Remedial Options Details Supplement to the Report on the Environmental Assessment of a Former Sawmill Site Couchiching First Nation – Neegan Burnside, May 2003 (6 pages);
 - Remediation of Police Station Site, Project summary Report, Construction Phase, Couchiching First Nation, Neegan Burnside, March 2006 (17 pages);
 - Remedial Investigations and Options Analysis–Preliminary Technical Information Summary – Former J.A. Mathieu Sawmill Site, March 13 2009 (11 pages);
 - Draft-Human Health Preliminary Quantitative Risk Assessment, Dioxins and Furans, Former J.A. Mathieu Sawmill Site, DST, April 2009 (50 pages);
 - Remedial Investigation and Options Analysis Dust Sample Results – Interim Report Former J.A. Mathieu Sawmill Site, DST, May 14, 2009 (13 pages);
 - Remedial Investigation and Options Analysis Off-Site Dust and Soil Sample Results –Interim Report Former J.A. Mathieu Sawmill Site, July 9, 2009 (8 pages);
 - Former J.A. Mathieu Sawmill Site – Dust Sampling Program Results – Plain Language Summary, DST, July 14, 2009 (2 pages);
 - Alexander Bruce & Company "Tie Pickling Plant" at Fort Frances - Est. 1911, Harry's Road, Couchiching First Nation- Partial Summary of Historical Research and Technical Analysis to Date for Conceptual Site Model Development Remedial Investigations- Prepared by: Greg Hlady, INAC Technical Services, September 17, 2009 (55 pages);
 - Harry's Road Expedited Surficial Sampling Assessment, Former J. A. Mathieu Sawmill Site, Couchiching First Nation, DST, April 2010 (35 pages);
 - Harry's Road Surficial Soil Sampling Recommendations, Former J.A. Mathieu Sawmill Site, Couchiching First Nation, DST, June 2010 (41 pages);
 - Draft Report, Remedial Investigation and Options Analyses, Former Rainy Lake Airways Site, DST, May 2010 (51 pages);
 - Draft Report, Remedial Investigation and Options Analyses, Former J.A.Mathieu Sawmill Site, DST, July 2010 (90 pages);
 - Phase I Environmental Site Assessment (Final), Former INAC Leased Industrial Properties (Sites 1 to 3), Couchiching First Nation, Fort Frances, Ontario, Neegan Naynowan Stantec LP, March 30, 2011 (119 pages);
 - Workplan for Detailed Testing Program, Former INAC Leased Industrial Properties (Sites 1 to 3) Couchiching First Nation, Fort Frances, Ontario, Neegan Naynowan Stantec LP, July 15, 2011 (76 pages);
 - Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 1, 2, 3, and Reference Area, Couchiching First Nation; Neegan Naynowan Stantec LP, March 28, 2013 (122 pages);
 - Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 4, 10, and 14, Couchiching First Nation; Neegan Naynowan Stantec LP, March 31, 2014 (109 pages);
 - Aquatic Sampling Plan Design for Rainy Lake in Couchiching First Nation, May 30 2014 (30 pages).

6.0 Protocols/Regulations/Guidelines

The following is not an all-inclusive list; therefore, the contractor must ensure that all applicable references and guidance consistent with the management of federal contaminated sites are used. Should more current versions become available during the life of the contract; they must take precedence and be referred to in subsequent work/reports.

Site Assessment Protocols

Any additional site investigations included as part of this study must be conducted in accordance with current best practices in Canada and with the *CSA Z769-00 standard: Phase II Environmental Site Assessment*, respectively.

- CCME Canadian Environmental Quality Guidelines, as updated. (<http://ceqg-rcqe.ccme.ca/>)
- National Classification System for Contaminated Sites, Guidance Document, CCME, 2008
- Guidance Document on the Management of Contaminated Sites in Canada, Section 5.4. CCME, April 1997
- Subsurface Assessment Handbook for Contaminated Sites. CCME, March 1994
- Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites, Volumes I and II. CCME, December 1993
- Interim Canadian Environmental Quality Criteria for Contaminated Sites - Remediation Criteria for Soil and Groundwater. CCME. as updated.
- Ontario Ministry of the Environment (MOE) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011); to be utilized to evaluate the laboratory analytical results of parameters for which the CCME documents do not provide guidelines or standards;
- Guidance document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (November 2012)
- Framework for Addressing and Managing Aquatic Contaminated Sites Under the Federal Contaminated Sites Action Plan (FCSAP), Golder Associates Ltd., March 14, 2011.
- Canada-Ontario Decision-Making Framework for Assessment of Great Lakes Contaminated Sediment, Environment Canada, March 2008.
- Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach, May 2008.
- Canada Wide Standards for Petroleum Hydrocarbons in Soil, CCME, 2008.
- CCME Guidance for Environmental Site Characterization in Support of Environment and Human Health Risk Assessment. Draft report for Public Comment, 2012. Expected Finalization Date 2014.
- HC Canadian Drinking Water Quality (2010) (as applicable)
- Federal Contaminated Sites Action Plan (Ecological Risk Assessment Documents) Module 5: Defining Background Conditions Using Background Concentrations. Stantec, April 2013.

7.0 Project Requirements

7.1 General Project Requirements

The contractor is required to complete the following tasks:

1. Review historical documentation pertaining to the site.
2. Develop a workplan that will achieve the objectives outlined in the SOW. The Contractors workplan may vary from the proposed PWGSC work plan provided in Appendix B and quoted on but it must achieve the objectives listed in this SOW. The Contractors workplan and cost estimate for any additional tasks will be submitted within six weeks of award of the contract. Field work is not to begin until the contractors workplan has been approved in writing by PWGSC.
3. Complete a Phase II/III ESA in accordance with the Canadian Standards Association (CSA) for the entire site as necessary to collect the data required to fully delineate (vertically/horizontally) all APECs to enable the completion of a detailed SSRA for the entire site in the future. For the purpose of this Request for Proposal the contractor is to provide a quote assuming the proposed PWGSC work plan

(Appendix B) is to be implemented.

4. Complete an sediment and surface water assessment at Sand Bay Rainy Lake (APEC 12) in order to characterize the aquatic environment, including detailing the physical parameters (surface water and sediment quality) and biological parameters (optional - fish and benthic invertebrate community surveys).

The contractor is to complete Steps 1 through 5 and Decisions 1 through 4 of the *Canada-Ontario Decision-Making Framework for Assessment of Great Lakes Contaminated Sediment* for the Site (as necessary) to determine whether impacted sediments pose an environmental risk. The assessment must follow a decision matrix in accordance with the Environment Canada (COA, 2008) framework and must use multiple lines of evidence (LOE) to evaluate potential environmental risk for the water lot associated with the site and produce site specific remediation objectives for contaminants of concern where unacceptable risks are identified. The *Framework for Addressing and Managing Aquatic Contaminated Sites Under the Federal Contaminates Sites Action Plan (FCSAP)*, March 2011, is to be followed as guidance. If, based on the initial steps, subsequent steps or decisions are not required they are to be eliminated from the workplan. Costs for benthic and toxicity analysis and associated reporting are to be provided as options and will only be undertaken if it is warranted based on sediment chemistry.

Sediment depth profiles are to be incorporated into the sampling plan to produce trending data and information on point vs regional sources for the COCs. The data collected will be used to develop a detailed map of sediment concentrations across the portion of Rainy Lake considered the site. All data will be used to support the Site Specific Risk Assessment and to develop dose-response relationships between organism toxicity and applicable COC concentrations and determine cleanup criteria based on different levels of toxicity, which will enable clean-up areas to be defined. Data collected by (DFO) will be provided to the bidder and the bidder is to provide their data to DFO (through PWGSC); An aquatic sampling plan design for this portion of Rainy Lake has been commissioned by the Department of Fisheries and Oceans (Stantec, May 30, 2014). The contractor may deviate from this plan in the development of their workplan if warranted.

5. Complete a background groundwater sampling program using existing and new monitoring wells to establish natural and anthropogenic conditions at the site for contaminants of concern.
6. Update/Revise the Contaminated Sites and Site Classification using the National Classification System for Contaminated Sites. The Site Classification Worksheets and Summary Score Sheet found within the National Classification System for Contaminated Sites (2008) must be completed for entire site. The contractor must ensure that enough data is collected to complete the NCS worksheets. The form is available as an Excel file on the CCME website (http://www.ccme.ca/initiatives/soil.html?category_id=68). In the event that insufficient information is collected to provide a 1, 2, 3, or N classification, the Contractor must return to the site to collect sufficient information in the current study to reduce the estimated score below 15.

Please note that a classification score has been derived for APECs 1, 2 and 3. The Site Classification Worksheets and Summary Score Sheet found within the National Classification System for Contaminated Sites (2008) must be used to update these scores at the end of this project, however we will be combining all information and revising the existing Classification/Score sheets to classify and score the entire site as one contaminated site.

7. Complete the Site Closure Tool (SCT) for Contaminated Sites. Site closure is one of the primary reasons the FCSAP program exists. Site closure reporting documents that FCSAP objectives have been met (i.e. the risks that these sites pose to human health and the environment have been reduced to acceptable levels and that there is a reduction in the associated financial liability. The site closure tool (SCT) consists of mandatory requirements for documenting the closure of remediated or risk managed federally contaminated sites funded by the FCSAP program. It provides consistent evaluation criteria or

conditions that determine when a site can be considered closed.

The SCT must be completed (as much as possible) to document work completed to date at the site (Site 1, 2 and 3). All data entered into the SCT/TRAV must be accompanied by a completed rational section (when applicable). At a minimum the Site Data Tab and the Contaminants of Concern (COCs) tab must be completed. Question Q1-Q17 and Q30 on the Closure Evaluation Tab must also be completed to ensure that remedial planning meets minimum requirements. The site closure tool is included in Appendix C.

8. Evaluate Remediation and/or Risk Management Alternatives and Indicative Estimate of Liability. Based on the results of the intrusive and analytical investigation, the Contractor is expected to achieve full delineation of the areas of environmental concern and must provide a preliminary review of three remedial or risk management options.

The Contractor must evaluate these options based on cost, ease of implementation, time/space requirements (i.e., sufficient time and space to implement the strategy), availability of technology, complexity of the site and the process, remediation efficiency (table format), reliability of the technology, frequency and duration of on-going/long-term monitoring requirements, reduction of risk during remediation and compliance with applicable federal and/or provincial standards.

The Contractor must prepare a preliminary Remedial Action Plan or Risk Management Plan for the preferred option, which has been selected based on various criteria developed in consultation with the PWGSC PM. It is anticipated that a SSRA will be the preferred option for most of the site, however, there may be some APECs where another option may be more appropriate.

When evaluating and recommending remedial options, the Contractor is encouraged to use the Government of Canada Guidance and Orientation for the Selection of Technologies (GOST) website at <http://gost.irb-bri.cnrc-nrc.gc.ca/home.aspx> and the GoldSET Tool for Sustainability Evaluation at <http://golder.goldset.com/portal/default.aspx> as resources. Note that the FCSAP encourages the use of innovative and sustainable technologies for the remediation of contaminated sites.

The Contractor must prepare an indicative estimate of liability (based on the preferred remedial option) associated with this contaminated site as per Treasury Board policy *Remediation Liabilities Related to Contaminated Sites: A Supplement to the Financial Information Strategy (FIS) Manual* (2010) (<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?evttoo=X&id=20888§ion=text>) and TBS "Accounting Standard 3.6 Contingencies" (March 2006). The extent of contamination that has been delineated will be required to estimate the quantity of impacted media such that the liability estimate will consist of an indicative quality estimate. As per TBS, an indicative cost estimate is a low-quality, order-of-magnitude estimate that would not be considered as a cost objective (i.e., replaces former class C & D estimate). The Contractor will identify the degree of accuracy of the estimate (i.e., range). The liability estimate must include all necessary additional assessment activities required to finalize the remediation design and the implementation cost for the preliminary remedial action plan (RAP) as well as any follow-up monitoring or related activities.

9. Complete the study no later than March 31, 2016.

7.2 Additional Field Requirements

The following tasks must be completed as part of the field program:

- Prepare and submit to PWGSC's Project Manager a site specific health and safety plan.
- Prepare and submit to PWGSC's Project Manager a detailed sampling, testing and QA/QC plan including details on the proposed sampling methodologies.
- Complete all utility locates prior to completing any intrusive investigations at the property to avoid damage to underground electrical, phone, cable, water/storm/sewer, heating/cooling supply lines, or other utilities. The Contractor must also check with CFN for any utility drawings they may have available to verify information.

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- Conduct the surface and sub-surface investigations (i.e. drill boreholes, take soil samples, and put in place monitoring wells) to gather geological and hydrogeological information, fully delineate the lateral and vertical extent of the contamination in all media and to support the SSRA
 - No off-site sampling is to be undertaken without consultation with PWGSC, AANDC and CFN.
 - Complete all boreholes and monitoring wells in accordance with Ontario Regulation (O.Reg. 903). However, any monitoring wells installed as part of this investigation are not required to be tagged (as required by Ontario Regulation 903). The contractor must confirm with the PWGSC PM the use of flushmount well casings versus stick up. Ideally, flushmounts should be installed on roads, parking lots or anything paved or gravelled. Stick ups should be installed in locations that can be covered by plant overgrowth.
 - Dispose of surplus and contaminated excavated material in accordance with appropriate legislation (e.g. soil cuttings and monitoring well purge water) in approved locations. All boreholes, test holes, auger holes, test pits, etc. that are completed as part of this project must be restored to their original condition prior to the Contractor's departure from the property. Wastes must be disposed of in a timely manner once the fieldwork is complete.
 - Collect and analyze appropriate soil, groundwater, surface water and sediments samples. When applicable, the Contractor should consider the use of low-flow groundwater sampling methods for volatile organic contaminants (VOCs, etc) and/or polycyclic aromatic hydrocarbons (PAHs), if these are target parameters in groundwater.
 - Analyze the samples at a CALA-accredited laboratory (approved for all applicable parameters).
 - The proposed lab program will include verification that the selected analytical methods will have minimum detection limits that are less than the applicable environmental quality criteria or standard on which the numerical comparison will be based. In instances where the laboratory detection limits have been raised and/or elevated above the applicable guidelines, discussion/rationale must be provided in the report to support these results. When possible, the laboratory must be engaged as soon as possible to determine if the sample can be re-analyzed to meet the agreed upon guidelines or to provide rationale for the elevated detection limit.
 - Laboratory data must be summarized in a table with the applicable environmental quality criteria and/or standards that are used for the numerical comparison as well as highlighting guideline/standard exceedances of the appropriate category.
 - Where field screening methods (visual/olfactory evidence, headspace organic vapour measurements, semi-quantitative portable lab test kits) were used, the Contractor must correlate field screening results with the confirmatory sample results from a CALA laboratory for an adequate number of samples with a sufficiently wide concentration range and illustrated in tables and/or graphs. All samples being submitted for analysis must be submitted directly from the field to the laboratory.
 - Clean up site upon completion of work.
 - If NAPL's are found during the sampling program then the PWGSC PM must be contacted immediately prior to the contractor leaving the site.
 - GPS coordinates of all sampling points are required. Coordinates must be Georeferenced, preferably to NAD 83, the Federal Government's Reference System. Reference Frame must be unambiguously identified e.g. NAD 83 Original or NAD 83CRS with the relevant Zone stated. Origin or source of the datum if data is not derived directly in the field e.g. NTS sheets, google earth, survey plans etc. An estimate of the accuracy of the position e.g. +/- 1m to be included. Format - Latitude, Longitude (NEEDED FOR FCSI) and/or Eastings, Northings, Elevation Vertical Datum to be clearly identified e.g. GSC - Geodetic Survey of Canada, or an approximate relationship to the foregoing.
 - Any deviations from the requirements must be mutually agreed prior to the commencement of the project.
 - If additional work is necessary due to a change in requirements, the contractor must notify the PWGSC's Project Manager immediately in writing. No work is to be undertaken which is additional or supplemental to or in substitution of the work specified unless approved by the PWGSC's Project Manager in writing.

7.3 Communication/Meeting Requirements

7.3.1 Kick-off Teleconference

A kick-off teleconference with the contractor, PWGSC, AANDC, and possibly representative(s) from Couchiching First Nation, expert support departments (including Health Canada, Environment Canada, and Fisheries and Oceans Canada) and other stakeholders with interest in the site, will be required upon approval of the contractors proposed workplan and prior to the start of any fieldwork. The purpose of this meeting is to discuss the contractors workplan, any workplan clarifications, transmit additional information (if required), finalize project schedules and deliverables, and to address any concerns. This meeting will take place via teleconference. The Contractor must prepare and distribute minutes to all meeting participants.

7.3.2 Presentation/Community Meeting

It is expected that at the end of the project (no later than March 1, 2016), the results from the work program will be presented by the Contractor to AANDC, Couchiching First Nation representatives, expert support departments and other interested stakeholders. The contractor must provide a draft presentation in electronic format to the PWGSC Project Manager at least four weeks prior to the presentation date. The contractor must also provide a draft notice of the meeting for the community newsletter in electronic format to the PWGSC's Project Manager at least four weeks prior to the presentation date. The location for this meeting will likely be near the site, in Fort Frances. Personnel presenting the material must include the contractor's senior level representative(s) familiar with all technical aspects of the project and the work completed to date.

7.3.3 Mid-Point Teleconference and Plain Language Memo – (to be determined)

A teleconference will be held approximately mid-point through the contract to provide a status update to the stakeholders. The teleconference is intended to discuss the work done to date, the results, and work still to be completed. The call will involve the Contractor, PWGSC, and possibly representative(s) from Couchiching First Nation, expert support departments (HC, EC and/or DFO) and other stakeholders with interest in the project. The Contractor must prepare minutes of the meetings and send the draft minutes to each party for review and approval prior to their dissemination for action.

A plain language memo must also be prepared at the approximate mid-point of the project (date to be determined and provided for use by the CFN). (In general, plain language memos should use language that is familiar and easy to understand by a lay person, avoid using scientific jargons (or where they cannot be avoided, a simple definition must be provided), keep words, sentences and paragraphs short and simple and leave out anything that is not relevant. The general purpose of plain language memo is to provide a summary of the basic terms and concepts that the general public should be able to easily read, understand and use).

7.3.4 Draft Report Teleconference

A teleconference will be held after the distribution of the draft report to all stakeholders. This teleconference will allow the contractor an opportunity to summarize the key findings, results and recommendations to all stakeholders, as well as allow for an opportunity for stakeholders to discuss any comments, ask questions, provide general feedback, etc. The call will involve the Contractor, PWGSC, and possibly representative(s) from Couchiching First Nation, expert support departments (HC, EC and/or DFO) and other stakeholders with interest in the project. The Contractor must prepare minutes of the teleconference and send the draft minutes to each party for review and approval prior to their dissemination for action.

7.3.5 Meetings

The contractor must attend meetings (via teleconference) as requested by PWGSC's Project Manager and AANDC. Personnel in attendance must include the contractor's project manager and representative(s) familiar with all technical aspects of the project. The contractor must prepare minutes of the meetings and send the draft minutes to each party for review and approval prior to their dissemination for action. The contractor may be required to maintain an action item list. The contractor must plan to include a minimum 2 meetings in their bid (excluding the 3 identified above).

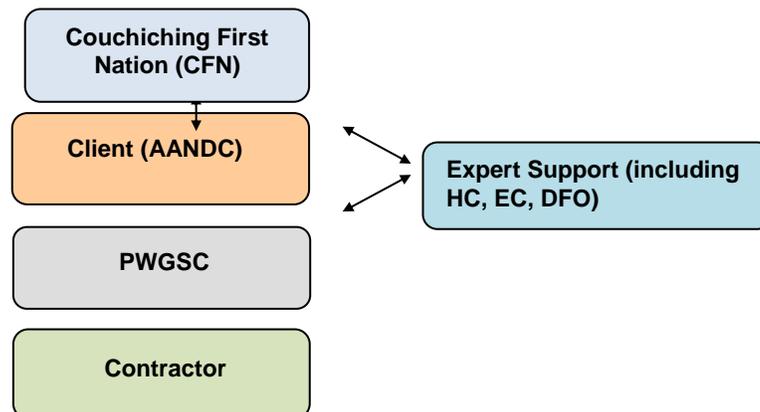
7.3.6 Public Involvement

Dialogue with the Community as well as the Expert Support Departments is important and must be maintained throughout the entire project (in line with the communication lines identified below) - concerns of the affected community and other stakeholders, land use history, interviews with members familiar with the historical operations – are to be documented

In addition, consent to access private property for sampling purposes must be obtained via the Couchiching First Nation. Access will need to be arranged a minimum of one month in advance.

