

July 21, 2014

North Carolina Department of Environment & Natural Resources
Division of Waste Management
Superfund Section - Inactive Hazardous Sites Branch
Pre-Regulatory Landfill Unit
1646 Mail Service Center
Raleigh, NC 27699-1646

Attention: Mr. Zi-Qiang Chen

Subject: **Task Order 198DP-4 Cost Proposal**
Above-Ground Vapor Survey and Surface Water and Sediment Sample Analysis
Site ID: NONCD0000198 – Otway Community Refuse Dump
Otway, Carteret County, NC
W&R Project: 02100001.21

Dear Chen:

Withers & Ravenel, Inc. (W&R) appreciates the opportunity to submit this **Cost Proposal** in response to your *Request for Work Plan & Cost Proposal for Task Order 198DP-4* (RFP) received from your office on July 8, 2014. This proposal is presented in general accordance with the current edition of the Inactive Hazardous Sites Program's ***Guidelines for Addressing Pre-Regulatory Landfills & Dumps*** (the *Guidelines*) dated December 2013. As presented below, we have proposed our services in the subtask format used in the referenced RFP.

TASK ORDER 198DP-4: ABOVE-GROUND VAPOR SURVEY and MEDIA SAMPLING

SUBTASK 198DP-4A: WORK PLAN DEVELOPMENT

W&R has prepared a Work Plan that outlines proposed investigation activities for this project. As presented in the RFP, “...*the goal of this set of work is to conduct an above-ground landfill gas survey, and sample and analyze surface water and sediments around the waste disposal site.*” As part of the Work Plan, a site-specific *Health & Safety Plan* will be prepared and/or updated.

The following activities will be performed as part of the investigation activities requested by the Unit in according with the revised (2013) *Guidelines*, following the standard field protocols listed in the Withers & Ravenel *Field Protocols & Standard Operating Procedures (SOP) Manual* dated June 2010. All W&R staff and subcontractors used for intrusive field activities within or adjacent to the waste disposal areas will have proper training to comply with OSHA 1910.120 requirements for work on hazardous waste sites.

W&R will follow IHSB's ***Guidelines for Addressing Pre-Regulatory Landfills & Dumps*** (the *Guidelines*) dated December 2013 during performance of the tasks listed below.

SUBTASK 198DP-4B: ABOVE-GROUND VAPOR SURVEY

W&R will prepare a grid layout map using 100-foot spacing (as recommended in the *Guidelines*) and record measurements of compounds listed below at each grid point intersection (node). W&R will use the following instrumentation to perform the requested above-ground vapor survey:

- GEM 2000+ Landfill Gas Meter: Methane, hydrogen sulfide, and Volatile organic compounds (VOCs)
- Jerome 431-X Mercury Vapor Analyzer: Mercury

In accordance with the *Guidelines*, weather forecasts will be obtained for the week of the proposed vapor survey. Those forecasts will be used to select a date for performing the survey such that the measurements are not conducted on a rainy day or an exceedingly windy day. The survey will also not be conducted during a period of rising barometric pressure. Barometric pressure, humidity and temperature will be recorded at least hourly during the event; more often if conditions appear to be changing.

Above-ground vapor measurements will be recorded at each node at a height of approximately six inches above the top of ground at that location. In addition, ten upwind (background) vapor measurements will be recorded at the site. Upon arriving at each node, the reading should be collected over a period of 60 seconds to allow proper instrument response time. The corresponding values will be logged in the field notebook with the grid node number, the value of each required parameter listed above, and the date and time of the reading. All points with detectable contaminant concentrations will be flagged. At the conclusion of each reading, the node location will be recorded using hand-held global positioning system (GPS) techniques. The node location will be recorded in the State Plane Coordinate System using North American Datum of 1983 (NAD83) format in decimal degrees to the *seventh* order. For the purposes of this proposal, we have estimated approximately 15 minutes (portal-to-portal) at each node.