When required, the Contractor must also prepare plain language documents and/or presentations to communicate the project objectives, process and results to Couchiching First Nation and other stakeholders.

7.3.7 Lines of Communication



7.3.8 Roles and Responsibilities

A clear line of communication among the Technical Working Group and the Contractor's Team is crucial to the success of this project. The Technical Working Group Team involves AANDC-Ontario, PWGSC-Ontario Region, the FCSAP Expert Support Departments, Couchiching First Nation, Health Canada's First Nations and Inuit Health, Ontario Ministry of the Environment (if required for off-site issues), Ontario Ministry of Aboriginal Affairs and other interested stakeholders.

Couchiching First Nation (CFN)

The CFN representatives liaise and inform Chief and Council of Couchiching First Nation on all aspects of the planned work including field work and provide on the ground support to AANDC, PWGSC and project Contractors

Aboriginal Affairs and Northern Development Canada (AANDC - client)

AANDC is responsible for identifying the project requirements and securing the budget. AANDC will liaise with Couchiching First Nation for all aspects of the planned work including field work will be the lead with respect to communication with the public, Couchiching First Nation, MP and deal with any media issues, if required.

Public Works and Government Services Canada (PWGSC)

PWGSC is responsible for the procurement of the contract and carrying out the more detailed day-to-day management of project activities. The Contractor will report to PWGSC.

Contractor

The Contractor will be responsible to complete the scope of work as detailed in this SOW.

7.4 Reporting Requirements

7.4.1 Health and Safety Plan

Prior to conducting a site visit, the project contractor must establish a Health and Safety program in accordance with all applicable codes/regulations. The Health and Safety program must ensure the health and safety of all its employees, sub-contractors, and others at the site. The project contractor must be responsible for making all employees and others at the site aware of the potential contamination and for ensuring the health and safety of all personnel at the site. The plan must always be with the project contractor while working on the site.

This program will outline potential hazard incidents, the codes / regulations to be met, rules of behaviour, protective equipment, and clothing to be provided, security features to be established, responsible individuals, and all related matters. The contractor must also confirm with the site contact if there are any existing site health and safety rules that need to be incorporated into the Health and Safety plan for this ESA.

The Health and Safety Plan must be submitted to the PWGSC PM **5 days** prior to the initiation of fieldwork.

7.4.2 Status Reports

Constant open communication is required between the contractor and the PWGSC PM to ensure that the project stays on task and the objectives are met. Any changes in Scope of Work must be immediately brought to the PWGSC PM's attention. Status update requirements include (but not limited to):

- 1. Within two working days of completion of the field work** the Contractor must provide a status report identifying if the approved sampling plan was completed in full and what (if any) changes to the original work plan occurred. This must be submitted electronically to the PWGSC PM.
- 2. Within two weeks of receiving the laboratory analytical results**, the Contractor must provide a tabulated electronic copy of the results to the PWGSC PM and identify brief update of results and any notable items. A progressive meeting maybe setup at that time to discuss the results and conclusions/recommendations that will be established.
- 3. On a monthly basis** the contractor must provide an accurate financial update (including the dollar value that will be invoiced to date) to the PWGSC PM via e-mail.
- 4.** The Contractor must provide (at a minimum) a bi-weekly status report to the PWGSC PM advising of the project status and any factors, which may influence the planned schedule, budget or deliverables. The status report must confirm that activities are being completed in accordance with the planned

schedule milestones (i.e. status of field work, data analysis, draft report, final report) and budget. A template can be provided upon request.

Any anticipated delays in project deliverables or changes to project budget (including any surplus) must be reported to the PWGSC PM as soon as possible and documented in the status report.

7.4.3 Draft, Plain Language and Final Reports

Phase II/III ESA Report Contents

A comprehensive report must be prepared documenting the input data, methods and results of the intrusive investigation, and must be self-contained (i.e. contain all relevant supporting data and document all assumptions). The report must contain all required information and must clearly describe any aspects of the work that deviated from the referenced protocols and guidance documents. The report must contain recommendations and/or provide preliminary remedial and/or risk management options.

The report must include (but is not limited to):

- Executive summary
- Introduction
- Background
- Methodology (including rationale, methods, QA/QC)
- Results
- Discussion of results and Conceptual Site Model / Cross Sections
- Conclusions (including Contamination Summary Table)
- Recommendations and provide remedial/risk management options including cost estimate
- Signatures of authors
- References

The report also must include:

- Interpretation of the findings, conclusions, preliminary remedial/risk alternatives and a clear, logical documentation of how the results of each task informed the approach adopted in the subsequent task,
- An explanation of any assumptions made in the report,
- The rationale for the selection of applicable guidelines/standards,
- All relevant documentation, including data gathered (i.e. field and analytical), references, and photographs of the property and all areas of concern noted in the text to support the findings and conclusions must be found in the report. All working papers, results of analysis, chain of custody forms, NCS evaluation forms, SCT worksheets, etc., must also be appended to support conclusions and recommendations.
- A location map
- A large institution-wide site plan or satellite photo which indicates the location of the contaminated sites in relation to other buildings to provide geographical reference to the more detailed site drawing.
- A site plan showing the site features, buildings (current and former), wells, AST/USTs, improvements and structures, significant topographical features, underground utilities/structures, and all potential areas of concern noted in the text.
- Another site plan showing APECs/CS, the locations of boreholes, samples and approximate extent of contamination (sample locations from this program must be differentiated from those of previous investigations). The extent of contamination figures must differentiate by parameter/groups of contaminants (i.e. extent of metals contamination, extent of PHC contamination, etc.)
- Where exceedances are found, the Contractor must identify in the site plans the locations where

exceedances were measured as well as a list of the contaminants exceeding applicable guidelines and their concentrations.

- All site plans, drawings and maps must contain, at a minimum, a north arrow, a graphic scale bar and a detailed legend.
- A figure showing interpreted groundwater elevations must be included that shows the interpreted contours of the groundwater elevations for each hydrostratigraphic unit. The figure must include monitoring well identifications, the water elevation at each monitoring well that was used for contouring, labelled groundwater elevation contours and arrows indicating the interpreted lateral groundwater flow direction.
- The contractor must use the metric system for measurements, calculations, drawings, etc.
- For the GPS coordinates of any additional sampling locations, Tabular data must be prepared in one of the commonly used industry formats such as Excel (preferred) , or KML, etc. Raw data must be submitted in an ASCII format (station, latitude, longitude, and/or easting, northing, elevation)
- Photographs must be provided in the appendices that show relevant features of the site, the APEC prior to work, the potential source, and the APEC area after the work is completed. All photos used in the report must also be provided electronically in a separate folder called "Photographs" and this folder must have sub-folders organized by APEC. All images must be in .jpg format. All file names must correspond to what the photo was called in the report. Example: If the photo was referred to as "Photo 2" then the file must also be called "Photo 2".
- Any Contaminated Sites identified in the work program are to be presented as shown in the table below. If there are previously identified APEC(s) which have not been closed off yet they must also be presented in the table. The table summarizes the findings and must be found in the Executive Summary and Recommendations section.

CS # or APEC #	SOURCE DESCRIPTION	CONTAMINANTS EXCEEDING	NCSCS SCORE & CLASS	SUPPORTING DOCUMENTATION	EXTENT OF IMPACTED MEDIA	RECOMMENDATIONS	COST ESTIMATE

Plain language report

The plain language report requested is intended to be used by AANDC/CFN as a tool to aid in the communication process with the community members and other interested stakeholders, etc. As such, it is important that language that is familiar and easy to understand by a lay person be used; scientific jargons be avoided (or where they cannot be avoided, a simple definition must be provided); words, sentences and paragraphs should be kept short and simple, and anything that is not relevant should be left out.

Conceptual Site Model

For the entire Site (Sites 1, 2 and 3) Conceptual Site Model must be prepared. The purpose of the conceptual site model (CSM) is to emphasize the type and extent of the subsurface contamination, define the pathways for contaminant migration, and identify potential receptors. A narrative and pictorial (i.e. cross section) conceptual site model must be prepared for the site that clearly presents the information available and factors that affect the site. A two-dimensional visual presentation/figure to illustrate the results will suffice. The CSM will be used for review, but may be used in the future for stakeholder meetings, community input sessions and/or public involvement presentations.

The information gained through all the completed site investigations and detailed in the reports must be used to characterize the physical, biological, and chemical systems existing at a site. The processes that determine contaminant releases, contaminant migration, and environmental receptor exposure to contaminants must be described and integrated in the conceptual site model for the site. The model will be used furthermore to facilitate the selection of remedial alternatives and to evaluate the effectiveness of remedial actions in reducing the exposure of environmental receptors to contaminants.

The narrative CSM must include but is not limited to:

- Stratigraphy from ground surface to the deepest aquifer;
- Geological and hydrogeological characteristics;
- Approximate depth to bedrock (if applicable);
- Approximate depth to water table;
- Any environmentally sensitive areas, shallow soil conditions or water bodies on site what is known about each area where an APEC or CS is present;
- The distribution in each CS and each medium where the contaminant is present;
- Anything known about the reason for the discharge of the contaminant into the natural environment;
- Climatic or meteorological conditions that may influence the distribution or migration of the contaminants;
- Contaminant transport pathways;
- Human and ecological receptors located on site receptor exposure points;
- Routes of exposure;
- If applicable, information on soil vapour intrusion of the contaminants into buildings including;
- relevant construction features of a building, such as a basement or crawl space building heating, ventilation and air conditioning design and operation
 - o subsurface utilities
- The cross section CSM should be oriented parallel and perpendicular to the direction of groundwater flow (where possible) and must include but is not limited to:
 - o lateral and vertical distribution of contaminants in each area where the contamination is present (previous exceedances must also be presented on this cross sections if the information is available)
 - o approximate depth to water table in each of these areas
 - o stratigraphy from ground surface to the deepest aquifer
 - o any subsurface structure and utilities that may affect contaminant distribution and transport in each of these areas

Analysis of Analytical Results

The results must be compared to the applicable federal guidelines (the Canadian Environmental Quality Guidelines (CEQG) <http://ceqg-rcqe.ccme.ca/>) for the current or intended land use (the type of land use must be confirmed with the PWGSC Project Manager). In the absence of federal guidelines, provincial or territorial standards or criteria may be used or standards from other jurisdictions, as approved by the PWGSC Project Manager.

A Tier 2 approach / modify generic guideline as per Method 2 from Guidance Manual for Developing Site-specific Soil Quality Remediation Objectives for Contaminated Sites in Canada http://www.ccme.ca/assets/pdf/pn_1197_e.pdf should be used if specific site characteristics differ to generic site characteristics.

Groundwater results must be compared to either the *Guidelines for Canadian Drinking Water Quality* (Health Canada 2010) <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index-eng.php> for potable usage or the *Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites* (November 2012) for non-potable usage. Groundwater results can also be compared to the guidelines of provincial or other jurisdictions in the absence of federal guidelines or standards.

With respect to the FIGQG, for sites with non-potable water where exceedances of the applicable federal guidelines are identified, the Contractor should examine the exceedances from a Tier 2 perspective. The Contractor should determine if pathways that are not applicable can be removed or if concentrations are at or below background concentrations for the area and therefore further work is not warranted.

NOTE for PAH's - Where applicable, the direct contact human health based soil quality guidelines (SQG_{DH}) should use an incremental lifetime cancer risk (ILCR) of 1 in 100,000 (10⁻⁵).

Where a range of criteria or standard values exist, the Contractor must clearly indicate which value has been selected and the rationale for selecting this value.

A "contaminated site" is defined by the Treasury Board of Canada Secretariat as "one at which substances occur at concentrations (1) above background (normally occurring) levels and pose or are likely to pose an immediate or long-term hazard to human health or the environment, or (2) exceeding levels specified in policies and regulations." The term "levels" refers to federal environmental quality guidelines or, if federal guidelines are not available, guidelines from other jurisdictions that offer a comparable level of protection.

A multiple line of evidence approach should be used in order to characterize potentially contaminated areas. Factors such as (but not limited to) chemistry, regional and local background and reference conditions, magnitude and number of exceedances and relevance of contaminants of concern along with the source of contamination should be considered.

Reports must discuss the background samples used for the site in terms of their location (away from obvious sources of contamination), substrate type (how close was the background substrate (visual grain size /soil classification observations) to the substrate of the samples of interest. All these components affect the relevance of the background samples. Information on Background/Reference samples for this site can be found in the *Phase II/III Environmental Site Assessment, Former AANDC Leased Industrial Properties, APECs 1, 2, 3, and Reference Area, Couchiching First Nation; Neegan Naynowan Stantec LP, March 28, 2013. Reference to the DRAFT Federal Contaminated Sites Action Plan (FCSAP) Ecological Risk Assessment Guidance, Module 5: Defining Background Conditions and Using Background Concentrations, prepared for Environment Canada, Stantec, April 2013, must be used.*

Quality Assurance & Quality Control

All Contractors must identify and adhere to acceptable quality assurance and quality control (QA/QC) procedures throughout the project. This includes, but is not limited to:

Certification and Training
<ul style="list-style-type: none">• Required certifications for analytical laboratory• Required certifications and specialized training required by field staff (e.g., health safety, equipment operation, sampling methods)
Sampling Methods
<ul style="list-style-type: none">• Sampling methodology and equipment• Equipment decontamination procedures
Field Equipment

<ul style="list-style-type: none"> Instrument type and model specification Calibration requirements and documentation Instrument inspection and maintenance requirements Operator training required Calibration and inspection
Sample Handling, Custody and Analysis
<ul style="list-style-type: none"> Analytical protocol Sample containers Field preservation Holding times Sample storage requirements (e.g., packing, type, temperature) Chain-of-custody, use consistent labelling and nomenclature on chain-of-custody and sample containers Data quality targets (e.g., detection limits, precision, accuracy) Field quality control samples (e.g., duplicates, trip blanks, field blanks) Laboratory quality control samples (e.g., duplicates, method blanks, surrogate and matrix spikes, standard or certified reference materials) Frequency of quality control samples tested <ul style="list-style-type: none"> Other performance assessment measures (e.g., audits, inter-laboratory testing) Analytical testing turn-around time
Documentation and Record Keeping
<ul style="list-style-type: none"> Identification of field computer hardware and software Field documentation requirements (e.g., list logs, forms, photographic records) Procedures for storage and archiving field data Procedures for data transfer from the analytical laboratory Applicable procedures for data security
Data Validation
<ul style="list-style-type: none"> Checking for transcription and manipulation errors Review of data quality indicators relative to data quality targets and acceptance criteria for analytical methods

Draft reports must go through a thorough senior review before they are submitted to the PWGSC PM.

This information must address cross-contamination, particularly for dioxins and furans, as they will be measured at the pico gram level. All work undertaken must be completed in compliance to all applicable standards, and acceptable industry practices/best practices must be employed. Best practices pertaining to investigations dealing with dioxins and furans must be utilized.

7.4.4 Deliverable Timeframe

The Contractor must provide a schedule with the proposal that outlines how the work will be completed by March 31, 2016. The Contractor's work plan must be provided to PWGSC within three week of award of contract. For scheduling purposes the contractor is to assume comments will be sent back to Contractor (PWGSC, AANDC, CFN, CFN third party reviewer, and any expert support departments including HC, NRCan,

EC, DFO) within 4 to 6 weeks of the draft report submission. Final reports are to be submitted within 2 weeks of receipt of comments on the draft report. The presentation of the findings to the community will take place in mid to late February.

7.4.5 Deliverable Format

The Contractor must submit the draft report in electronic format (MS Word for the body of the report and a PDF of the whole report) as well as five (5) hard copies (4 for AANDC and 1 for PWGSC) of the entire draft report. Figures and tables must be formatted no larger than 17" x 11". The hard copy reports must be double-sided and bound.

The Contractor must submit five (5) hard copies and five (5) electronic copies on USB (unlocked PDF file of the entire report with all other documents (tables, photos, figures, NCSCS, SCT and GPS coordinates etc) in their native file (e.g. AutoCAD, MS Excel, KML, etc.) for both the full report and the plain language report. The hard copy reports must be double-sided and bound.

The Contractor should note that the reports may be submitted by PWGSC or AANDC to Health Canada, Fisheries and Oceans Canada, Environment Canada, and/or Couchiching First Nations and their representatives, for review and comments. The CFN has indicated that they will have a Third Party Review completed for the report as well. The contractor should expect comments from all parties. If comments are received back from the agencies within the project timeline, they must be addressed at the draft stage. Please note, that if comments are received from these agencies they will be provided to the contractor as separate documents (i.e. a separate document from each agency).

8.0 Community Involvement

The First Nations participation is encouraged throughout this project and the Contractor must maximize the opportunities for employment of First Nation persons and utilization of their resources during this project. It is recommended that the contractor utilize local resources (labour, equipment, etc.) whenever possible.

9.0 Task Authorized Work

9.1 Optional tasks

The following tasks may be completed as part of the work program. These optional tasks will be requested on an as and when requested basis and must include all work associated with completing these tasks including labour, travel, field work/collection of samples, laboratory analysis, data tabulation and reporting. Information will be included in the report for the assessment tasks:

1. Complete an area wide assessment for Dioxins and Furans (APEC 13). The contractor must develop an assessment strategy to address the area wide impact of dioxins and furans in a cost effective and time efficient manner (i.e. can data collection/work be included in investigation of other APECs, etc.). This item is considered an option and work at this APEC may not be authorized.
2. Complete benthic analysis of sediment samples collected at Rainy during the sediment sampling program including reporting of the results.
3. Complete a Terrestrial Environment/Habitat Assessment. The purpose of the terrestrial environment/habitat assessment would be to maximize reliance on site-specific data and to support the Risk Assessment. Data must be clearly documented and must include photographs. Samples may include, but are not limited to, vegetation, invertebrates and small mammals. The bidder must provide a cost for completing this task, however it is considered an option and this task may not be authorized.
4. Investigate and delineate off-site impacts at APEC 15.

5. Complete chemical analysis of the contents of the pails at APEC 11.

9.2 Additional Work

Additional work such as additional drilling, sampling and laboratory analysis may also be required in order to achieve the objectives of the work program. These tasks will be completed following the unit rates provided by the contractor and the requirements outlined for these tasks in the SOW and workplan (ie laboratory analytical or field sampling procedures for additional tasks must follow protocols outlined in the SOW). Unit costs provided in the proposal must be sufficient to achieve the objectives of the work program.

9.3 Travel and Living

Travel and Living may be required throughout the term of the Contract.

Appendix A – Site plans for APECs 1 through 15

Appendix B – Proposed PWGSC Workplan

Appendix C – Site Closure Tool



V:\01222\active\122210557 - Couchiching Sampling Program\Drawings\MXD\2013-2014\Phase1\APEC4_10_14\122210557_Phil_Fig12_GWExceedAPEC14_RES.mxd
 Revised: 2014-03-11 By: tdecrescenzo

Notes
 1. Coordinate System: NAD 1983 UTM Zone 15N
 2. Satellite Imagery Source: WorldView-2, October 16, 2010.

- Legend**
- APEC
 - Test Pit (Stantec, September 2013)
 - Borehole with Monitoring Well (Stantec, October 2013)
 - 10m Buffer From Water Line
 - 0.045/0.025 Parent Sample / Field Duplicate

	14MW13-3		Sample ID
	10/26/2013		Sample Date
Parameter	Copper	0.0057	Value

Parameter	Standard	Background Area Average	Units
Copper	0.004	0.006	mg/L
Iron	0.3	1.05	mg/L

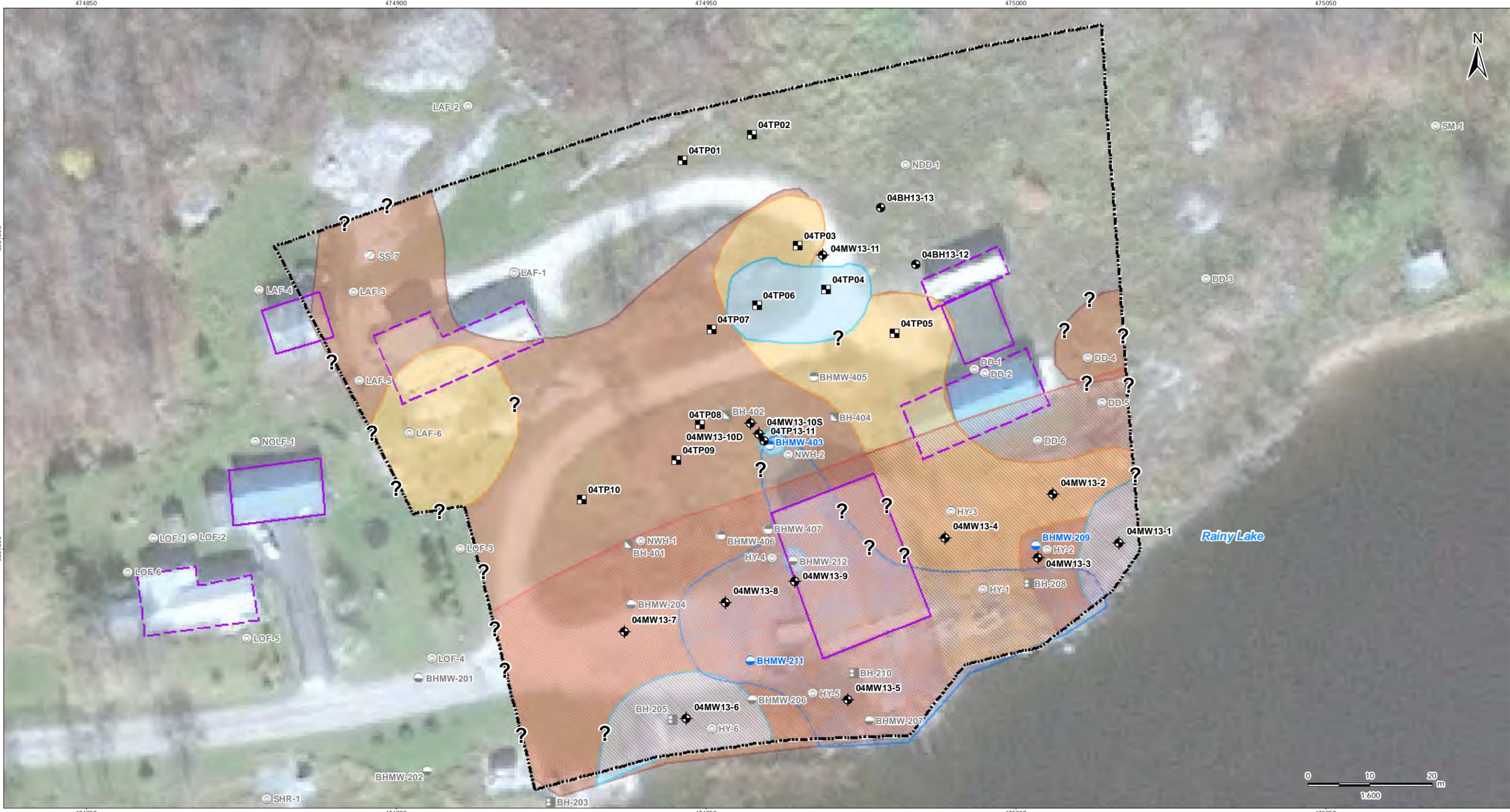
Note: All Parameters compared to FIGQG Standard

Client/Project
 Public Works and Government Services Canada
 Former INAC Leased Industrial Site,
 Couchiching First Nation,
 Fort Frances, Ontario, Canada
 Figure No.
 12
 Title

**Exceedances in Groundwater
 - APEC 14 - Residential**

March 2014
122210557

\\cd1215-f01\work_group\01222\active\122210557 - Couchiching Sampling Program\Drawings\MXD\2013\2014\PhaseII\APEC4_10_14\122210557_PHL_Fig05a_Impacts_SO_RES_APEC4.mxd
 Revised: 2014-03-28 By: tdecrescenzo
 5387600



Notes
 1. Coordinate System: NAD 1983 UTM Zone 15N
 2. Satellite Imagery Source: WorldView-2, October 16, 2010.

Legend

- APEC
- Test Pit (Stantec, September 2013)
- Borehole (Stantec, October 2013)
- Borehole with Monitoring Well (Stantec, October 2013)
- Borehole (DST, January 2009, Reported May 2010)
- Borehole (DST, December 2007, Reported May 2010)

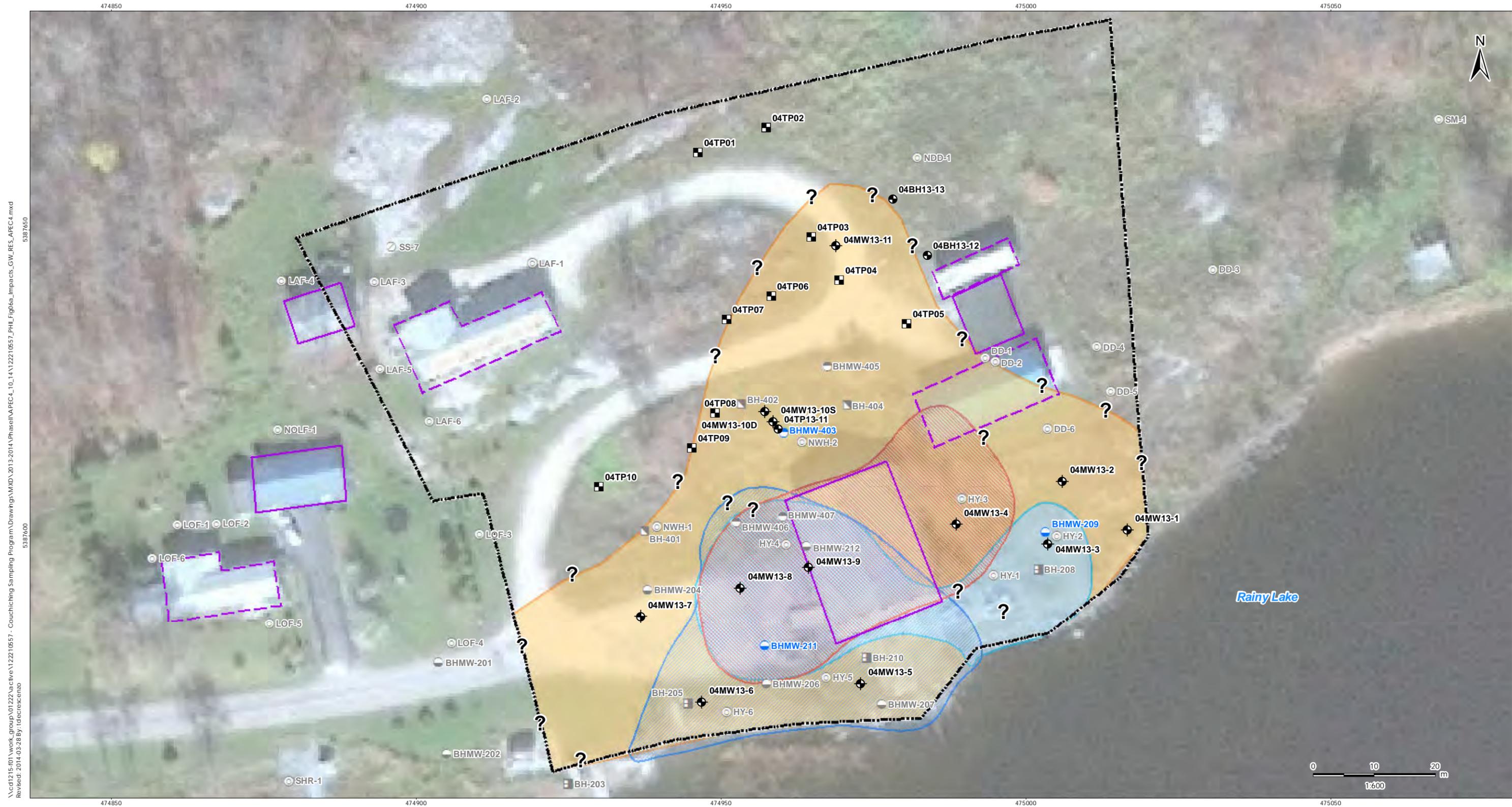
- Monitoring Well (DST, January 2009, Reported May 2010)
- Monitoring Well (DST, January 2009, Reported May 2010, Found On-Site)
- Monitoring Well (DST, December 2007, Reported May 2010)
- Monitoring Well (DST, December 2007, Reported May 2010, Found On-Site)
- Soil Sample (DST, July 2009)
- Surficial Soil Sample (DST, April 2010)
- Building
- Building Demolished

- Preliminary Estimate of Extent of VOCs Impacted Soil
- Preliminary Estimate of Extent of PHCs Impacted Soil
- Preliminary Estimate of Extent of PAHs Impacted Soil
- Preliminary Estimate of Extent of Metals Impacted Soil
- Preliminary Estimate of Extent of PCCD/F Impacted Soil

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 Fort Frances, Ontario, Canada

Figure No.
 5a

Title
 Preliminary Estimate of
 Extent of Impacted Soil
 - APEC 4 - Residential



\\cd1215-f01\work_group\01222\active\122210557 - Couchiching Sampling Program\Drawings\MXD\2013-2014\PhaseII\APEC4_10_14\122210557_PHL_Fig06a_Impacts_GW_RES_APEC4.mxd
 Revised: 2014-03-28 By: tdecrescenzo
 5387650



Notes
 1. Coordinate System: NAD 1983 UTM Zone 15N
 2. Satellite Imagery Source: WorldView-2, October 16, 2010.

- Legend**
- APEC
 - Test Pit (Stantec, September 2013)
 - Borehole (Stantec, October 2013)
 - Borehole with Monitoring Well (Stantec, October 2013)
 - Borehole (DST, January 2009, Reported May 2010)
 - Borehole (DST, December 2007, Reported May 2010)

- Monitoring Well (DST, January 2009, Reported May 2010)
- Monitoring Well (DST, January 2009, Reported May 2010, Found On-Site)
- Monitoring Well (DST, December 2007, Reported May 2010)
- Monitoring Well (DST, December 2007, Reported May 2010, Found On-Site)
- Soil Sample (DST, July 2009)
- Surficial Soil Sample (DST, April 2010)

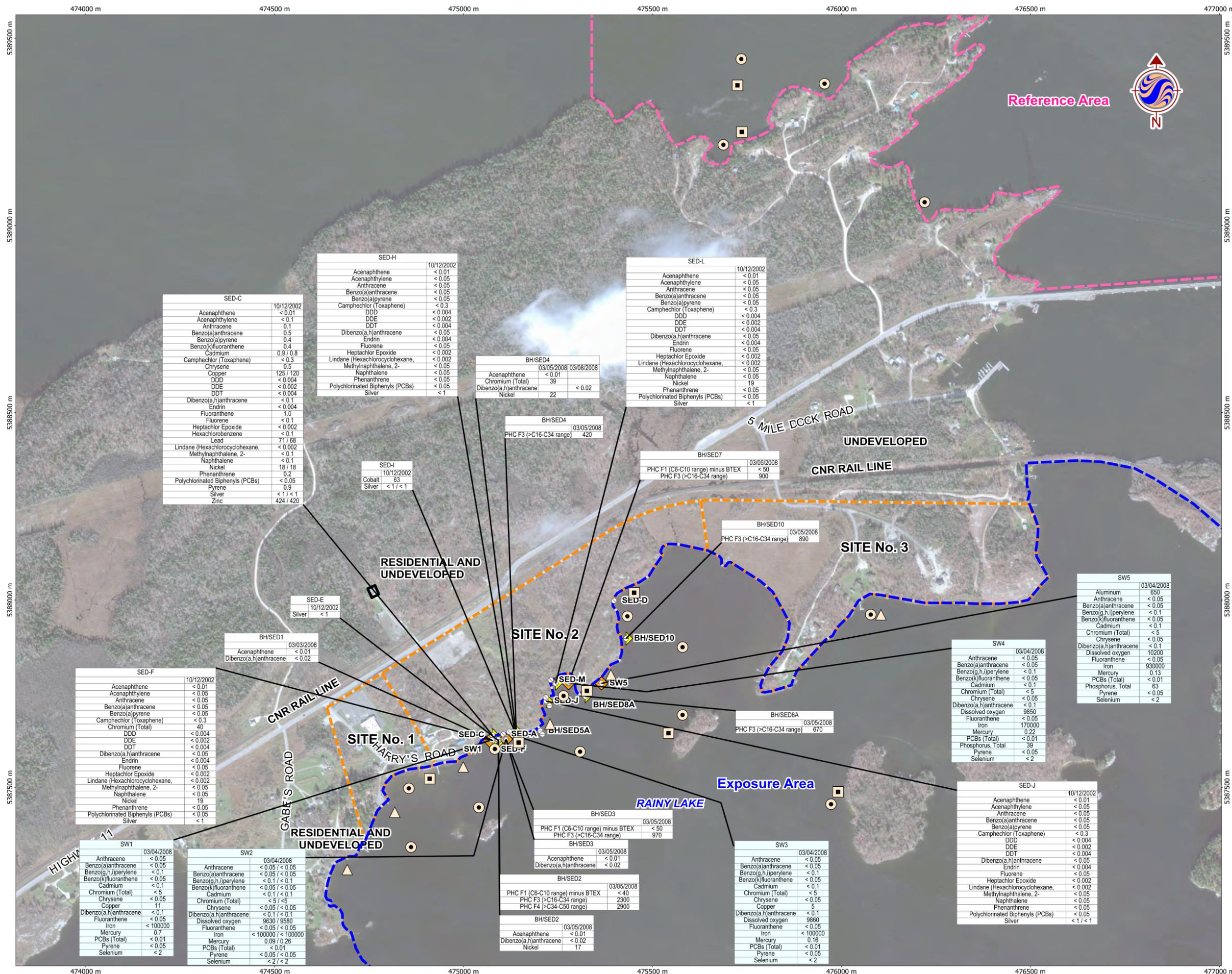
- Building
- Building Demolished
- Preliminary Estimate of Extent of VOCs Impacted Groundwater
- Preliminary Estimate of Extent of PHCs Impacted Groundwater
- Preliminary Estimate of Extent of PAHs Impacted Groundwater
- Preliminary Estimate of Extent of Metals Impacted Groundwater

Client/Project
 Public Works and Government Services Canada
 Former INAC Leased Industrial Site,
 Couchiching First Nation,
 Fort Frances, Ontario, Canada

Figure No.
6a

Title
**Preliminary Estimate of Extent
 of Impacted Groundwater
 - APEC 4 - Residential**

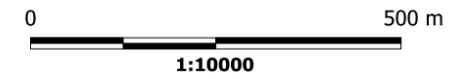
March 2014
 122210557



- ### Legend
- Property Boundary (Approximate)
 - Exposure Area
 - Reference Area
 - Proposed Water and Sediment Grabs
 - Proposed Pore Water Cores
 - Sawdust and Wood Debris
 - Sediment Sample (DST Mar, 2008)
 - Sediment Sample (NBEE Nov, 2003)
 - Surface Water Sample (DST Mar, 2008)
 - Sediment Sample Exceedance
 - Surface Water Exceedance

SW2		Exceeds CCME Canadian Water Quality Guideline and in absence of CCME criteria exceeds PWQO (ug/L)	
Anthracene	03/04/2008	< 0.05	< 0.05

SED-F		Exceeds CCME Canadian Sediment Quality Guidelines or CCME CWS for PHC in Soil and in absence of CCME criteria exceeds MOE Table 8 (ug/g)	
Acenaphthene	10/12/2002	< 0.01	< 0.01



Notes

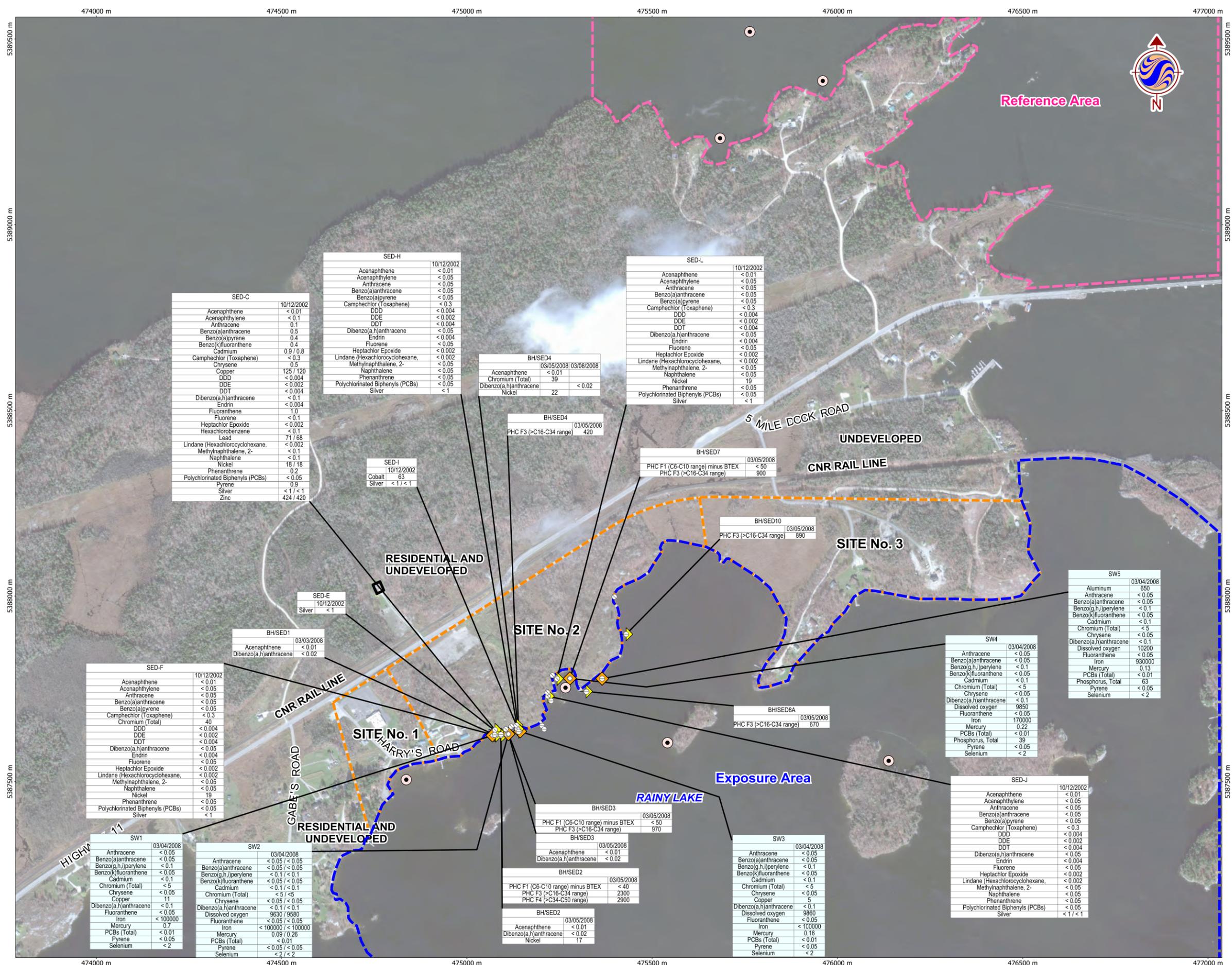
1. Satellite Imagery Source: WorldView-2, October 16, 2010.