SUBTASK 198DP-4C: SAMPLING AND ANALYSIS OF SURFACE WATER AND SEDIMENTS

W&R personnel will mobilize to the *two* locations designated on the **Figure** included in the referenced RFP and collect surface water and sediment samples. Surface water samples will be collected prior to sediment sample collection to prevent the possibility of additional suspended solids being collected in the surface water sample. The surface water and sediment samples designated SW-1/SD-1 will be collected from the pond located just east of the northeastern edge of the waste disposal area, as designated. Surface water and sediment samples SW-2/SD-2 will also be collected from the pond approximately at the location designated on the **Figure**. Surface water and sediment samples will be submitted to a State of North Carolina-certified analytical laboratory and analyzed for the following:

- VOCs via EPA Test Method 8260B
- 1,4-Dioxane via EPA Test Method 8260SIM
- Semivolatile organic compounds (SVOCs) via EPA Test Method 8270C
- 14 Metals via EPA Test Method 6020
- Mercury via EPA Test Method 7471
- Ammonia via SM4500
- Nitrate via EPA Test Method 300
- Sulfate via EPA Test Method 300

For the purposes of this proposal, we estimate analyzing *two surface water samples plus one blind medium duplicate, and two sediment samples plus one blind medium duplicate*, which totals *six* samples.

Photographs will be recorded prior to, during, and at the end of the site work. Once they return to the office W&R personnel will submit the un-captioned photographs to you for your review and comment, if any.

PROJECT MANAGEMENT

W&R has estimated the amount of time our project, staff, and technical level personnel will expend in communication with the Unit, our staff and subcontractors for the proposed scope of work.

SCHEDULE

Based upon our review of the requested tasks, we anticipate the field work portion of the project will be performed in the following timeframe:

Time frame	Task	Staff	Technician
Day 1	198DP-4B 198DP-4C	1	1
	Total	1	1

We understand that the Unit will issue a letter authorizing implementation of this work. W&R personnel will initiate the proposed services within two weeks of written authorization. Allowing for standard 10-day turnaround time (TAT) for sample analysis, we estimate that we can finish the proposed Scope of Services within four weeks of initiation.

SUBTASK 198DP-4D: REPORT COMPILATION

W&R will prepare a “*Remedial Investigation Report: Above-Ground Vapor Survey, Sampling and Analysis of Surface Water and Sediments*” authored by the staff level personnel who performed, and were in charge of, the field activities. The report will contain the following:

- A brief **Summary** that details the activities and results associated with the tasks requested and performed in Task Order 198DP-4 above;
- A section containing **Variations** from the Work Plan or W&R’s referenced SOP;
- A CAD-generated **Site Map** that illustrates the 100-foot grid plan and node nomenclature;
- A table presenting **Above-Ground Vapor Survey Results** at each node location;
- A table presenting **Surface Water and Sediment Sample Results**;
- Copies of all **Field Notes**; and
- A **Photographic Record** of photographs recorded prior to, during, and after field activities.

SUMMARY

Withers & Ravenel appreciates the opportunity to work with Unit personnel on this project. We have prepared a cost proposal spreadsheet (attached) to outline the estimated labor and expenses associated with performance of the work requested by your office.

Please contact us at mbrown@withersravenel.com or at **919.469.3340** if you have comments, questions, or requests for additional information with regards to our submittal.

Sincerely,

WITHERS & RAVENEL, INC.



Mark Brown, LG, PG, RSM
Senior Geologist
Project Manager

SMB/smb

Attachment(s)

Subtask 198DP-4A: Work Plan, Cost Proposal and Project Management

Labor

Project	\$100 /hr	x	4 hrs =	\$	400.00
Staff	\$85 /hr	x	8 hrs =	\$	680.00
CAD	\$65 /hr	x	2 hrs =	\$	130.00
Admin	\$49 /hr	x	1 hrs =	\$	49.00

Subtotal - Subtask 198DP-4A \$1,259.00

Subtask 198DP-4B: Above-Ground Vapor Survey

Labor

Staff (Travel from WLM to site)	\$85 /hr	x	2.25 hrs =	\$	191.25
Technician (Travel from WLM to site)	\$70 /hr	x	2.25 hrs =	\$	157.50
Staff	\$85 /hr	x	2 hrs =	\$	170.00
Technician	\$70 /hr	x	2 hrs =	\$	140.00

Equipment

PID	\$125 /day	x	0.5 days =	\$	62.50
GEM 2000+	\$175 /day	x	0.5 days =	\$	87.50
Jerome 431-X	\$125 /day	x	0.5 days =	\$	62.50
DigiSense Hygrometer/Barometer	\$50 /day	x	0.5 days =	\$	25.00
GPS	\$125 /day	x	0.5 days =	\$	62.50

Expendables and Reimbursables

Mileage (Assume 115 miles)	\$0.555 /mile	x	115 miles =	\$	63.825
Field Expendables	\$30 /day	x	0.5 days =	\$	15.00

Subtotal - Subtask 198DP-4B \$1,037.575

Subtask 198DP-4C: Surface Water and Sediment Sampling

Labor

Staff	\$85 /hr	x	2 hrs =	\$	170.00
Technician	\$70 /hr	x	2 hrs =	\$	140.00
Staff (Travel from site to WLM)	\$85 /hr	x	2.25 hrs =	\$	191.25
Technician (Travel from site to WLM)	\$70 /hr	x	2.25 hrs =	\$	157.50

Equipment

PID	\$125 /day	x	0.5 days =	\$	62.50
GPS	\$125 /day	x	0.5 days =	\$	62.50

Expendables and Reimbursables

Mileage (Assume 115 miles)	\$0.555 /mile	x	115 miles =	\$	63.825
Field Expendables	\$30 /day	x	0.5 days =	\$	15.00

Laboratory

(Assume two surface water , two sediment and two duplicate samples.)

VOCs via EPA Method 8260B	\$75 /sample	x	6 samples =	\$	450.00
SVOCs via EPA Method 8270C	\$170 /sample	x	6 samples =	\$	1,020.00
1,4-Dioxane via EPA Method 8260SIM	\$75 /sample	x	6 samples =	\$	450.00
14 Metals via EPA Method 6020	\$112 /sample	x	6 samples =	\$	672.00
Mercury via EPA Method 7471	\$15 /sample	x	6 samples =	\$	90.00
Ammonia via SM 4500	\$15 /sample	x	6 samples =	\$	90.00
Nitrate via EPA Method 300	\$12 /sample	x	6 samples =	\$	72.00
Sulfate via EPA Method 300	\$15 /sample	x	6 samples =	\$	90.00

Subtotal - Subtask 198DP-4C \$3,796.575

Subtask 198DP-4D: Report Compilation

Labor

Senior	\$116 /hr	x	2 hrs =	\$	232.00
Project	\$100 /hr	x	4 hrs =	\$	400.00
Staff	\$85 /hr	x	8 hrs =	\$	680.00
CAD	\$65 /hr	x	4 hrs =	\$	260.00
Admin	\$49 /hr	x	1 hrs =	\$	49.00

Subtotal - Subtask 198DP-4D \$1,621.00

Total - Task Order 198DP-4 \$7,714.15



Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028
Tel: 413-525-2332
Fax: 413-525-6405
www.contestlabs.com

June 17, 2014

Mark Brown
Withers & Ravenel, Inc.
117 Mackenan Drive
Cary, NC 27511
mbrown@witherravenel.com

Reference: 20140617 DENR Pre-Regulatory Landfill Pro

Dear: Mark Brown

We are please to provide our analytical proposal including pricing and qualifications as specified for this project.

Founded in 1984, Con-Test Analytical Laboratory is a full service environmental testing laboratory with capabilities in nearly all soil, air and water analysis. Con-Test has experienced, seasoned staff and state of the art instrumentation to provide quality analytical services. By balancing response and prompt turnaround with precise and reliable analyses, data integrity is ensured. Our value-added service includes expertise in technical and customer service, reflected in a diverse customer base.

Con-Test Analytical is a private family-owned business. Con-Test is a WBE/DBE certified entity through our home state of Massachusetts and the SOMWBA program. We are also WBE certified with the State of New York, Rhode Island and North Carolina.

At Con-Test our owners are involved in the day-to-day operations and client representation. In addition, experienced Project Chemists (PC) are assigned to your project. Your internal PC will serve as a liaison with the company, will oversee projects to completion with attention to all details, including meeting critical turnaround times, technical support and client services requests.

Con-Test is committed to quality, reliability in data deliverables and excellence in client services. We thank you in advance for the opportunity to partner with you on this project. Please let us know how we can be of further service. If you have any questions pertaining to this proposal please contact me directly at 413-525-2332.