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 Couchiching First Nation,
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Figure No.
10a

SITE PLAN SHOWING APEC 12 LOCATION - STAGE I



Legend

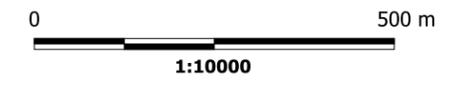
- Property Boundary (Approximate)
- Exposure Area
- Reference Area
- Proposed Benthic Invert, Water, Sediment
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Surface Water Sample (DST Mar, 2008)
- Sediment Sample Exceedance
- Surface Water Exceedance

SW2		03/04/2008
Anthracene	< 0.05	< 0.05

Exceeds CCME Canadian Water Quality Guideline and in absence of CCME criteria exceeds PWQO (ug/L)

SED-F		10/12/2002
Acenaphthene	< 0.01	< 0.01

Exceeds CCME Canadian Sediment Quality Guidelines or CCME CWS for PHC in Soil and in absence of CCME criteria exceeds MOE Table 8 (ug/g)



Notes

1. Satellite Imagery Source: WorldView-2, October 16, 2010.



Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
10b

Title
**SITE PLAN SHOWING
APEC 12 LOCATION - STAGE II**

V:\012222\active\Other PC (Stantec) Projects\122120061 - Couchiching Fort Frances\Drawings\Workplan Drawings\160
6/13/2011 10:06:04 AM By: bcowper Revised 13-06-2011 By: bcowper



DEBRIS INCLUDING BOATS, DRUMS, OLD UST,
OLD CARS, SCRAP WOOD & METAL, ETC.
(REPORTED FORMER CNR SAND & GRAVEL PIT - APEC 15)



June 2011
122120061



Legend

-  Property Boundary (Approximate)
-  APEC Boundary (Approximate)
-  Proposed Monitoring Well
-  Proposed Test Pit

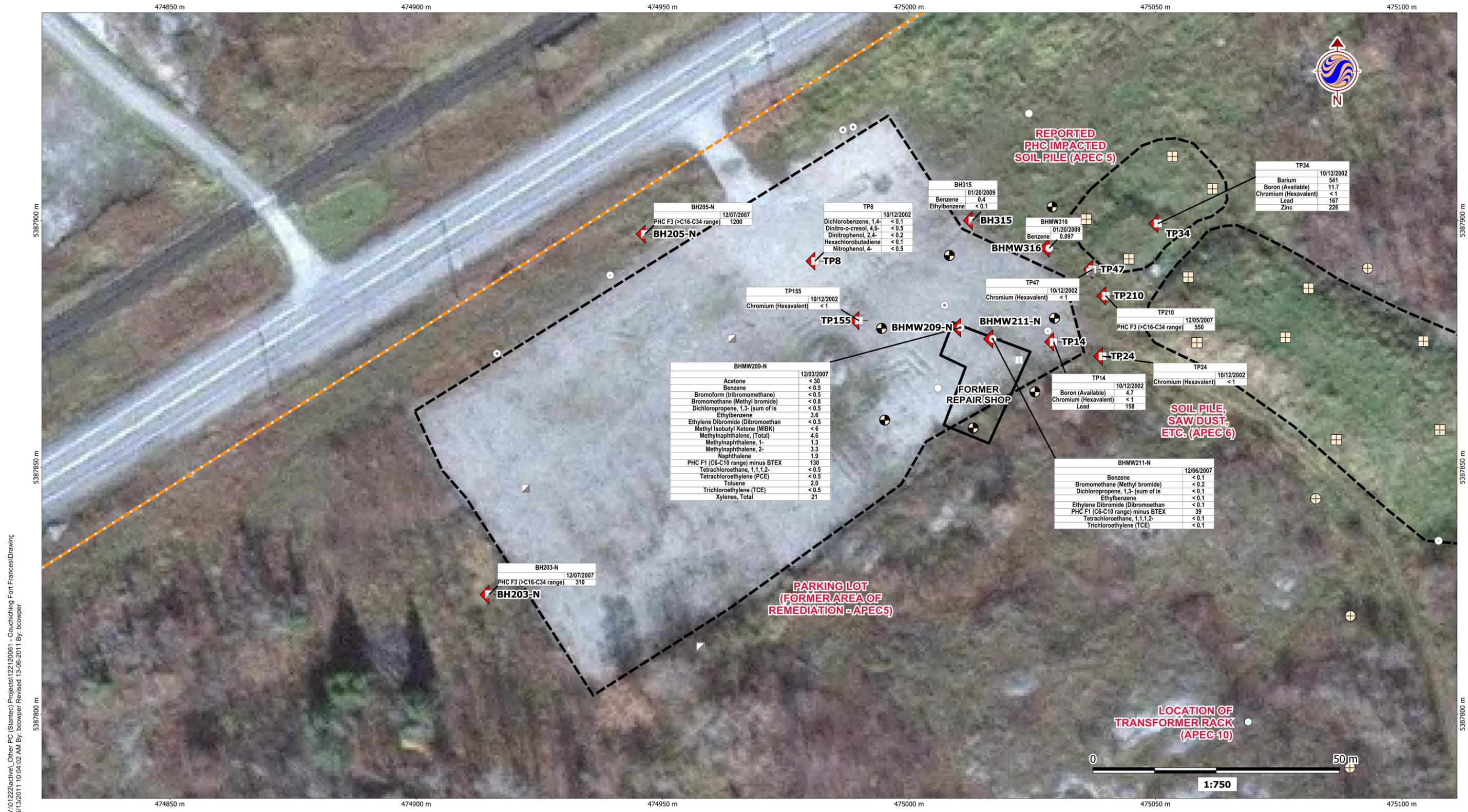
Notes

1. Coordinate System:
UTM Zone 15N NAD 83.

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
12

Title
**SITE PLAN SHOWING
APEC 15 LOCATION**



V:\012222\active\Other_PC (Stantec) Projects\122120061 - Couchiching Fort Frances\Drawing
 6/13/2011 10:04:02 AM By: bcowper Revised 13-06-2011 By: bcowper

June 2011
122120061



Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Soil Grab Sample Location
- Sediment Sample Exceedance
- Soil Sample Exceedance

- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009))
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

1. Coordinate System:
UTM Zone 15N NAD 83.

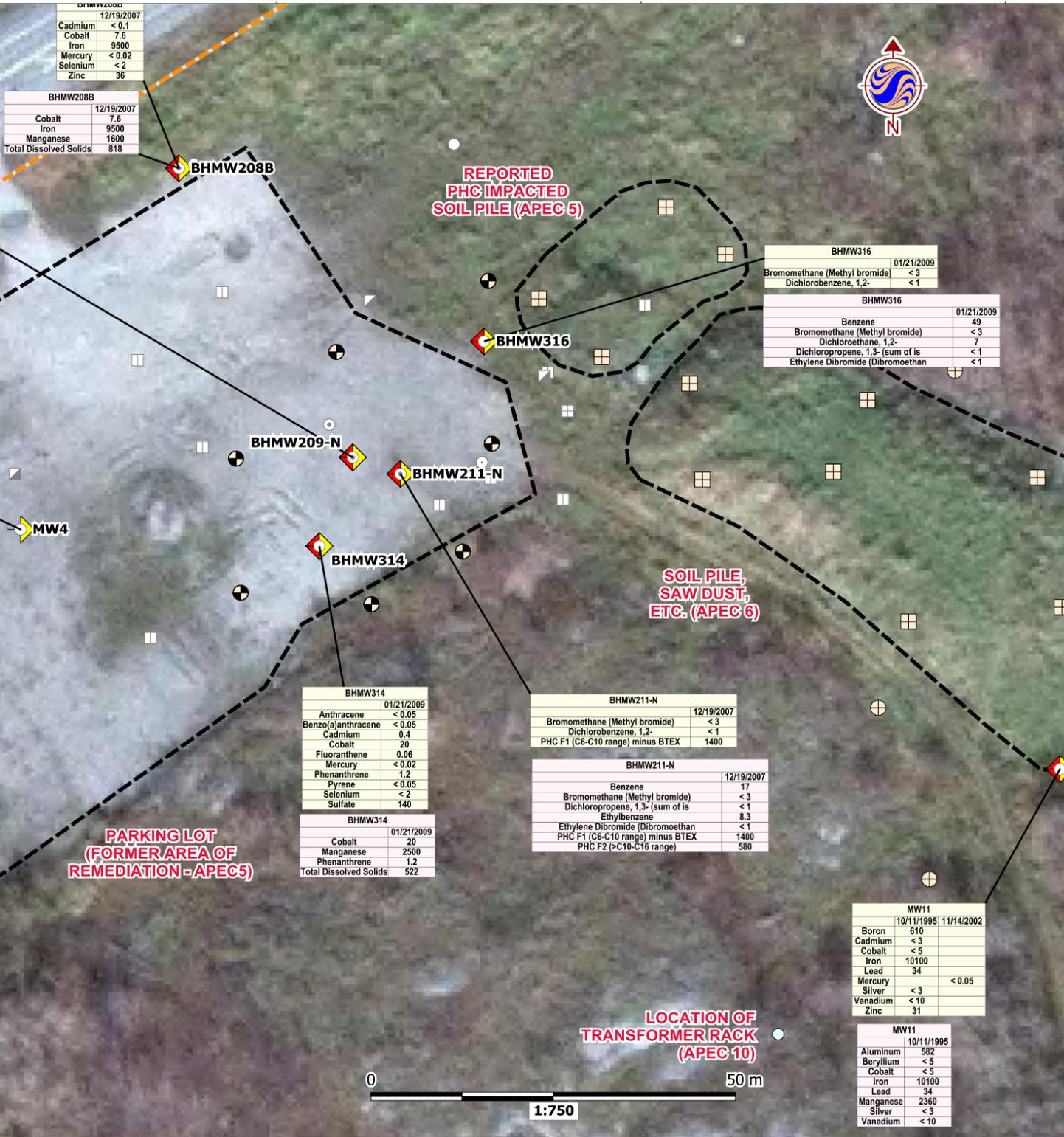
TP144	10/12/2002	Exceeds CCME Canadian Soil Quality Guideline or CWS for PHC and in absence of CCME criteria exceeds MOE Table 2 (ug/g). PCDD/F data presented in pg/g.
Chromium (Hexavalent)	< 1	

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
6a

Title
**SITE PLAN SHOWING
APEC 5 LOCATION AND
SOIL EXCEEDANCES**

BHMW209-N		BHMW209-N	
12/19/2007		12/19/2007	
Acetone	< 20000	Acetone	< 20000
Anthracene	< 0.05	Benzene	3000
Benzene	3000	Benz(a)anthracene	< 0.05
Benzo(a)anthracene	< 0.05	Benzo(a)pyrene	0.020
Benzo(a)pyrene	0.020	Bromomethane (Methyl bromide)	< 1000
Bromomethane (Methyl bromide)	< 1000	Cadmium	2.1
Cadmium	2.1	Carbon Tetrachloride (Tetrachloro)	< 200
Carbon Tetrachloride (Tetrachloro)	< 200	Chlorobenzene (Monochlorobenzene)	< 200
Chlorobenzene (Monochlorobenzene)	< 200	Chloroform	< 200
Chloroform	< 200	Cobalt	36
Cobalt	36	Dibromochloromethane	< 400
Dibromochloromethane	< 400	Dichlorobenzene, 1,2-	< 400
Dichlorobenzene, 1,2-	< 400	Dichlorobenzene, 1,3-	< 400
Dichlorobenzene, 1,3-	< 400	Dichlorobenzene, 1,4-	< 400
Dichlorobenzene, 1,4-	< 400	Dichloroethane, 1,1-	< 200
Dichloroethane, 1,1-	< 200	Dichloroethane, 1,2-	< 200
Dichloroethane, 1,2-	< 200	Dichloroethane, 1,1,1-	< 200
Dichloroethane, 1,1,1-	< 200	Dichloroethane, 1,1,2-	< 200
Dichloroethane, 1,1,2-	< 200	Dichloroethane, trans-1,2-	< 200
Dichloroethane, trans-1,2-	< 200	Dichloroethane, 1,2-	< 200
Dichloroethane, 1,2-	< 200	Dichloroethane, 1,3- (sum of is)	< 400
Dichloroethane, 1,3- (sum of is)	< 400	Ethylene Dibromide (Dibromoethan)	< 400
Ethylene Dibromide (Dibromoethan)	< 400	Fluoranthene	0.14
Fluoranthene	0.14	Iron	7000
Iron	7000	Lead	28
Lead	28	Mercury	0.33
Mercury	0.33	Methyl tert-butyl ether (MTBE)	< 400
Methyl tert-butyl ether (MTBE)	< 400	Methylene Chloride (Dichloromethane)	< 1000
Methylene Chloride (Dichloromethane)	< 1000	Naphthalene	230
Naphthalene	230	PHC F1 (C6-C10 range) minus BTEX	< 10000
PHC F1 (C6-C10 range) minus BTEX	< 10000	Phenanthrene	0.53
Phenanthrene	0.53	Pyrene	< 0.05
Pyrene	< 0.05	Selenium	2
Selenium	2	Styrene	< 200
Styrene	< 200	Tetrachloroethane, 1,1,1,2-	< 200
Tetrachloroethane, 1,1,1,2-	< 200	Tetrachloroethane, 1,1,2,2-	< 400
Tetrachloroethane, 1,1,2,2-	< 400	Tetrachloroethylene (PCE)	< 200
Tetrachloroethylene (PCE)	< 200	Toluene	12000
Toluene	12000	Trichloroethylene (TCE)	< 200
Trichloroethylene (TCE)	< 200	Vinyl chloride	< 400
Vinyl chloride	< 400	Zinc	210
Zinc	210		



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- ### Legend
- Property Boundary (Approximate)
 - APEC Boundary (Approximate)
 - Proposed Borehole
 - Proposed Monitoring Well
 - Proposed Soil Grab Sample Location
 - Exceeds CCME and in absence of CCME, using MOE Table 2
 - Exceeds FIGQG and in absence of FIGQG, using MOE Table 2
 - Surface Water Exceedance

- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009)
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

- Coordinate System:
UTM Zone 15N NAD 83.

BHMW302	
01/21/2009	
Benzo(a)pyrene	0.016

Exceeds HC CDWG and in absence of HC CDWG, using MOE Table 2 (ug/g)

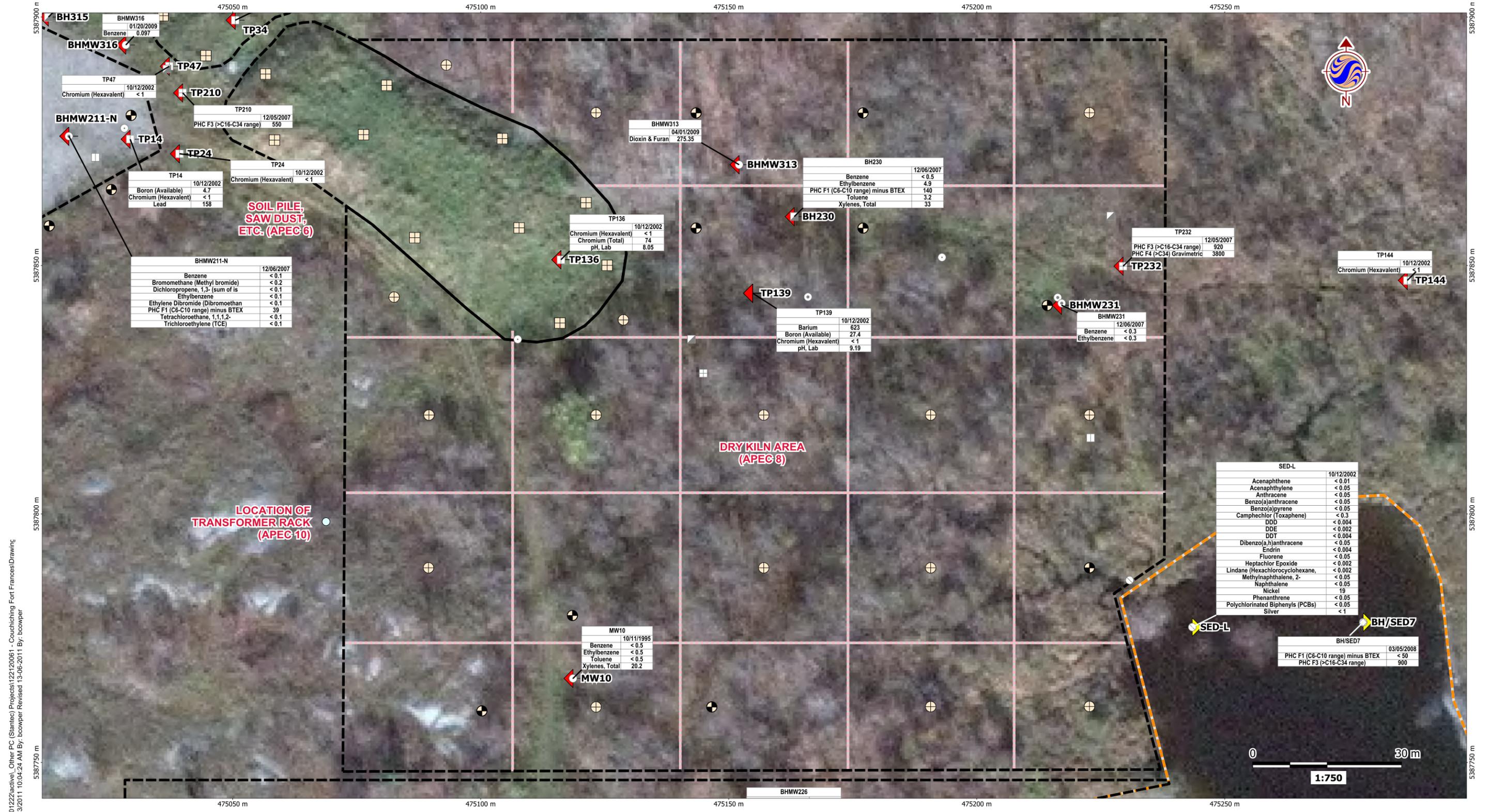
BHMW302	
01/21/2009	
Benzo(a)pyrene	0.016

Exceeds EC FIGQG and in absence of EC FIGQG, using MOE Table 2 (ug/g)

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
6b

Title
**SITE PLAN SHOWING
APEC 5 LOCATION AND
GROUNDWATER EXCEEDANCES**



V:\012222\active\Other_PC (Stantec) Projects\122120061 - Couchiching Fort Frances\Drawing
 6/13/2011 10:04:24 AM By: bcowper Revised 13-06-2011 By: bcowper

June 2011
122120061



Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Sampling Grid
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Soil Grab Sample Location
- Sediment Sample Exceedance
- Soil Sample Exceedance

- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)7
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009))
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

- Coordinate System:
UTM Zone 15N NAD 83.

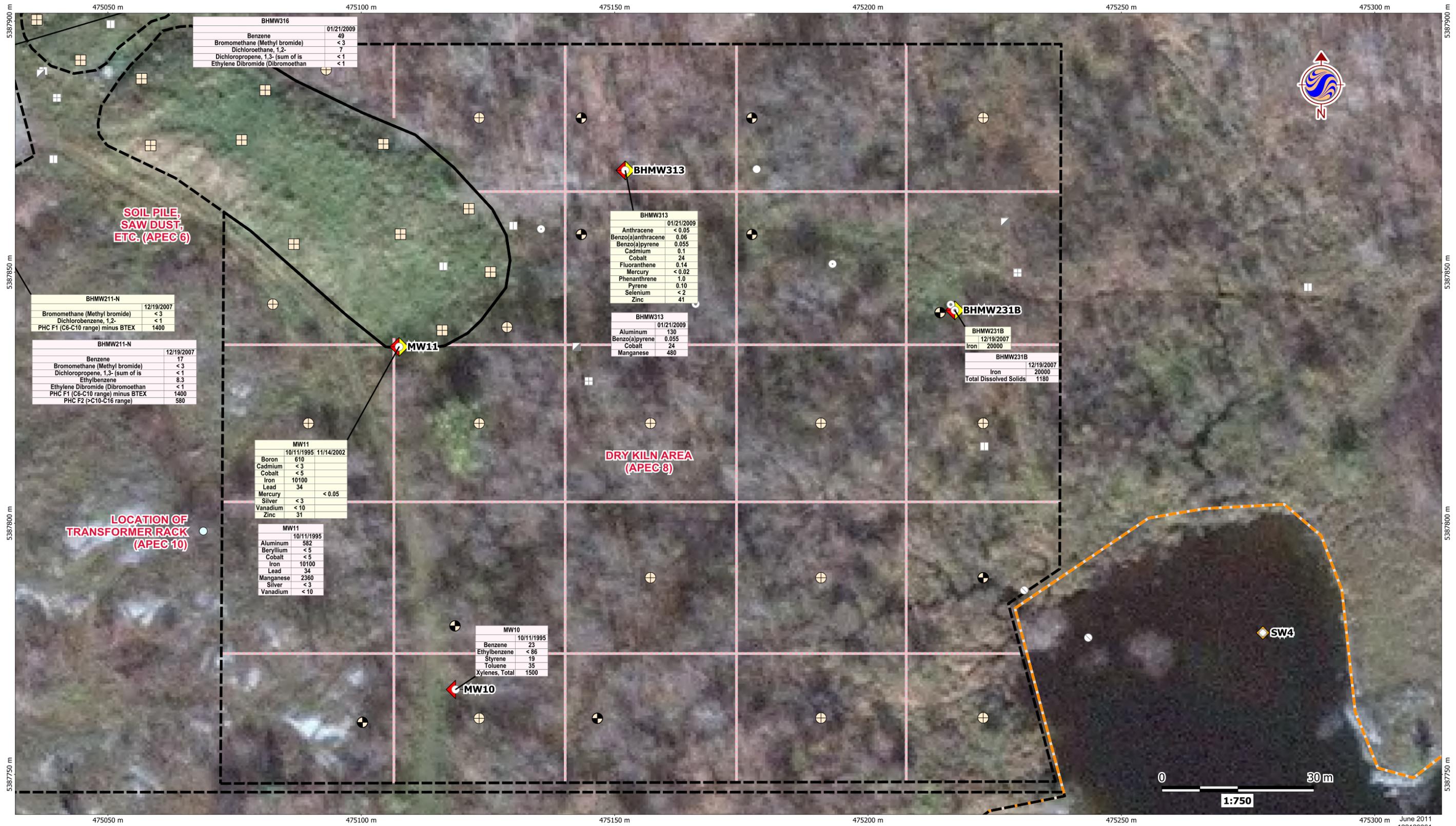
TP144	10/12/2002	Exceeds CCME Canadian Soil Quality Guideline or CWS for PHC and in absence of CCME criteria exceeds MOE Table 2 (ug/g). PCDD/F data presented in pg/g.
Chromium (Hexavalent)	< 1	

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
7a

**SITE PLAN SHOWING
APEC 6 AND 8 LOCATIONS AND
SOIL AND SEDIMENT EXCEEDANCES**

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BHMW316		01/21/2009
Benzene		49
Bromomethane (Methyl bromide)		< 3
Dichloroethane, 1,2		7
Dichloropropene, 1,3- (sum of is)		< 1
Ethylene Dibromide (Dibromoethan		< 1

BHMW313		01/21/2009
Anthracene		< 0.05
Benzo(a)anthracene		0.06
Benzo(a)pyrene		0.055
Cadmium		0.1
Cobalt		24
Fluoranthene		0.14
Mercury		< 0.02
Phenanthrene		1.0
Pyrene		0.10
Selenium		< 2
Zinc		41

BHMW313		01/21/2009
Aluminum		130
Benzo(a)pyrene		0.055
Cobalt		24
Manganese		480

BHMW231B		12/19/2007
Iron		20000
BHMW231B		12/19/2007
Iron		20000
Total Dissolved Solids		1160

MW11		10/11/1995	11/14/2002
Boron		610	
Cadmium		< 3	
Cobalt		< 5	
Iron		10100	
Lead		34	
Mercury		< 0.05	
Silver		< 3	
Vanadium		< 10	
Zinc		31	

MW11		10/11/1995
Aluminum		562
Beryllium		< 5
Cobalt		< 5
Iron		10100
Lead		34
Manganese		2360
Silver		< 3
Vanadium		< 10

MW10		10/11/1995
Benzene		23
Ethylbenzene		< 86
Styrene		19
Toluene		35
Xylenes, Total		1500



Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Soil Grab Sample Location
- Exceeds CCME and in absence of CCME, using MOE Table 2
- Exceeds FIGQG and in absence of FIGQG, using MOE Table 2
- Surface Water Exceedance

- Proposed Sampling Grid
- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)/7
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)

- Monitoring Well (DST Jan, 2009)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009)
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

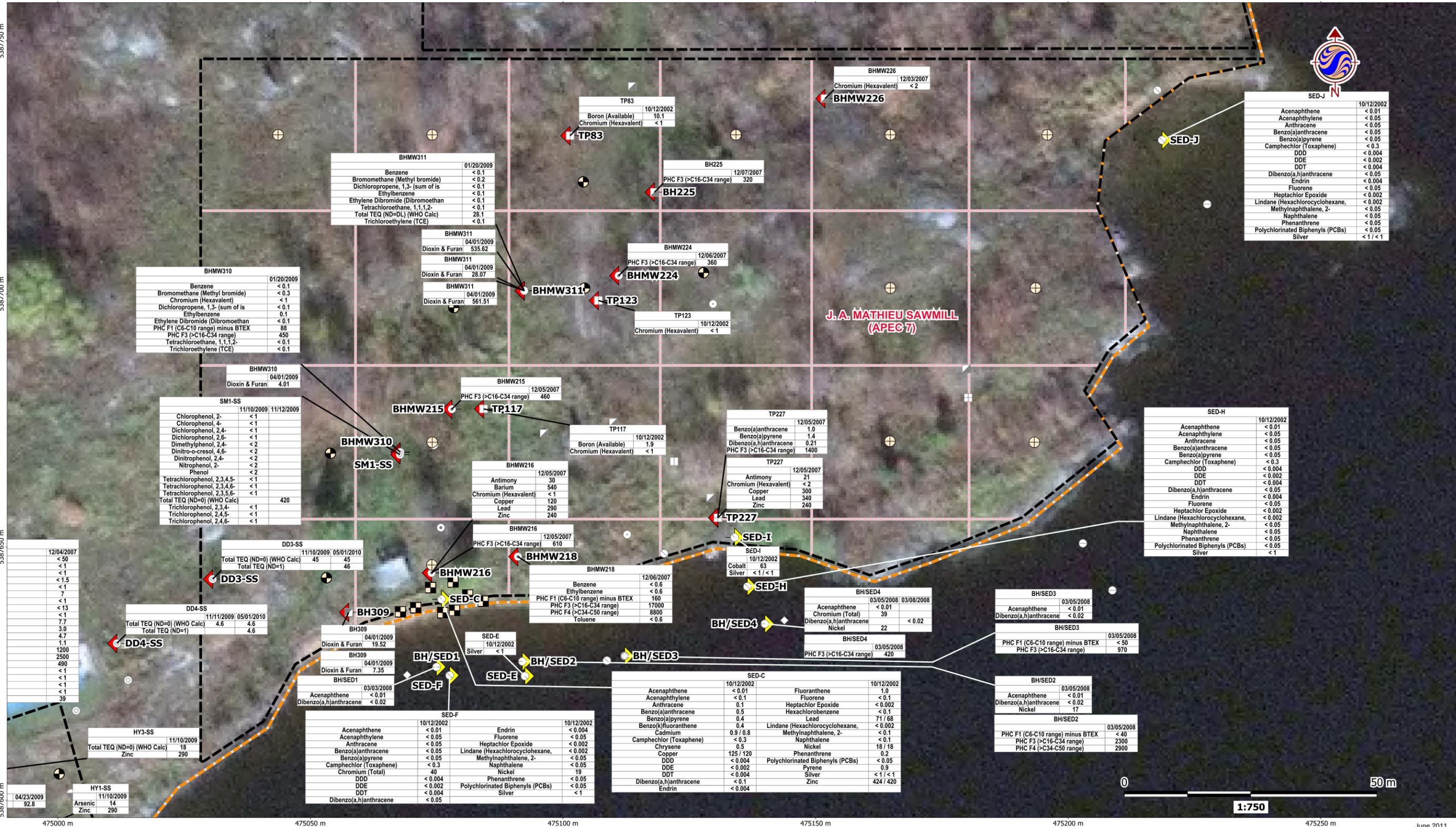
Notes

1. Coordinate System: UTM Zone 15N NAD 83.
- | BHMW302 | | 01/21/2009 |
|----------------|--|------------|
| Benzo(a)pyrene | | 0.016 |
- Exceeds HC CDWG and in absence of HC CDWG, using MOE Table 2 (ug/g)
- | BHMW302 | | 01/21/2009 |
|----------------|--|------------|
| Benzo(a)pyrene | | 0.016 |
- Exceeds EC FIGQG and in absence of EC FIGQG, using MOE Table 2 (ug/g)

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
7b

Title
**SITE PLAN SHOWING
APEC 6 AND 8 LOCATIONS AND
GROUNDWATER EXCEEDANCES**



SED-J 10/12/2002

Acenaphthene	< 0.01
Acenaphthylene	< 0.05
Anthracene	< 0.05
Benzo(a)anthracene	< 0.05
Benzo(a)pyrene	< 0.05
Campechlor (Toxaphene)	< 0.3
DDD	< 0.004
DDE	< 0.002
DDT	< 0.004
Dibenzo(a,h)anthracene	< 0.05
Endrin	< 0.004
Fluorene	< 0.05
Heptachlor Epoxide	< 0.002
Lindane (Hexachlorocyclohexane, 2-)	< 0.002
Methylnaphthalene, 2-	< 0.05
Naphthalene	< 0.05
Phenanthrene	< 0.05
Polychlorinated Biphenyls (PCBs)	< 0.05
Silver	< 1 < 1

SED-H 10/12/2002

Acenaphthene	< 0.01
Acenaphthylene	< 0.05
Anthracene	< 0.05
Benzo(a)anthracene	< 0.05
Benzo(a)pyrene	< 0.05
Campechlor (Toxaphene)	< 0.3
DDD	< 0.004
DDE	< 0.002
DDT	< 0.004
Dibenzo(a,h)anthracene	< 0.05
Fluorene	< 0.05
Heptachlor Epoxide	< 0.002
Lindane (Hexachlorocyclohexane, 2-)	< 0.002
Methylnaphthalene, 2-	< 0.05
Naphthalene	< 0.05
Phenanthrene	< 0.05
Polychlorinated Biphenyls (PCBs)	< 0.05
Silver	< 1

SED-C 10/12/2002

Acenaphthene	< 0.01	Fluoranthene	1.0
Acenaphthylene	< 0.1	Fluorene	< 0.1
Anthracene	0.1	Heptachlor Epoxide	< 0.002
Benzo(a)anthracene	0.5	Hexachlorobenzene	< 0.1
Benzo(a)pyrene	0.4	Lead	71 / 68
Benzo(k)fluoranthene	0.4	Lindane (Hexachlorocyclohexane, 2-)	< 0.002
Cadmium	0.9 / 0.8	Methylnaphthalene, 2-	< 0.1
Campechlor (Toxaphene)	< 0.3	Naphthalene	< 0.1
Chrysene	0.5	Nickel	18 / 18
Copper	125 / 120	Phenanthrene	< 0.05
DDD	< 0.004	Polychlorinated Biphenyls (PCBs)	0.2
DDE	< 0.002	Pyrene	< 0.9
DDT	< 0.004	Silver	< 1 / < 1
Dibenzo(a,h)anthracene	< 0.1	Zinc	424 / 420
Endrin	< 0.004		

SED-F 10/12/2002

Acenaphthene	< 0.01	Endrin	10/12/2002
Acenaphthylene	< 0.05	Fluorene	< 0.05
Anthracene	< 0.05	Heptachlor Epoxide	< 0.002
Benzo(a)anthracene	< 0.05	Lindane (Hexachlorocyclohexane, 2-)	< 0.002
Benzo(a)pyrene	< 0.05	Methylnaphthalene, 2-	< 0.05
Campechlor (Toxaphene)	< 0.3	Naphthalene	< 0.05
Chromium (Total)	40	Nickel	19
DDD	< 0.004	Phenanthrene	< 0.05
DDE	< 0.002	Polychlorinated Biphenyls (PCBs)	< 0.05
DDT	< 0.004	Silver	< 1
Dibenzo(a,h)anthracene	< 0.05		

DD3-SS 11/10/2009 05/01/2010

Total TEQ (ND=0) (WHO Calc)	45	45
Total TEQ (ND=1)	46	46

DD4-SS 11/11/2009 05/01/2010

Total TEQ (ND=0) (WHO Calc)	4.6	4.6
Total TEQ (ND=1)	4.6	4.6

HY1-SS 11/10/2009

Total TEQ (ND=0) (WHO Calc)	18
Zinc	290

Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Sampling Grid
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Test Pit
- Sediment Sample Exceedance
- Soil Sample Exceedance

- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)

Notes

- Coordinate System: UTM Zone 15N NAD 83.

Exceeds CCME Canadian Soil Quality Guideline or CWS for PHC and in absence of CCME criteria exceeds MOE Table 2 (ug/g). PCDD/F data presented in pg/g.

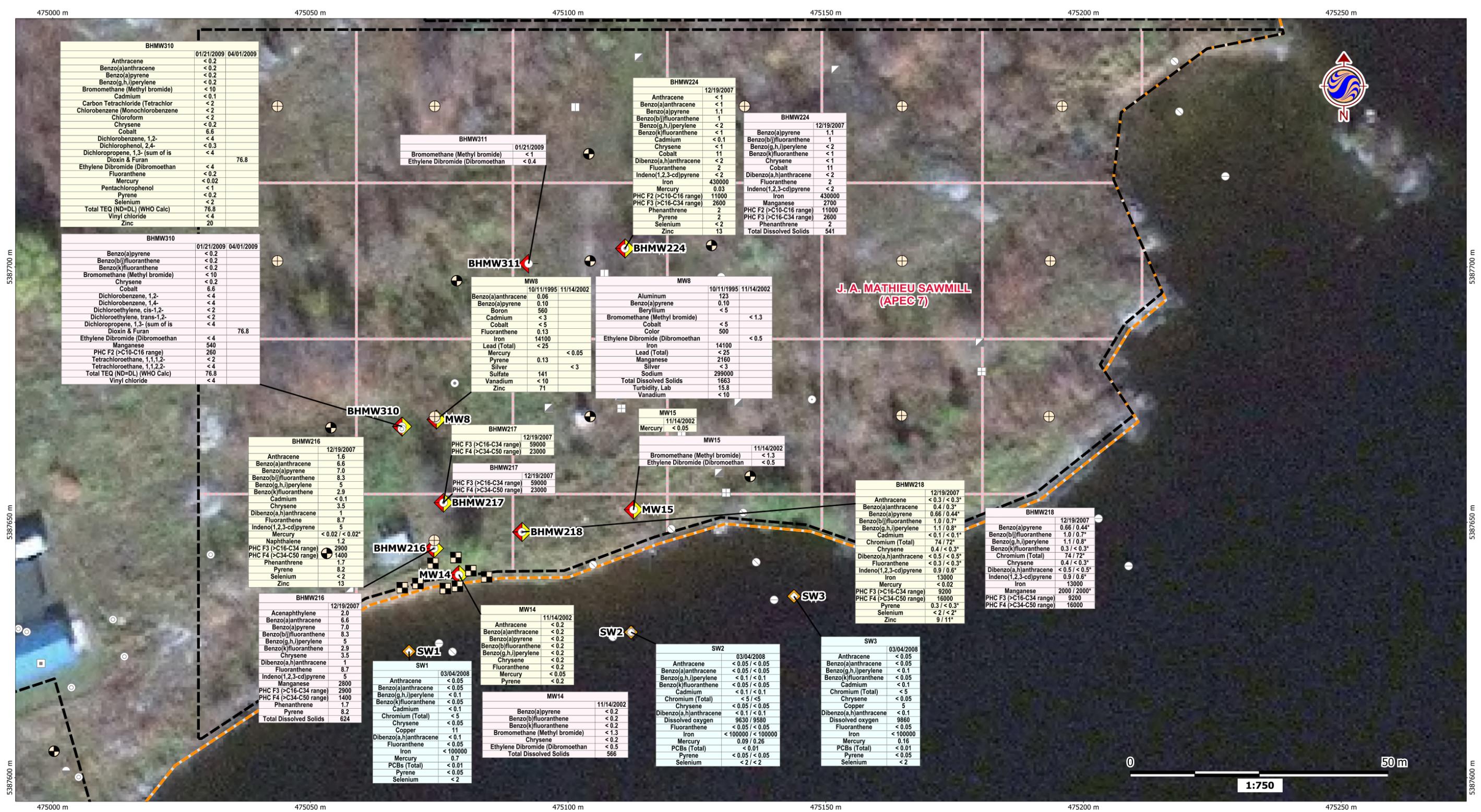
Client/Project: Public Works and Government Services Canada
Former INAC Leased Industrial Site, Couchiching First Nation, Fort Frances, Ontario, Canada

Figure No. 8a

Title: **SITE PLAN SHOWING APEC 7 LOCATION AND SOIL AND SEDIMENT EXCEEDANCES**



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Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Test Pit
- Exceeds CCME and in absence of CCME, using MOE Table 2
- Exceeds FIGQG and in absence of FIGQG, using MOE Table 2
- Surface Water Exceedance

- Proposed Sampling Grid
- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009))
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

- Coordinate System:
UTM Zone 15N NAD 83.
- | | | | |
|----------------|------------|-------|---|
| BHMW302 | 01/21/2009 | 0.016 | Exceeds HC CDWG and in absence of HC CDWG, using MOE Table 2 (ug/g) |
| Benzo(a)pyrene | | | |
| BHMW302 | 01/21/2009 | 0.016 | Exceeds EC FIGQG and in absence of EC FIGQG, using MOE Table 2 (ug/g) |
| Benzo(a)pyrene | | | |

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
8b

Title
**SITE PLAN SHOWING
APEC 7 LOCATION AND
GROUNDWATER EXCEEDANCES**



Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Test Pit
- Sediment Sample Exceedance
- Soil Sample Exceedance
- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009)
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

- Coordinate System:
UTM Zone 15N NAD 83.

TP144	
Parameter	10/12/2002
Chromium (Hexavalent)	< 1

Exceeds CCME Canadian Soil Quality Guideline or CWS for PHC and in absence of CCME criteria exceeds MOE Table 2 (ug/g). PCDD/F data presented in pg/g.

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
9a

Title
**SITE PLAN SHOWING
APEC 9 LOCATION AND
SOIL EXCEEDANCES**



V:\01222\active_Other PC (Stantec) Projects\122120061 - Couchiching Fort Frances\Drawings\Workplan Drawings\1609_G 6/13/2011 10:05:15 AM By: bcowper Revised 13-06-2011 By: bcowper



Legend

- Property Boundary (Approximate)
- APEC Boundary (Approximate)
- Proposed Borehole
- Proposed Monitoring Well
- Proposed Test Pit
- Exceeds CCME and in absence of CCME, using MOE Table 2
- Exceeds FIGQG and in absence of FIGQG, using MOE Table 2
- Surface Water Exceedance

- Borehole (DST Nov/Dec, 2007)
- Borehole (DST Jan, 2009)
- Borehole (DST June, 1994)7
- Borehole (DST Nov, 1994)
- Borehole (DST Dec, 2007)
- Borehole (DST Jan, 2009)
- Monitoring Well (DST Nov/Dec, 2007)
- Monitoring Well (DST Jan, 2009)
- Monitoring Well (DST June, 1994)
- Monitoring Well (DST Nov, 1994)
- Monitoring Well (DST Dec, 2007)
- Monitoring Well (NBEE Nov, 2003)
- Sediment Sample (DST Mar, 2008)
- Sediment Sample (NBEE Nov, 2003)
- Soil Sample (DST May, 2009)
- Surface Water Sample (DST Mar, 2008)
- Surficial Soil Sample (DST Nov, 2009))
- Test Pit (DST Dec, 2007)
- Test Pit (DST June, 1994)
- Test Pit (NBEE Nov, 2003)
- Wipe/Vacuum Sample (DST Apr, 2009)

Notes

1. Coordinate System:
UTM Zone 15N NAD 83.
- | BHMW302 | |
|----------------|-------|
| 01/21/2009 | |
| Benzo(a)pyrene | 0.016 |
- Exceeds HC CDWG and in absence of HC CDWG, using MOE Table 2 (ug/g)
- | BHMW302 | |
|----------------|-------|
| 01/21/2009 | |
| Benzo(a)pyrene | 0.016 |
- Exceeds EC FIGQG and in absence of EC FIGQG, using MOE Table 2 (ug/g)

Client/Project
Public Works and Government Services Canada
Former INAC Leased Industrial Site,
Couchiching First Nation,
Fort Frances, Ontario, Canada

Figure No.
9b

Title
**SITE PLAN SHOWING
APEC 9 LOCATION AND
GROUNDWATER EXCEEDANCES**

June 2011
122120061



Legend

- Borehole
- ⊕ Monitoring Well
- - - Approximately 30 m from Rainy Lake
- ⬠ APEC
- ▨ Preliminary Estimate of Extent of Impacted Soil

Sample ID and Depth

MW12-1 : 1.2 - 2 m		Sample Date
Parameter	pH (available as CaCl2)	09/19/2012
	Value	6.53

Parameter	Value	Units	Standard
pH (available as CaCl2)	6 to 8	S U	CCME

Notes

1. Coordinate System: NAD 1983 UTM Zone 15N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Satellite Imagery Source: WorldView-2, October 16, 2010.