Susan M. Burney
Coordinator, Business Development
sburney@contestlabs.com



Con-Test Analytical Laboratory
 39 Spruce Street
 East Longmeadow, MA 01028
 Tel: 413-525-2332
 Fax: 413-525-6405
 www.contestlabs.com

Prepared For:
 Mark Brown
 Withers & Ravenel, Inc.
 117 Mackenan Drive
 Cary, NC 27511
 mbrown@witherravenel.com

Prepared By:
 Susan M. Burney
 Effective Date: November 13, 2012
 Expiration Date: June 17, 2015

Project:20140617 DENR Pre-Regulatory

Analytical Services Quotation

Pricing Summary

Matrix	Method	TAT	Quantity	Unit Price	Extended Price
Water					
8081	SW-846 8081B	5	0	\$65.00	\$0.00
8260 Standard North Carolina	SW-846 8260B	5	0	\$75.00	\$0.00
8260 Tentatively Identified Compounds (TICs)	SW-846 8260C	5	0	\$10.00	\$0.00
8270 Standard	SW-846 8270D	5	0	\$170.00	\$0.00
8270 Tentatively Identified Compounds (TICs)	SW-846 8270D	5	0	\$10.00	\$0.00
Ammonia by 350.1	EPA 350.1	5	0	\$15.00	\$0.00
Hexavalent Chromium (CR+6) by SW846 7196A	SW-846 7196A	5	0	\$25.00	\$0.00
Individual Metals by 6010	-	5	0	\$8.00	\$0.00
Individual Metals by 6020	-	5	0	\$8.00	\$0.00
Mercury 245.1 Total	EPA 245.1	5	0	\$15.00	\$0.00
Mercury 7470/7471 Total	SW-846 7470A	5	0	\$15.00	\$0.00
Nitrate-Nitrogen (NO3) by SM4500 NO3 F	SM 18-20 4500 NO3 F	5	0	\$12.00	\$0.00
Sulfate by ASTM D516	ASTM D516-90, 02	5	0	\$15.00	\$0.00
Trivalent Chromium Water NC		5	0	\$8.00	\$0.00
Soil					
1311 TCLP ZHE	SW-846 1311	5	0	\$25.00	\$0.00
8081	SW-846 8081B	5	0	\$65.00	\$0.00



Con-Test Analytical Laboratory
 39 Spruce Street
 East Longmeadow, MA 01028
 Tel: 413-525-2332
 Fax: 413-525-6405
 www.contestlabs.com

Pricing Summary

Matrix	Method	TAT	Quantity	Unit Price	Extended Price
8081 TCLP	SW-846 8081B	5	0	\$65.00	\$0.00
8082	SW-846 8082A	5	0	\$40.00	\$0.00
8151 TCLP	SW-846 8151A	5	0	\$150.00	\$0.00
8260 Standard North Carolina	SW-846 8260B	5	0	\$75.00	\$0.00
8260 TCLP ZHE	SW-846 8260C	5	0	\$75.00	\$0.00
8260 Tentatively Identified Compounds (TICs)	SW-846 8260C	5	0	\$10.00	\$0.00
8270 Standard	SW-846 8270D	5	0	\$170.00	\$0.00
8270 TCLP	SW-846 8270D	5	0	\$175.00	\$0.00
8270 Tentatively Identified Compounds (TICs)	SW-846 8270D	5	0	\$10.00	\$0.00
Ammonia by EPA 350.2	SM18-20 4500 NH3 C	5	0	\$15.00	\$0.00
Cyanide, Total by SW846 9014	SW-846 9014	5	0	\$28.00	\$0.00
Flashpoint (Closed Cup) by SW846 1010	SW-846 1010	5	0	\$18.00	\$0.00
Hexavalent Chromium (CR+6) by SW846 7196A	SW-846 7196A	5	0	\$49.00	\$0.00
Individual Metals by 6010	-	5	0	\$8.00	\$0.00
Individual Metals by 6020	-	5	0	\$8.00	\$0.00
Mercury 7470/7471 Total	SW-846 7471B	5	0	\$15.00	\$0.00
Nitrate-Nitrogen (NO3) by SM4500 NO3 F	SM 18-20 4500 NO3 F	5	0	\$12.00	\$0.00
Paint Filter Liquids Test by SW846 9095B	SW-846 9095B	5	0	\$12.00	\$0.00
pH by SW846 9045C solid	SW-846 9045C	5	0	\$8.00	\$0.00
RCRA 8 6010 TCLP		5	0	\$71.00	\$0.00
Solids, Percent by SM2540G	SM 2540G	5	0	\$5.00	\$0.00
Sulfate by ASTM D516	ASTM D516-90, 02	5	0	\$15.00	\$0.00
Sulfide by SW-846 9030	SW-846 9030	5	0	\$35.00	\$0.00
TCLP - Extraction	SW-846 1311	5	0	\$25.00	\$0.00



Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028
Tel: 413-525-2332
Fax: 413-525-6405
www.contestlabs.com

Pricing Summary

Matrix	Method	TAT	Quantity	Unit Price	Extended Price
Trivalent Chromium Soil		5	0	\$8.00	\$0.00
Additional Items					

Bid Total: \$0.00

Bid Notes

QUOTE NO> 20140617 DENR Pre-Regulatory Landfill Program

Pricing inclusive of courier service and return shipment of samples to laboratory.
No charge for trip blanks.

Rush Surcharges

Con-Test understands the need for rapid and dependable turnaround time. Therefore, the following turnarounds and corresponding surcharges are offered:

- 0 Business Day Turnaround -- 200.00% Surcharge
- 1 Business Day Turnaround -- 70.00% Surcharge
- 2 Business Day Turnaround -- 45.00% Surcharge
- 3 Business Day Turnaround -- 25.00% Surcharge
- 4 Business Day Turnaround -- 15.00% Surcharge
- 5 Business Day Turnaround -- 0.00% Surcharge
- 7 Business Day Turnaround -- 0.00% Surcharge
- 10 Business Day Turnaround -- 0.00% Surcharge



Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028
Tel: 413-525-2332
Fax: 413-525-6405
www.contestlabs.com

Prepared For:
Mark Brown
Withers & Ravenel, Inc.
117 Mackenan Drive
Cary, NC 27511
mbrown@witherravenel.com

Prepared By:
Susan M. Burney

Project:

Project Specifics

Sample Media:

Sample containers, coolers, chain of custodies and labels will be supplied free of charge. Twenty-four hours notice is generally required for bottle preparation. Con-Test will either ship or deliver bottles to your facility. Shipments requiring priority delivery due to insufficient lead-time for ground shall be charged to the client. Sample containers may be requested by phone, e-mail or website (www.contestlabs.com). Primary project managers and back up customer service representatives are available to respond to bottle orders.

Sample Pick Up/Courier Service:

The laboratory has full time courier service to facilitate sample return to the laboratory. Courier service/overnight delivery will be supplied free of charge to client locations or sites within range. Sample Pick-up requests may be made by phone, e-mail or on our website. Primary project managers and back-up customer service representatives are available to schedule sample pick-ups as needed.

Turnaround:

Turnaround time is based on business days unless noted otherwise. The laboratory has several layers of staff responsibility to track and prioritize samples, combining the efforts of production manager, supervisors and analysts to ensure that turnaround times are met. In addition, the laboratory has updated instrumentation to keep pace with the demands of client turnaround requests with back up and surplus instruments available. Con-Test has the capacity, experience and production know-how to handle the largest of projects and strictest of turnarounds.



Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028
Tel: 413-525-2332
Fax: 413-525-6405
www.contestlabs.com

Data Deliverables:

Standard data deliverables apply unless otherwise note in quotation (Routine QA/QC and detection limits). Con-Test has a large variety and development capabilities of electronic data deliverables (EDDs) available including pdf, Excel, Equis, GIS and other custom formats.

Independent of state or site location, the MA Data Enhancement program and CT RCP have augmented our quality program at Con-Test by enhancing “Good Laboratory Practice”. We are currently prepared for any CT RCP and MA MCP project requiring Data Enhancement and have completed thousands of these projects for many clients to date.

Unless otherwise stated, Equipment Blanks, Performance Standard Samples, Trip Blanks, Duplicates and MS/MSD's will be billed as regular samples.

Holding Samples:

On request from the client, Con-Test will hold samples (that are not being immediately analyzed) with appropriate storage conditions. There will be a \$5/sample fee for samples held and not analyzed.

Website Deliverables:

This powerful tool allows clients access to electronic data over a secure network. Data may be downloaded directly through the data interface at www.contestlabs.com. This is a convenient and fast way to obtain data. In addition, clients may check status of project on a parameter-by-parameter basis.