Stantec

March 2013
122210557

Client/Project
Public Works and Government Services Canada
Former AANDC Leased Industrial Properties
Couchiching First Nation
Fort Frances, Ontario

Figure No.
16A

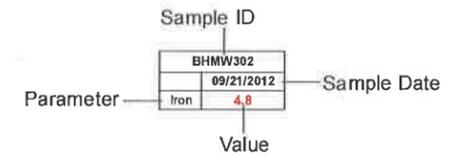
Title
Preliminary Estimate of Extent of Impacted Soil – APEC 2





Legend

- Borehole
- ⊕ Monitoring Well
- - - Approximately 30 m from Rainy Lake
- APEC



Parameter	Value	Units	Standard
Anthracene	0.012	µg/L	FIGQG
Cadmium	0.017	µg/L	FIGQG
Chloroform (Trichloromethane)	1.8	µg/L	FIGQG
Copper	0.004	mg/L	FIGQG
Iron	0.3	mg/L	FIGQG
Pyrene	0.025	µg/L	FIGQG
Selenium	0.001	mg/L	FIGQG
Uranium	0.015	mg/L	FIGQG
Zinc	0.03	mg/L	FIGQG

Notes

1. Coordinate System: NAD 1983 UTM Zone 15N
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3. Satellite Imagery Source: WorldView-2, October 16, 2010.



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Former AANDC Leased Industrial Properties
Couchiching First Nation
Fort Frances, Ontario

Figure No.
17

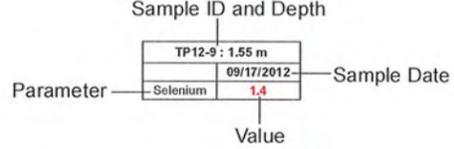
Title
**Exceedences in Groundwater
- APEC2**





Legend

- Monitoring Well
- Surface Soil Sample
- Test Pit
- APEC
- Preliminary Estimate of Extent of Impacted Soil



Parameter	Value	Units	Standard
PHC F3 (>C16-C34 range)	300	µg/g	CCME
PHC F4 (>C34) Gravimetric	2800	µg/g	CCME
Selenium	1	µg/g	CCME
Total TEQ (ND 0) (WHO Calc)	4	pg/g	CCME
Trichloroethylene (TCE)	0.01	µg/g	CCME

Notes

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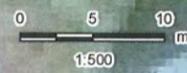
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Figure No.
24A

Title
Preliminary Estimate of Extent of Impacted Soil – APEC 3





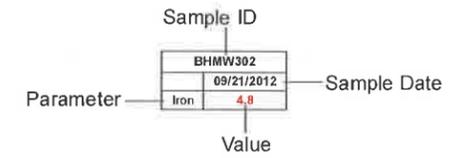
MW12-17	
Parameter	09/21/2012
Cadmium	0.11
Copper	0.0084
Iron	0.43

MW12-18	
Parameter	09/21/2012
Cadmium	0.043
Iron	1.2

MW12-19	
Parameter	09/21/2012
Iron	1.2

Legend

- ◆ Monitoring Well
- ◇ Surface Soil Sample
- ⊕ Test Pit
- ▭ APEC



Parameter	Value	Units	Standard
Cadmium	0.017	µg/L	FIGQG
Copper	0.004	mg/L	FIGQG
Iron	0.3	mg/L	FIGQG

Notes

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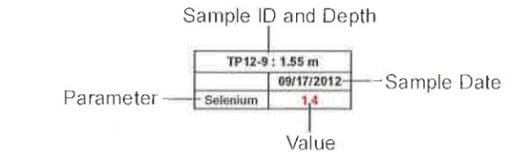
Figure No.
25

Title
**Exceedences in Groundwater
- APEC3**



Legend

- Borehole (DST 2009)
- Monitoring Well (DST 2009)
- ⊕ Monitoring Well
- ⊙ Surficial Soil Sample (DST)
- ⊞ Test Pit
- Approximately 30 m from Rainy Lake
- ▭ APEC
- ▨ Preliminary Estimate of Extent of Impacted Soil



Parameter	Value	Units	Standard
Acetone	0.5	µg/g	MCE
Copper	63	µg/g	CCME
Lead	140	µg/g	CCME
pH (available as CaCl2)	6 to 8	S.U.	CCME
PHC F1 (C6-C10 range)	30	µg/g	CCME
PHC F1 (C6-C10 range) minus BTEX (calc)	30	µg/g	CCME
Total TEQ (ND=0) (WHO Calc)	4	pg/g	CCME
Zinc	250	µg/g	CCME

Notes

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Fort Frances, Ontario

Figure No.
8A

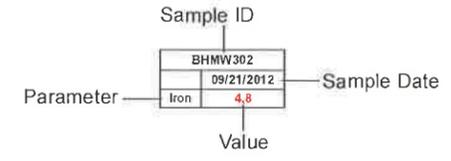
Title
Preliminary Estimate of Extent of Impacted Soil – APEC 1





Legend

- Monitoring Well (DST 2009)
- ⊕ Monitoring Well
- ⊕ Test Pit
- — Approximately 30 m from Rainy Lake
- ▭ APEC
- ▨ Preliminary Estimate of Extent of Impacted Groundwater



Parameter	Value	Units	Standard
Anthracene	0.012	µg/L	FIGQG
Arsenic	0.005	mg/L	FIGQG
Benzo(a)anthracene	0.011	µg/L	FIGQG
Benzo(a)pyrene	0.015	µg/L	FIGQG
Cadmium	0.017	µg/L	FIGQG
Copper	0.004	mg/L	FIGQG
Fluoranthene	0.04	µg/L	FIGQG
Iron	0.3	mg/L	FIGQG
Pyrene	0.025	µg/L	FIGQG
Zinc	0.03	mg/L	FIGQG

Notes

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3. Satellite Imagery Source: WorldView-2, October 16, 2010.



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Fort Frances, Ontario

Figure No.
9A

Title
Preliminary Estimate of Extent of Impacted Groundwater – APEC 1



APPENDIX B TO ANNEX A

Proposed PWGSC Workplan - Former INAC Leased Industrial Properties, Couchiching First Nation, Fort Frances, Ontario

Site	APEC	Source Description	COCs	Extent of Impacts	Recommended Sampling points	Recommended Chemical Analysis	Reference Figure
1	1	Former Harry's Road Dipping pond	PCDD/F,PHC1-2,PAHs,VOCs,metals	Soil; approximatly 8000 m2 and not delineated. Groundwater not delineated	15 tests pits, 5 boreholes, 5 monitoring wells and 5 existing monitoring wells	Soils; 30 VOCs, 30 metals, 15 PAHs, 15 PHCs, 2 grain size, 2 pH and 1 PHC subfraction. GW; 11 metals, 11 PAHs, 11 PHC, 11 VOCs, 1 PHC subfraction.	Stantec (2013) figures 8A & 9A
	2	Former MNR base-fuel storage	PCDD/F,PHCs (soil), PAHs and metals for Groundwater	Soil; approximatly 250 m2 and not delineated. Groundwater not delineated	8 boreholes, 1 monitoring well and 4 existing monitoring wells	Soils; 16 PHCs, 8 VOCs, 1 PHC subfraction, 1 grain size and 1 pH. GW; 6 PAHs, 6 metals.	Stantec (2013) Figures 16A & 17
	3	Potential Infilling of Storage Works Yard	PCDD,TCE,PHCs and metals	Soil; approximatly 2500 m2 and not delineated. Groundwater not delineated	10 test pits, 5 boreholes, 3 monitoring wells and 3 existing monitoring wells	Soils; 4 PHCs, 5 VOCs, 1 PHC fraction, 1 grain size and 1 PHC subfraction. Groundwater; 6 metals	Stantec (2013) Figures 24A & 25
2	4	Former Rainy Lake Airways	PCDD/F,PHC1-2,PAHs,VOCs,metals	Soil; approximatly 8000 m2 and not delineated. Groundwater approximatly 5,00 m2 and not delineated	5 tests pits, 10 boreholes, 6 monitoring wells and 7 existing monitoring wells	Soil; 15 VOCs, 15 metals, 15 PAHs, 15 PHCs, 1 grain size, 1 PHC fraction, 1 pH and 14 Ethylene glycol. Groundwater; 15 metals, 15 PAHs, 15 PHC and 15 VOCs.	Stantec (2014) Figures 5A and 6A
	5	Former Machine Repair Shop	PHCs, VOCs, PAHs, PCDD/F and metals	fill pile (350 m ³ of Soil) and sediment	7 Boreholes, 7 monitoring wells, 4 surface soil samples (fill pile), and 5 existing monitoring wells	Soil: 12 PHCs, 12 VOC, 12 PAH, 12 metals, 2 grain size, 2 pH and 2 PHC subfraction. Groundwater; 13 PHC, 13 VOC, 13 Metals, 13 PAHs, 1 PHC subfraction. 1 TCLP for soil leachate.	Stantec (2011) Figures 6A and 6B
	6	Former Remediation Site Fill Pile	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F and metals	fill pile (12,500 m ³) Soil	10 test pits	Soil; 11 PHCs, 11 VOCs, 11 PAHs, 11 Metals, 11 Chlorophenols, 1 PHC subfraction and 1 TCLP.	Stantec (2011) Figures 7A and 7B
	7	Former JA Mathieu Saw Mill	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F and metals	Black Non aqueous phase liquid - not delineated.	20 Boreholes, 8 monitoring wells, 8 test pits/trenches and sample 9 existing monitoring wells	Soil; 48 PHCs, 48 VOCs, 48 PAHs, 48 Metals, 48 chlorophenols, 2 pH, 2 grain size, 6 PHC subfraction. Groundwater; 19 PHCs, 19 VOCs, 19 PAHs, 19, Metals and 19 Chlorophenols, 2 PHC subfraction.	Stantec (2011) Figures 8A and 8B
	8	Dry Kiln and Storage Shed	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F and metals	Soil and groundwater impacts not delineated	25 Boreholes, 9 monitoring wells and 9 existing monitoring wells	Soil; 56 PHCs, 5 PHC subfrations, 56 VOCs, 56 PAHs, 56 Chlorophenols, 56 metals, 2 pH, 2 grain size and 2 FOC. Groundwater; 20 PHC, 20 VOCs, 20 PAHs, 20 Chlorophenols and 20 metal and 1 PHC fraction.	Stantec (2011) Figures 9A and 9B
	9	Mill Site 2 Dump	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F, PCBs and metals	Impacts not delineated	8 Test pits, 6 boreholes, 6 monitoring wells and 3 existing monitoring wells	Soil; 15 PHCs, 15 VOCs, 15 PAHs, 15 PCBs, 15 Metals, 15 Chlorophenols, 2 pH, grain size, 2 FOC and 1 PHC subfraction. Groundwater; 10 PHCs, 10 VOC, 10 PCBs, 10 PAH, 10 Chlorophenols 10 metals, 1 PHC sub fraction.	Stantec (2011) Figures 7A and 7B
	10	Former Transformer Rack		No impacts identified	no further work	no further work	N/A
	12	Sand Bay Rainy Lake Sampling (Benthic and Toxicity analysis and associated reporting are optional tasks)	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F and metals	Unknown	22 sediment sampling locations (each with a grab sample and a core sample taken at depth), 22 surface water sampling locations, 5 stations for bethic and toxicity.	Sediment; 44 PHCs, 44 VOCs, 44 PAHs, 44 Metals, 44 Chlorophenols and 20 PCDD/F, 6 grain size and 6 pH. Surface water; 22 PHCs, 22 VOCs, 22 PAHs, 22 Chlorophenols, 10 PCDD/F, 22 Metals, 22 methyl mercury and 22 TSS/TOC/DOC and field monitoring. (Benthic and toxicity 5 sample anayses are optional tasks not included in this workplan)	Stantec (2011) Figures 10A and 10B
3	14	Former Sawmill and Rail Spur	Metals	No soil impacts. Groundwater metals exceedences	3 existing monitoring 3 wells	Groundwater; 4 metals.	Stantec (2014) Figure 12
	N/A	Background Sampling	N/A	N/A	5 newly installed monitoring wells and 6 existing monitoring wells	Groundwater; 12 metals, 12 PAHs	N/A

Work Plan for Optional Tasks

Site	APEC	Source Description	COCs	Extent of Impacts	Recommended Sampling points	Recommended Chemical Analysis	Reference Figure
2	11	Chemical Pails - contents unknown (optional task)	N/A	Unknown	2 samples of contents of pail for product characterization prior to	Product; 2 PHCs, 2 VOCs, 2 PCBs, 2 metals	N/A
All	13	Area Wide Dioxin and Furan Sampling (Optional Task)	PCDD/F	Impacts not delineated	121 surface or near surface soil sample locations and 10 existing or newly installed monitoring wells including	Soil; 121 PCDD/F. Groundwater; 11 PCDD/F.	N/A
3	15	Borrow Source and Mill Site 3 Dump (Optional Task)	PHCs, VOCs, PAHs, PCDD/F and metals	Unknown	8 Test pits, 3 Borehole/monitoring wells	Soil; 12 PHCs, 1 subfraction, 12 VOCs, 13 PAH, 12 Metals, 2 grain size, 2 pH and 2 FOC. Groundwater; 4 PHC, 1 PHC subfraction, 4 PAH and 4 Metals.	Stantec (2011) Figure 12
2	12	Sand Bay Rainy Lake Benthic and Toxicity analysis and associated reporting	PHCs, VOCs, PAHs, Chlorophenols, PCDD/F and metals	Unknown	5 stations for benthic and toxicity.	Benthic and toxicity 5 samples (include cost for replicates. Benthic and toxicity analysis are optional tasks).	Stantec (2011) Figures 10A and 10B

Assume -

Average depth of borehole is 5 metres

Average depth of test pit is 2 metres

Average depth of water table is 2 metres

5 monitoring wells will be cored into bedrock from 2 to 6 metres

Solicitation No. - N° de l'invitation
EQ447-142718/A

Amd. No. - N° de la modif.
004

Buyer ID - Id de l'acheteur
tor016

Client Ref. No. - N° de réf. du client
EQ447-142718

File No. - N° du dossier
TOR-4-37047

CCC No./N° CCC - FMS No/ N° VME

APPENDIX C TO ANNEX A – SITE CLOSURE TOOL

(TO FOLLOW HEREIN – 30 PAGES)

Federal Contaminated Sites Site Closure Tool

Version 3.1, March, 2012

1. Purpose

Every year, hundreds of contaminated sites are assessed and remediated under the supervision of departments of the federal government. The ten-step process outlined in *A Federal Approach to Contaminated Sites* (FACS) provides guidance on the pathway from identification of suspect sites to long-term monitoring of sites that have been remediated or risk managed. In order to guide and demonstrate the successful closure of federal contaminated sites, this Site Closure Tool (SCT) has been developed.

The SCT is composed of the excel worksheets within this workbook, including a subset of worksheets that constitute the Tool for Risk Assessment Validation (TRAV). The FCSAP Secretariat strongly encourages the TRAV to be completed for all quantitative risk assessments completed on federal properties under FCSAP.

The SCT serves several purposes:

- it guides you through steps 6-10 of the ten-step FACS process to help standardize the process,
- it includes a tool to validate a risk assessment (TRAV), if it was required
- it evaluates whether your site can be considered closed or is still active depending on whether you meet minimum requirements
- it documents and summarizes the activities that were conducted to close the site for reporting purposes.

Structure

The TRAV worksheets are indicated by those worksheets starting with a roman numeral I through VIII. The TRAV is strongly encouraged to be completed for any detailed risk assessment that is being used to either close a site, or to develop site specific target levels in support of risk management measures.

Based on data provided by the user, the outcome of the tool is a description of the site status, and a determination of whether the site is closed or active, and if active, at what point in the closure process the site has reached. The closure evaluation process will indicate one of the following possible outcomes for your site.

2. Types of Closure

While there are variations of contaminated sites status under FCSAP, this tool distinguishes sites into four main categories. It attempts to highlight achievements of closing a site as defined by FCSAP, but it also communicates progress in managing risk at active sites where key risk management steps (e.g., remediation/risk management planning, construction of engineered works) have been achieved or are underway (long term monitoring).

Active, Additional Work Required: This category indicates that deficiencies were found with the environmental site assessment(s) or risk assessment through the Site Closure Tool (including the TRAV). For example, this may mean that additional characterization work is required or a risk assessment must be revised.

Active, Construction Complete: Sites falling into this category are ones at which the remedial measures described in a remediation/risk management plan are substantially implemented, but remedial objectives have not yet been achieved. This category describes the completion of the major capital expenditures at a site (e.g., installation of a barrier treatment wall, construction of land treatment facility or biocell, installation of an in situ ground water treatment system, construction of a water treatment plant). Active operations and maintenance, including performance monitoring, will be required. This is separate from long-term monitoring, which may be required later in the project life cycle.

Active, Remedial/Risk Management Objectives Achieved but Long-Term Monitoring Required or Underway:

Remediation or risk management measures have been implemented at the site and confirmed to be effective. Risks to human health and ecological receptors have been removed or mitigated; however, long-term monitoring is required to confirm that the measures continue to operate effectively. As a result, there is an environmental liability (for future monitoring costs) associated with the site. For example, a site where a landfill has been constructed to segregate impacted soils will require long-term monitoring on a regular schedule over a specific period.

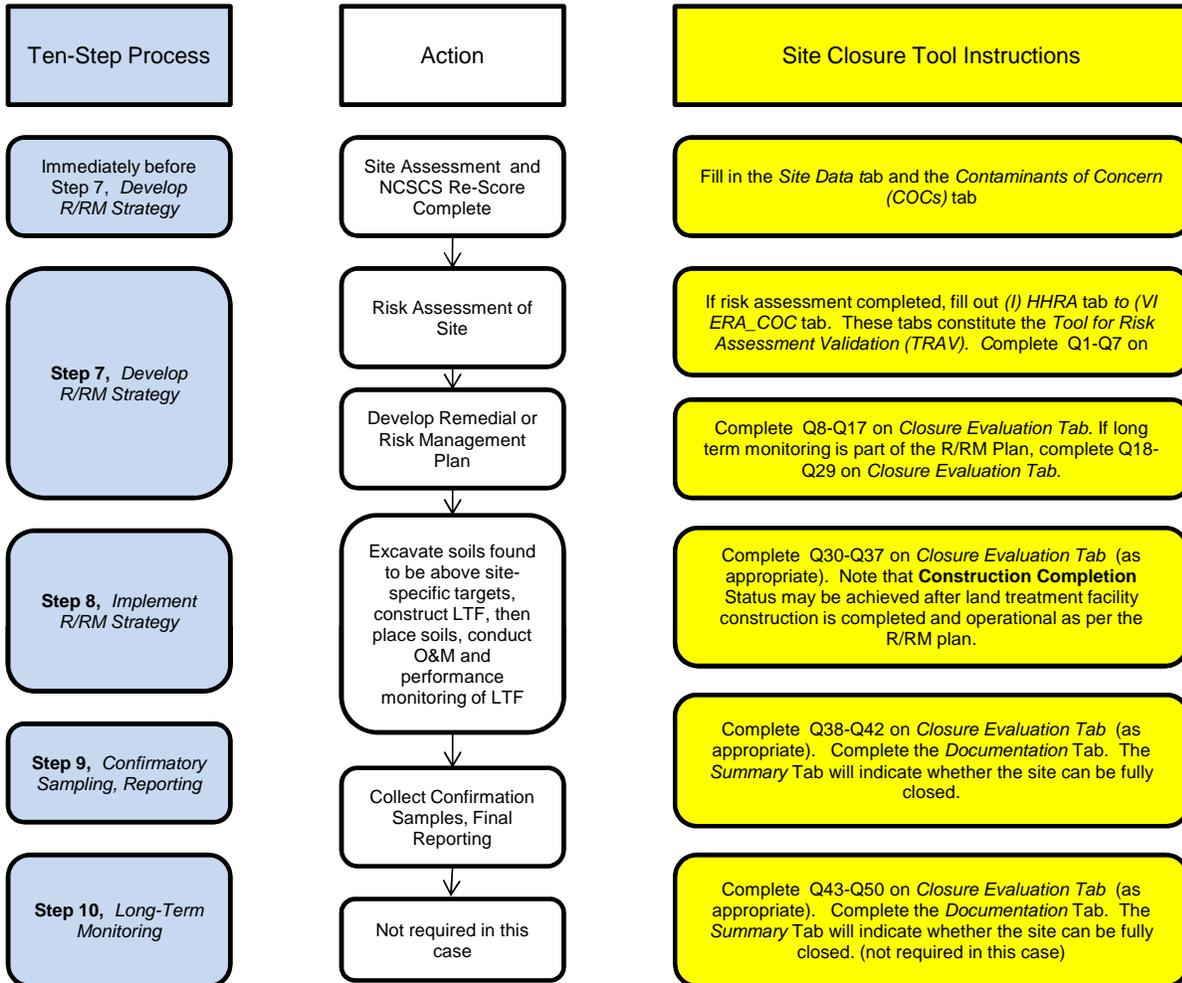
Closed: Remedial Objectives Achieved: All risks to human and ecological receptors at the site have been shown to be acceptable either by meeting generic guidelines, through risk assessment or by removing or mitigating any contamination that exceeded remedial objectives. There is no future environmental liability associated with the site, and long-term monitoring is not required.

3. Structure of Site Closure Tool

The Site Closure Tool should start to be completed after the completion of Step 6 (i.e., the re-classification of the site with the National Classification System for Contaminated Sites) and after the completion of detailed testing at the site. The tool is divided into five main sections, as follows:

<p>Closure Evaluation: completed for all sites, determines whether site can be closed following minimum requirements. The Closure Evaluation tab is a series of true/false questions laying out the minimum requirements for R/RM planning, implementation and site closure.</p>	<p>Site Data / Contaminants of Concern (COCs) Tabs: Regardless of whether remediation to generic standards or risk assessment/risk management were used, the User provides basic information about the site. The Site Data tab also provides a baseline evaluation of the Site Assessments.</p>	<p>Tool for Risk Assessment Validation (TRAV): If a risk assessment is part of the R/RM strategy, Worksheets III through VIII should be completed. TRAV validates the quality of the risk assessment to ensure findings are reliable and defensible.</p>	<p>(Site Status) Documentation: not mandatory (except for recording maximum contaminant concentrations versus remedial targets in Section 4). Recommended to be completed based on custodian requirements for closure reporting. Provides a closure narrative that can be used for future reference and as a communication tool.</p>	<p>SCT Summary: Collects the information provided in other tabs to provide an "at-a-glance" summary of site conditions at closure.</p>
---	--	---	---	---

An example of one potential pathway through the site closure tool is presented below. The example project is a site with petroleum hydrocarbon impacts in soil. A risk assessment is completed in an attempt to reduce the volume of soil excavation required. Some soil remains above risk-based site-specific target levels after the risk assessment. The impacted soil is removed to a land treatment facility (LTF) constructed on-site. After LTF construction is complete, performance monitoring is specified in the risk management plan to determine when the risk management objectives have been achieved. When performance monitoring indicates the objectives have been met, a round of confirmatory sampling is completed to demonstrate that all previously impacted soils remain below risk management targets, at which point no further risk exists and the site can be closed.



FCSAP SCT/TRAV SPREADSHEET					
Site Data Sheet					
Site Name:					
FCSI# :					
Completed By:					
Date Completed (dd/mm/yyyy):					
Question	Response	Rationale/Evidence (document any assumptions, reports, or site-specific information; provide references)	Guidance	Instructions	Flag
Site Data					
1. Sources of Contamination					
A	List main sources of contamination for this site - describe any additional sources in the rationale box:		Based on historical and current property use, areas of environmental concern identified in the Phase II ESA should be considered in the RA and/or remedial action planning. Also, consider that source areas could include off-site sources of contamination.		
	Source 1			Define Source 1	
	Source 2			Define Source 2 (if applicable)	
	Source 3			Define Source 3 (if applicable)	
	Source 4			Define Source 4 (if applicable)	
	Additional sources?				
B	For each source below please indicate if all typical contaminants were assessed in the Phase II ESA. Note that the list of typical contaminants is not exhaustive and professional judgement should be used to determine substances that should be assessed.				
	Source 1:				
	Were the typical contaminants listed above considered in the site assessment?				
	Source 2:				
	Were the typical contaminants listed above considered in the site assessment?				
	Source 3:				
	Were the typical contaminants listed above considered in the site assessment?				
	Source 4:				
	Were the typical contaminants listed above considered in the site assessment?				
	If Other Sources were listed				
	Were the typical contaminants listed above considered in the site assessment?				
2. Media with COCs					
A	Based on sources of contamination, measured concentrations and contaminant migration, indicate if there are known COCs in each of the media listed below. Provide rationale if COCs are not present in a given medium.				

FCSAP SCT/TRAV SPREADSHEET					
Site Data Sheet					
		Site Name:			
		FCSI#:			
		Completed By:			
		Date Completed (dd/mm/yyyy):			
Question	Response	Rationale/Evidence (document any assumptions, reports, or site-specific information; provide references)	Guidance	Instructions	Flag
Site Data					
i	Surface Soil (0 - 1.5 mbgs)			Response required.	
ii	Subsurface Soil (> 1.5 mbgs)			Response required.	
iii	Groundwater			Response required.	
iv	Surface Water (including seawater)			Response required.	
v	Sediment			Response required.	
vi	Outdoor Air			Response required.	
vii	Indoor Air			Response required.	
viii	Other Media 1				
ix	Other Media 2				
B	Have all potential contaminant release and transport mechanisms been described?			Response required.	
C	Have all potentially impacted media been sampled?			Response required.	
3. Additional Site Data Considerations					
A	Have areas of environmental concern been delineated horizontally and vertically?			Response required.	
B	Were sufficient samples collected from areas of environmental concern to reflect maximum concentrations?			Response required.	
C	Have QA/QC program elements been incorporated to ensure the validity of the data and scientific approach?			Response required.	

FCSAP SCT/TRAV SPREADSHEET					
Site Data Sheet					
		Site Name:			
		FCSI#:			
		Completed By:			
		Date Completed (dd/mm/yyyy):			
Question	Response	Rationale/Evidence (document any assumptions, reports, or site-specific information; provide references)	Guidance	Instructions	Flag
Site Data					
i	If the answer is No, does the lack of sufficient QA/QC measures compromise the results of the assessment?			Response required.	
D	Is the site assessment testing program described, including methodology used to collect samples, number of testing locations and analytical program?		CCME provides guidance on sampling design in CCME (1993) Guidance Manual on sampling, Analysis, and Data Management for Contaminated Sites. Volume I: Main Report. http://www.ccme.ca/ourwork/soil.html?category_id=68 There is also guidance on sampling and analysis plans in the FCSAP ERA Guidance document.	Response required.	
E	Was rationale provided for the selection of samples for analytical testing?			Response required.	
F	Are all sampling locations identified on site plans and in data tables?			Response required.	
4. Screening COCs (applicable to risk assessments (RA) only)					
A	Was a risk assessment conducted?			Response required.	
B	Were CCME guidelines used to screen COCs? If not, provide rationale.		CCME guidelines should be used appropriately (e.g., relevant land use). If guidelines other than CCME were used, justification should be provided.	Response required.	
C	Were maximum concentrations used in the screening process?		Maximum concentrations should be used for screening. The purpose of this screening step is to compile a conservative list of chemicals for further evaluation. If another approach was used, provide rationale and a reference.	Response required.	
D	Were chemicals whose detection limit was greater than the screening guidelines retained as COCs?		Chemicals whose detection limits exceed guideline values should be retained for further evaluation.	Response required.	
E	If chemicals were screened out because their concentrations fell within background levels, were background concentrations determined appropriately and used correctly?		Please refer to current guidance for methods related to establishing background or reference conditions (e.g., FCSAP ERA guidance).	Response required.	
F	Was consideration given to the following:				
i	Substances for which there are no guidelines?		These substances should be retained unless the rationale for their exclusion is recorded so that the decision process is understood, transparent, easily retraced, and verifiable. If exclusion cannot be rationalized during this step, the chemical is regarded as a COC and retained for further assessment.	Response required.	
ii	Persistent, bioaccumulative or biomagnifying substances?		See Reference Material for examples of bioaccumulative substances and degradation products. Appropriate food chain considerations should be incorporated into the risk assessment for these substances.	Response required.	
iii	Degradation products?		See Reference Material for examples of bioaccumulative substances and degradation products. Consideration should be given to degradation products when these are more toxic than their parent substances (e.g., tetrachloroethylene and its degradation products).	Response required.	

FCSAP SCT/TRAV SPREADSHEET

COC Sheet

Site Name: <fill in Site Name on Site Data Tab>
 FCSI# : <fill in FCSI# on Site Data Tab>
 Completed By: <fill in Completed By on Site Data Tab>
 Date Completed: <fill in Date Completed on Site Data Tab>

For each medium with contamination, list COCs. These are the COCs on the site at the time of the risk assessment and/or remedial action planning. There is enough space for 15 COCs. If the site has more than 15 COCs, consider listing the COCs that are the drivers of the risk assessment and remediation, if applicable. Additional COCs can be included in row 28 "others", which is for record keeping purposes only. For example, consider listing benzo(a)pyrene instead of all PAHs if there are more than 15 COCs, if benzo(a)pyrene is a driver for risk and remediation.

In each row of the table, enter the COC in column B. For each medium, indicate if the COC is present by selecting "y" or "n" from the drop down list. Alternatively, in this table a blank cell is equivalent to selecting "n" from the drop down list.

COCs and Media

COC #	COC	Surface Soil (0-1.5 mbgs)	Sub-surface Soil (>1.5 mbgs)	Groundwater	Surface Water	Sediment	Outdoor Air	Indoor Air
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
others								

Notes

Site Closure Tool Closure Evaluation Page

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

DFRP#: _____

Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

Question	Response (Yes / No)	Instructions	User Comments
Steps 1-6 Site Assessment and Step 7 Risk Assessment			
1 Complete the Site Data and COCs Worksheets. Were any major deficiencies noted?	Yes	Automatically scored based on Site Data worksheet. If Yes, there is a major deficiency identified in the Site Data worksheet that needs to be addressed. If No, proceed to next question.	
2 Based on the Phase II and III ESAs, did any of the COC concentrations exceed Tier 1 (generic) thresholds?		If Yes, proceed to next question. If No, SITE IS CLOSED. Complete sections 1 & 2 of Documentation worksheet to confirm.	
3 If following a risk management approach, was a risk assessment completed or is it in the process of being completed?		If Yes, proceed to next question. If No, proceed to Q8 and document risk management objectives in section 3.1 of Documentation worksheet.	
4 If you are still in Step 7 or 8 of the FACS it is recommended that you use TRAV to validate the risk assessment to ensure you are addressing all risks. Will you be using TRAV?		If Yes, Open TRAV and complete Sheets III to VIII. Proceed to Q5. If No, proceed to Q7.	
5 Based on the TRAV, were any major deficiencies in the risk assessment noted?	No	Automatically scored based on the results of the TRAV. If Yes, the risk assessment should be revised until it is acceptable based on TRAV (see bottom of (VI) Summary sheet for list of deficiencies) If No or N/A, proceed to next question.	
6 Did the TRAV validated risk assessment identify any...	N/A	Automatically scored based on TRAV. If No, the site does not present...	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

DFRP#: _____

Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

<p>unacceptable risks posed by the site?</p> <p>OR</p>		<p>any unacceptable risk based on assumptions used in risk assessment and site can be closed. Complete Documentation Tab to summarize findings.</p> <p>If yes, further work is required. Establish remediation or risk management objectives and proceed to sections below.</p> <p>If you did not use TRAV and you completed a risk assessment, answer the next question.</p>	
<p>7 If you didn't use TRAV, did a risk assessment identify any unacceptable risks posed by the site?</p>	<p style="background-color: #f4a460;">User-defined.</p>	<p>If no, the site does not present any unacceptable risk based on assumptions used in risk assessment and site can be closed. Complete Documentation Tab to summarize findings.</p> <p>If yes, further R/RM work is required. Establish remediation or risk management objectives, and document them in Documentation Tab section 3.1.</p>	
<p>Summary Evaluation: Do the ESAs and risk assessment meet minimum requirements?</p>	<p style="background-color: #f4a4a4; color: red; text-align: center;">Revisions Required Site Active</p>	<p>If "Revisions Required", revise the ESA and risk assessment until they are acceptable, and re-complete this section of the tool.</p> <p>If "Minimum Requirements Met, Site Closed", Complete sections 1,2 & 4 of Documentation Tab, as appropriate.</p> <p>If "Minimum Requirements Met, Site Active", proceed to the next section, describing remedial or risk management planning. Complete sections 1,2 & 4 of Documentation Tab, as appropriate.</p>	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

Step 7 Remediation / Risk Management Plan		
8	Does the R/RM Plan address all unacceptable risks as identified by a risk assessment or exceedances of CCME Tier 1 guidelines?	<input type="checkbox"/> If Yes, proceed to the next question. <input type="checkbox"/> If N/A, it is assumed R/RM Plan is not required. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
		RAP addresses all risks associated with the fuel spill
9	Are the R/RM objectives clearly stated for each AEC and/or source area.	<input type="checkbox"/> If Yes or N/A, complete s. 3.1 of Documentation Tab and proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
		Objective for the AEC was to excavate PHC impacted soils and
10	Have all regulatory requirements been identified (e.g. permitting) and included in the R/RM plan?	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
11	Does the plan identify aesthetic objectives (e.g., removal of scattered surface debris) and safety-based objectives (e.g., elimination of potential trip hazards or danger related to slope stability)?	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
12	Have other site-specific objectives identified in a risk assessment or other ESAs been included in the R/RM plan? (e.g., prevention of off-site migration, community concerns)	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
13	Are all AECs as confirmed by Environmental Site Assessments addressed by the R/RM Plan?	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.
14	Does the R/RM Plan include areal extent of impact, depth interval and volumes of impacts for each AEC and for each medium?	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

15	Are all AECs and COCs identified on a site plan?	<input type="checkbox"/> If Yes or N/A, proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.	
16	Was a remedial options analysis completed and documented with the preferred option identified?	<input type="checkbox"/> If Yes or N/A, complete s. 3.2 of Documentation Tab and proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.	
17	Is the description of the recommended option sufficiently detailed in the R/RM plan? (e.g., system components, disposal routes, facilities, overview of operational procedures, monitoring requirements, timeline for implementation, potential changes in site use, regulatory requirements, performance metrics, long-term monitoring requirements, responsibilities, communication plan, contingency measures)	<input type="checkbox"/> If Yes or N/A, complete s. 3.3, 3.4, 3.5, 3.6 of Documentation Tab. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan.	
Summary Evaluation: Does the R/RM Plan meet minimum requirements as indicated by answering yes to the above questions?		<input checked="" type="checkbox"/> Minimum Requirements Met	If Minimum Requirements Met, proceed to the next section, describing remedial or risk management activities. If Revisions Required, revise the R/RM plan until it is acceptable, and re-complete this section of the tool. Information regarding the R/RM plan should be included in Section 3 of the Documentation section.
Step 7 Long Term Monitoring (LTM) Plan			
18	Does the R/RM Plan require LTM as part of the strategy?	<input type="checkbox"/> If Yes, proceed to the next question. <input type="checkbox"/> If No or N/A, LTM is not required. Proceed to next section (Q30).	
19	Is there a LTM plan included in the R/RM Plan?	<input type="checkbox"/> If Yes, summarize the plan in section 6.1 of Documentation tab. Proceed to next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the R/RM plan to include a LTM plan.	
20	Does the LTM plan identify the location and nature of residual contaminants and physical hazards to be risk managed?	<input type="checkbox"/> If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. <input type="checkbox"/> If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 3.1.	
21	Does the LTM plan identify the key organizations or groups	<input type="checkbox"/> If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

		<p>involved in LTM activities for the site, including descriptions of their roles and responsibilities.</p> <p>the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 4.0.</p>	
<p>22 Does the LTM plan describe each engineered control that is being implemented, how it is being implemented and maintained as part of LTM?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 5.1.</p>	
<p>23 If monitoring site media, does the LTM plan specify the media to be monitored along with the frequency, methodology, objectives, reporting requirements, and contingency measures in the event of non-compliance and quality assurance processes?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 5.0.</p>	
<p>24 Are trigger criteria identified that would require implementation of contingencies and are contingency actions specified in the LTM plan?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 5.2.</p>	
<p>25 If institutional controls are being implemented, is there a description of how they are being implemented and maintained?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 5.3.</p>	
<p>26 Does the LTM plan identify all of the LTM activities that are specifically required by regulation, orders, directives, policies, permits, licenses or other third party enforceable agreements and the enforcement mechanisms.</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 6.0.</p>	
<p>27 Does the LTM plan identify any existing or required</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to</p>	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

<p>agreements with third parties (e.g., land use or access agreements)?</p>		<p>the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 6.0.</p>	
<p>28 Are anticipated costs of the LTM activities provided, including assumptions used to develop the cost estimates, as well as assumptions for determining when sites or portions of a site will start and stop LTM activities? Is there a description of how the LTM activities will be funded?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 7.1.</p>	
<p>29 Does the LTM plan identify the purpose, methods and means by which information will be preserved, stored, maintained, and accessed?</p>		<p>If Yes, summarize this in section 6.1 of Documentation Tab. Proceed to the next question. If No, site cannot be closed and further work must be completed on the LTM plan. Refer to the FCSAP Long Term Monitoring Guidance document Appendix A, Section 8.0.</p>	
<p>Summary Evaluation: Does the LTM Plan meet minimum requirements?</p>	<p>Not Required</p>	<p>If Minimum Requirements Met, proceed to the next section. Information regarding the LTM plan must be included in Section 3 of the Documentation section as appropriate. If Revisions Required, revise the LTM plan until it is acceptable, and re-complete this section of the tool.</p>	
<p>Approval & Sign Off of R/RM Plan</p>			
<p>30 Was the R/RM Plan signed, by a P.Eng. or P.Geo. or other</p>		<p>If Yes, proceed to the next question.</p>	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