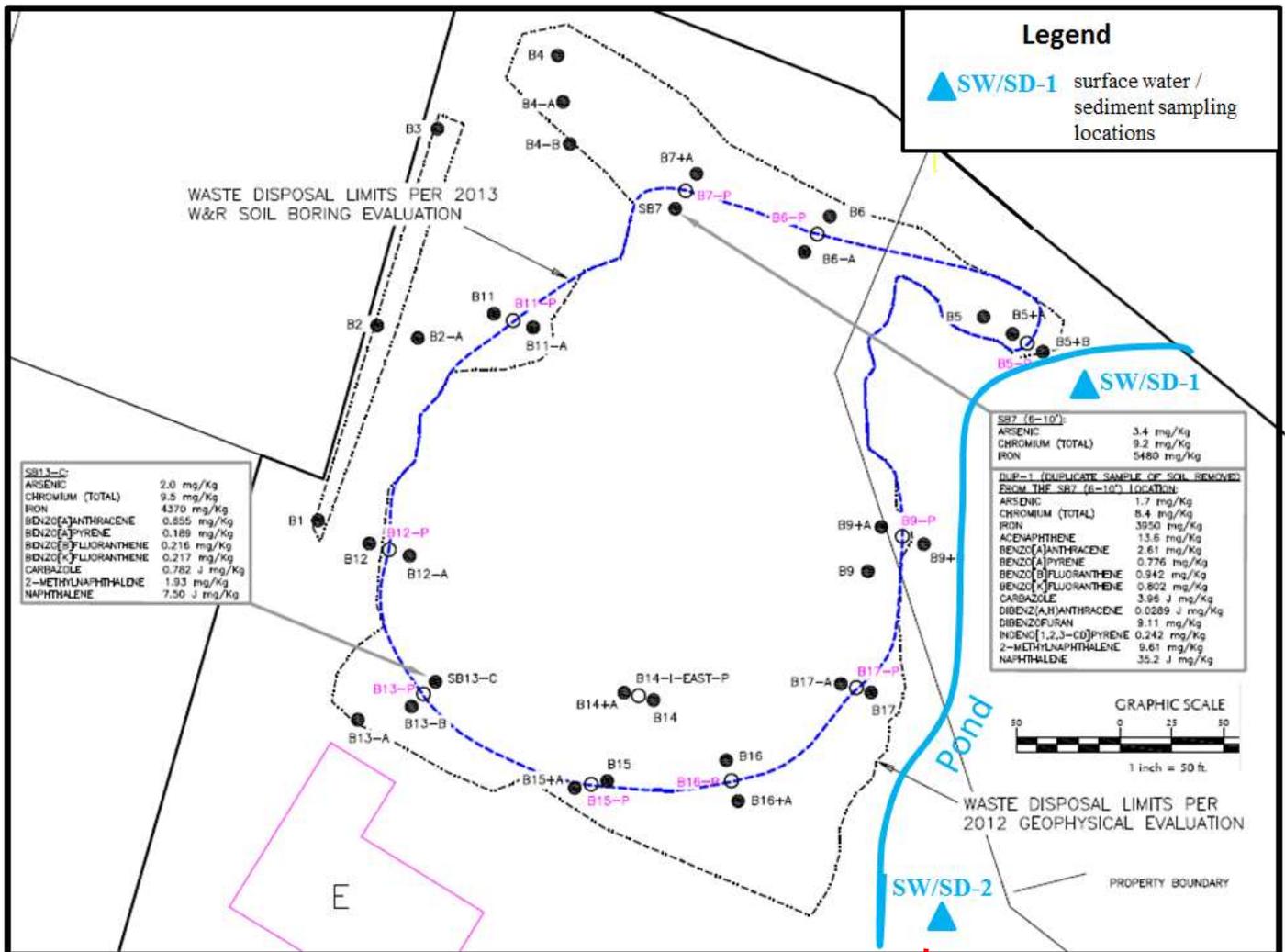
Terms and Conditions:

Laboratory prices are fixed for a one-year period, unless otherwise agreed upon by the laboratory. Prices are subject to change after this period. Payment terms are net Thirty (30) days from date of invoice. Invoices will be submitted with each analytical report for services rendered.

Any projects performing in the state of CT may be subject to CT state sales tax.

Please include your proposal number on your project chain of custody.

Appendix 1: Otway Community Refuse Dump 198DP-4 Task Order SW/SD Sampling Location Map



Annotations (in blue) provided by PRLF Unit Manager