DFRP#: _____

Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

<p>qualified professional? A "qualified professional" for the purposes of this question, is defined as: (a) the person holds a bachelor's degree in science, engineering or applied technology from a post-secondary institution; and (b) the person has experience in the conduct or supervision of remedial/risk management plans, as follows: (i) if the person holds a doctoral degree in science or engineering from a university, five years' experience, (ii) if the person holds a master's degree in science or engineering from a university, seven years' experience, (iii) in any other case, eight years' experience.</p>		<p>If No, R/RM plan should be reviewed and signed by a qualified professional.</p>
<p>Summary Evaluation: Was the R/RM Plan (and LTM if applicable) signed, by a P.Eng. or P.Geo. or other qualified professional?</p>	<p>Revisions Required</p>	<p>If Minimum Requirements Met, proceed to the next question. If Revisions Required, R/RM plan should be reviewed and signed by a qualified professional.</p>
<p>Step 8 Construction Completion Note: This section applies to sites where there has been completion of major capital expenditures (e.g., installation of a barrier treatment wall, construction of land treatment facility or biocell, installation of an in situ ground water treatment system, construction of a water treatment plant, etc.) but where there will be lag time of more than a year between construction completion and achievement of remedial objectives. This applies to sites requiring active operations and maintenance, including performance monitoring. This is also applies to constructed engineered controls as part of a risk management strategy, and which may or may not require long-term monitoring.</p>		
<p>31 Does the remedial or risk management approach include constructed or installed works that will require operation and maintenance and/or long term monitoring?</p>		<p>If No, this section does not need to be completed. If Yes, inspect constructed works according to requirements (e.g., inspection check list) set out in R/RM Plan and summarized in s. 3.5 of Documentation Tab</p>
<p>32 Is the physical construction of the remedy complete? (e.g., construction of treatment plant, pumps, extractions wells, containment structure)</p>		<p>If Yes, proceed to the next question. If No, construction is not complete and further work is required.</p>
<p>33 Have the constructed works / installed system been inspected and inspection results documented, including as-built drawings?</p>		<p>If Yes, summarize inspection activities in s. 3.5 of Documentation tab. If No, the constructed works / installed system must be inspected. Construction completion classification cannot be assigned without inspection.</p>
<p>34 Was the inspection completed without noting major deficiencies?</p>		<p>If Yes, proceed to the next question. If no, construction is not complete and further work is required.</p>
<p>35 Do constructed / installed works meet R/RM plan</p>		<p>If Yes, proceed to the next question. If no, construction is not complete</p>

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

FCSI#: <fill in FCSI# on Site Data Tab>

DFRP#: _____

Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

	specifications?		and further work is required.	
36	Is the remedy operational (e.g., is the treatment system removing/reducing contaminant concentration levels, is barrier system preventing contaminated groundwater migration, has the cap eliminated pathways to receptors) in accordance with the R/RM plan?		If Yes, proceed to the next question. If no, construction is not complete and further work is required.	
37	Are any expected future adjustments likely to be minimal in nature? (e.g., well replacement)		If Yes, proceed to next question. If No, substantial work is expected (e.g., installation of additional extraction network or treatment components). The site does not qualify for construction completion classification.	
Summary Evaluation: Does the site meet minimum Construction Completion requirements as indicated by answering yes to the above questions.		Minimum Requirements Met	If Not Required, proceed to next section. If Minimum Requirements Met, complete Section 3.5 of the Documentation worksheet and proceed to the next section. This will demonstrate that while the site is not closed, there has been major progress towards achieving remedial objectives. If No, correct deficiencies and re-score.	
Step 8 Operations and Maintenance				
38	Is/was operations and maintenance (O&M) required for R/RM measures at the site? (e.g., treatment plants, pumping systems, injection programs, performance monitoring of installed systems, tilling and fertilizing land treatment facilities)		If Yes, this section must be completed. Summarize O&M requirements in s.3.6 of Documentation Tab. If No, proceed to next section.	
39	Are maximum concentrations in all media less than established R/RM objectives or have termination criteria otherwise been met? (e.g., duration)		If Yes, proceed to the next question. If No, further system operation or other changes are required to meet objectives.	
40	Have required O&M activities been completed according to the schedule outlined in the R/RM plan?		If Yes, proceed to the next question. If No, further system operation or other changes are required.	
41	Have all O&M activities been documented?		If Yes, summarize this in s. 3.6 of Documentation Tab. If No, complete documentation to achieve construction completion.	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

<p>Summary Evaluation: Does the site meet minimum O&M requirements as indicated by answering yes to the above questions.</p>	<p>Not Required</p>	<p>If Not Required or Minimum Requirements Met, complete Section 3.7 of the Documentation worksheet, as appropriate, and proceed to the next section.</p> <p>If Minimum Requirements Not Met, correct deficiencies and re-score.</p>	
<p>Step 9, Confirmatory Sampling and Final Report</p>			
<p>42 Complete Section 4.1 of Documentation. Are maximum concentrations in all media below or meet numeric clean up targets (Tier 1 or SSTLs) identified in the R/RM plan?</p>	<p>Yes</p>	<p>Automatically completed from Documentation Tab. If Yes, site can be closed. Remaining sections do not require completion.</p> <p>If No, more work is required and site cannot be closed. Proceed to Q43.</p>	
<p>Summary Evaluation: Does the site meet minimum requirements for closure as indicated by answering yes to the above question.</p>	<p>Minimum Requirements Met</p>	<p>If Minimum Requirements Met, sites is closed. Ensure sections 1, 2, 3, and 4 of the Documentation Tab are completed, as appropriate. Completing Sections 5, 7, 8 and 9 is also recommended. Skip remaining sections.</p> <p>If Minimum Requirements Not Met, site is active. Additional work is required.</p>	
<p>Step 10 Long-Term Monitoring to Support Risk Management (Do Not Complete if Answer to Question 42 is Yes)</p>			
<p>43 Are risk management (RM) measures in place to address all risks resulting from exceedances or is LTM required to confirm risk assessment assumptions?</p>		<p>If N/A, LTM is not required.</p> <p>If Yes, summarize RM measures in s.4.2 Documentation Tab. Proceed to next question.</p> <p>If No, RM must be implemented to address risks.</p>	
<p>44 Based on Section 4.2 of Documentation Tab comparing implemented RM measures vs. planned RM measures, do all risk management measures implemented comply with goals of risk assessment recommendation?</p>		<p>If Yes, Proceed to next question.</p> <p>If No, further work is required to fulfill actions recommended by the R/RM plan.</p>	
<p>45 From Section 4.2 of Documentation, is long-term monitoring required as part of the risk management plan?</p>		<p>If Yes, proceed to next question.</p> <p>If No or N/A, site should be closed on condition remedial targets have been met.</p>	
<p>46 Are LTM requirements documented (i.e., LTM measures, objectives, description of measures, frequency & duration, responsibilities, etc.)?</p>		<p>If Yes, complete Section 6.1 of Documentation Tab. Proceed to next question.</p> <p>If No, document LTM requirements.</p>	

**Federal Contaminated Sites Action Plan Site Closure Tool (2012)
Site Closure Evaluation Questionnaire**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>

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Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>

Completed By: <fill in Completed By on Site Data Tab>

47	Have you identified applicable LTM planning documents and LTM progress reports?	<input type="checkbox"/>	If Yes, complete Sections 6.2 and 6.3 of Documentation document	
48	Are all risk management measures operating as intended (as specified in R/RM plan)?	<input type="checkbox"/>	If Yes, Log LTM results in Section 6.3 of Documentation worksheet and proceed to the next question. If No, further work on the remedy will be required.	
49	Is the LTM plan being reviewed and updated as required at least annually to reflect new information obtained?	<input type="checkbox"/>	If Yes, indicate updates to LTM in Section 6.2 of Documentation Tab. If No, review and update LTM as required, and update Section 6.2 of Documentation Tab.	
Summary Evaluation: Does the site meet minimum requirements for risk managed closure as indicated by answering yes to the above questions.		Not Required	If not required, the site is closed. If minimum requirements met, RM measures are working as planned If the minimum requirements are not met, continue LTM activities. Update the Section 6.0 of the Documentation worksheet as required.	
Risk Managed to Site Closure (Do Not Complete if Answer to Question 42 is Yes)				
50	Have the LTM termination criteria been met?	<input type="checkbox"/>	If Yes, complete s. 4.2 of Documentation Tab. Site is closed.	
			If No, site is active. Continue LTM activities.	
Summary Evaluation: Does the site meet minimum requirements for closure as indicated by answering yes to the above questions.		Not Required	If Yes, complete the remaining portions of the Documentation worksheet as required. If No, continue LTM activities until termination criteria are met.	

Site Closure Tool Documentation Page

**FCSAP Site Closure Tool (2012)
Site Closure Documentation**

Site Name (per IDEA): <fill in Site Name on Site Data Tab>
 FCSI#: <fill in FCSI# on Site Data Tab>
 FCSAP SCT/TRAV Spreadsheet DFRP#:

0

12/09/2014

Date (MM/DD/YY) <fill in Date Completed on Site Data Tab>
 Completed By: <fill in Completed By on Site Data Tab>

1. Introduction

1.1 Type of Report

What type of report are you producing?			Specify whether this report is an Construction Completion Report, Remedial/Risk Management Status Report, or a Final Site Closure Report.
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1.2 FCSAP Funding

Was this ever a FCSAP-funded site?			
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1.3 Contiguous Sites

List contiguous sites			It is possible that multiple sites (as defined by distinct FCSI numbers) were addressed under a remediation/risk management project. In this section, list contiguous sites that have been remediated/risk managed under the same project as the subject site.
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2. Background

2.1 List of Documents

List all documents that have been prepared for the site and where they are archived.

FACS Step(s)	Doc. #	Report Title	Author	Date (mm/dd/yy)	Archive Location
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				

2.2 Quality Control Record

Was previous work completed properly? Document QA/QC.

12/09/2014

Type of Document	Doc #	Recommended Quality Control Tool FCSAP SCT/TRAV Spreadsheet	Acceptable?	Date QC Completed Date (mm/dd/yy)	QC Reviewer (Initials)
Step 2: Phase I ESA					
Step 3&5: Phase II/III ESAs					
Step 7: Tier 2 or Tier 3 Risk Assessment					
Step 7: Remedial Action Plan/Risk Management					
Step 8: Implement RAP/RMP					
Step 9: Confirmatory Sampling and Final					
Step 10: Long-term Monitoring					
Care & Maintenance					

2.3 Site Identification:

Complete the following table. If desired by department, attach a site layout plan as well as a plan showing pre- and post remediation conditions.

FCSI No. of Contaminated Site	<fill in FCSI# on Site Data Tab>
DFRP Number	
Exact Site Name as listed in IDEA	<fill in Site Name on Site Data Tab>
Site Address (street address, municipality, province/territory)	
Reporting Organization	
Legal description:	
Approximate Site area	
Centre of site coordinates (in lat/long or UTM)	

2.4 Summary of Human Health and Environmental Concerns

12/09/2014

Summary of past activities at site	
Current activities and proposed development plan for site	FCSAP SCT/TRAV Spreadsheet
Areas of Environmental Concern (AECs)	
Sources of contamination (refer to Site Data Tab)	
Affected media and Contaminants of Concern (COC) (refer to COC Tab)	
Main human health related driver(s) for remediation/risk management measures at the Site (refer to TRAV if completed)	
Main ecological related driver(s) for remediation/risk management measures at the Site (refer to TRAV if completed)	
Is there consideration of an aquatic environment or aquatic receptors? (refer to TRAV if completed)	
Approach to establishing remedial objectives: generic or site-specific?	
Is Site impacted by another site (i.e., off-site contamination sources)?	
Were physical risks identified in the R/RM Plan?	
Other (specify)	

2.6 NCSCS Scores

The ten-step process requires the site to be scored both before and after the detailed testing program. Please indicate the scores below. Indicate scores for each site.

Step	Score
Step 4: Classify contaminated site using the CCME National Classification System	
Step 6: Reclassify the site using CCME National Classification System	

2.7 Other Classification Scores

If any other classification systems (e.g., Aquatic Site Classification System, Soil Quality Index, Sediment Quality Index, etc.) have been used to evaluate the site at any point, please indicate the scores

Classification System	Score

3. Summary of Remedial Activities

3.1 Remedial Objectives

In previous reports, the contaminated site remediation and/or risk management objectives will have been defined. A brief summary should be provided that describes those objectives.

If the remedial objectives are numeric, complete section 4.1 below.

If there are multiple areas of concern, provide a summary for each AEC. AECs can be grouped where the same objectives applied and remedial actions were implemented.

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3.2 Selection of Remedial Option

<p>Provide a brief discussion on the rationale for selecting the R/RM option(s) among the others considered and the overall success of the implemented remedial measures. This should focus on particular site issues and not on broader technologies, which would more properly be captured in a lessons-learned tool. Indicate which reports provide further details.</p>	<p style="text-align: center;">FCSAP SCT/TRAV Spreadsheet</p> <p>PHC impacts to surface soil apparent. Limited quantity (<1000 L) of heating oil leaked on to ground surface. Ex situ remediation selected as best remedial option. Extents of impacts delineated in Ph III ESA, refer to Ph III ESA for further details</p>
<p>3.3 Description of Remedial / Risk Management Approach</p>	
<p>Briefly describe the remedial / risk management option implemented. This should include mobilization and site preparation, construction of any containment or treatment system, associated site work such as fencing and surface water collection and control, system operation and monitoring, and sampling activities</p>	
<p>Describe any significant changes to originally selected and approved RAP/RMP. Significant changes include implementing a new remedial action, adding a new treatment option, removing newly identified pockets of contamination, compromised remedial actions due to weather.</p>	
<p>Describe any shortcomings and limitations with technologies selected. Describe any new potential exposure pathways that were generated through remedial activities, e.g. dust generation during contaminated soil excavation activities, and how these were mitigated.</p>	

3.4 CEAA Requirements

Was an Environmental Assessment (EA) screening (whether under the <i>Canadian Environmental Assessment Act</i> or any other act or regulation) completed for the Site prior to R/RM construction activities? Describe EA requirements and how they were met or mitigated.	FCSAP SCT/TRAV Spreadsheet
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12/09/2014

3.5 Construction Completion Inspector

Is/was an inspection of the constructed remedial works required/performed?			
Which organization is/was responsible for inspection?			
Describe commissioning and construction completion acceptance activities			
List the reports describing construction completion inspection (drop down menu: all reports should already be listed in s. 2.1)	Report		

3.6 Operation and Maintenance (O&M) of Treatment Systems

Is/was O&M of remedial works required at the site?			
Status of O&M Activities			Indicate whether O&M is in a) planning phase (not yet started), b) active phase (underway) or c) has been completed.
Completion date (mm/dd/yy)	Planned	N/A	Expected N/A Actual N/A
Which organization is / was responsible for O&M of remedial works at the Site?	N/A		

List the documents describing the O&M requirements and/or activities (drop-down menu: all reports should already be listed in s. 2.1)	Report			

	Activity	Duration	Frequency	Termination Criteria
Summarize the activities required by O&M, and their duration, frequency and termination criteria	N/A	N/A	N/A	N/A

4. Meeting Remedial Objectives

4.1 Assessment of Final Site Clean-up vs. Guidelines or Site-specific Targets

	For each medium with known or potential contamination, list COCs, remedial objectives and results.
	Remedial Objectives (i.e., Tier 1 Guidelines or SSTLs developed in a Risk Assessment). Enter all values in units as indicated. Note: If risk assessment demonstrates no unacceptable risks and SSTLs were not developed, report exposure concentrations as used in risk calculations

COC #	COC (auto-populated from COC Tab)	Surface Soil µg/g	Sub- surface Soil µg/g	Ground- water µg/L	Surface Water µg/L	Sediment µg/g	Outdoor Air µg/m ³	Indoor Air µg/m ³
1		NA	NA	NA	NA	NA	NA	NA
2		NA	NA	NA	NA	NA	NA	NA
3		NA	NA	NA	NA	NA	NA	NA
4		NA	NA	NA	NA	NA	NA	NA
5		NA	NA	NA	NA	NA	NA	NA
6		NA	NA	NA	NA	NA	NA	NA
7		NA	NA	NA	NA	NA	NA	NA
8		NA	NA	NA	NA	NA	NA	NA
9		NA	NA	NA	NA	NA	NA	NA
10		NA	NA	NA	NA	NA	NA	NA
11		NA	NA	NA	NA	NA	NA	NA
12		NA	NA	NA	NA	NA	NA	NA
13		NA	NA	NA	NA	NA	NA	NA
14		NA	NA	NA	NA	NA	NA	NA
15		NA	NA	NA	NA	NA	NA	NA

Final Site Concentrations: enter values where indicated by white blanks, with units as indicated. Check the applicable exposure concentration box.

<input checked="" type="checkbox"/>	<u>Maximum concentrations</u> : If meeting Tier 1 (generic) thresholds or if SSTLs were based on risk assessment using maximum concentrations, report maximum concentrations
<input type="checkbox"/>	<u>Statistical estimator</u> : If SSTLs reported above are in terms of upper confidence limits (e.g., 95% UCL on mean) or percentiles, report COC concentrations in same terms, i.e., as UCLs or percentiles, not maximums.
<input type="checkbox"/>	<u>Exposure concentrations with acceptable risk</u> : If risk assessment demonstrates no unacceptable risks and SSTLs were not developed, report exposure concentrations as used in risk calculations (i.e., maximum concentrations or 95% UCLM or other statistical measure used in risk assessment)

COC #	COC (auto-populated from COC Tab)	Surface Soil µg/g	Sub- surface Soil µg/g	Ground- water µg/L	Surface Water µg/L	Sediment µg/g	Outdoor Air µg/m ³	Indoor Air µg/m ³
1		NA	NA	NA	NA	NA	NA	NA
2		NA	NA	NA	NA	NA	NA	NA
3		NA	NA	NA	NA	NA	NA	NA
4		NA	NA	NA	NA	NA	NA	NA
5		NA	NA	NA	NA	NA	NA	NA
6		NA	NA	NA	NA	NA	NA	NA
7		NA	NA	NA	NA	NA	NA	NA
8		NA	NA	NA	NA	NA	NA	NA
9		NA	NA	NA	NA	NA	NA	NA
10		NA	NA	NA	NA	NA	NA	NA
11		NA	NA	NA	NA	NA	NA	NA
12		NA	NA	NA	NA	NA	NA	NA
13		NA	NA	NA	NA	NA	NA	NA
14		NA	NA	NA	NA	NA	NA	NA
15		NA	NA	NA	NA	NA	NA	NA

Closure Evaluation: Are all contaminants of concern below Tier 1 Guidelines or SSTLs developed in a risk assessment?

Surface Soil	Sub- surface Soil	Ground-water	Surface Water	Sediment	Outdoor Air	Indoor Air
All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)	All COCs meet Guidelines / SSTLs with 0 error(s)
Acceptable Conditions for Site Closure						

FCSAP Reporting Summary

Provide a summary of FCSAP reporting here	Submission Fiscal Year	Status in 10-Step Process	Total Expenditures (\$1000s)	Estimated Liability at end of FY
			FCSAP SCT/TRAV Spreadsheet	

12/09/2014

5.3 Cost Variances

This section is meant to capture basic information about estimated versus actual costs	Cost Item	Costs (\$thousands)	Source of Information
	a) Planned: Remedial Action Plan estimate of capital costs, including excavation and disposal		
	b) Planned O&M: Remedial Action Plan estimate of annual O&M and/or LTM costs, where applicable		
	c) Actual: Total remedial action construction costs (i.e., capital costs) at time of Site Closure or Construction Completion report		
	d) Actual O&M: Annual O&M and/or LTM costs		

FCSAP SCT/TRAV Spreadsheet

Site Closure Tool Summary Page						
Reporting Date (MM/DD/YY)	<fill in Date Completed on Site Data Tab>					
Site Name	<fill in Site Name on Site Data Tab>					
Property Identification	FCSI No.	<fill in FCSI# on \$	DFRP #	0		
Acceptable Property Use(s)						
Land Use Assumptions / Restrictions						
Applicable Standards						
Site Status	Steps 1-6 ESA & Step 7 Validated Risk Assessment Complete	Step 7 R/RM Plan Complete	Step 8 Construction of R/RM Measures Completed	Step 8 Remedial Action & Step 9 R/RM Objectives Achieved	Step 10 Long Term Monitoring (LTM)	Status
	Not Achieved	Not Achieved	Construction Not Complete	Not Achieved	LTM Required	Active
Final Site Conditions						
Surface Soil						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Subsurface Soil						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Groundwater						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Surface Water						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Sediment						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Outdoor Air						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					
Indoor Air						
Contaminants of Concern						
Are concentrations below Tier 1 or Site-Specific Target Levels?	All COCs meet Guidelines / SSTLs with 0 error(s). Acceptable Conditions for Site Closure					

