COMPETITIVE FIXED-PRICE BID SOLICITATION

SITE CHARACTERIZATION ACTIVITIES, REMEDIAL ALTERNATIVES ANALYSIS, SITE CHARACTERIZATION REPORT / REMEDIAL ACTION PLAN PREPARATION AND PRIVATE WATER SUPPLY RESTORATION

COGO'S STORE #007
RR 1, BOX 104, BOGGS TOWNSHIP,
TEMPLETON, ARMSTRONG COUNTY, PENNSYLVANIA 16259

PADEP FACILITY ID #03-80031
PAUSTIF CLAIM #2005-0210(M)

December 18, 2009

Thank you for your interest in this Request for Bid (RFB) Solicitation opportunity. This RFB references a scope of work (SOW) for conducting site characterization activities, completing a remedial alternatives analysis, preparing a combined Site Characterization Report (SCR) / Remedial Action Plan (RAP) addressing impacted soil and groundwater, and restoring an affected water supply at this active retail gasoline sales and convenience store facility. The facility is known as CoGo's Store #007 and is located in Boggs Township, Templeton, Armstrong County, PA.[1] This facility is owned and operated by the CoGo's Company, but the subject property is owned by Mr. Bernie Lockard of Lockard Oil. The CoGo's Company will be the client and is referred to hereafter as the Solicitor. As described below, this work will be funded in part by the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or "Fund") and in part by the Solicitor.

At the present time, the Solicitor has elected to pursue an Act 2 closure based on demonstrating attainment of the used aquifer Statewide Health Standard (SHS) Medium-Specific Concentrations (MSCs) for soil, soil vapor, and groundwater in a residential setting. Closure will also require demonstrating that the on-property water supply no longer qualifies as an "Affected or Diminished Water Supply" under 25 PA Code Chapter 245.307.

The purpose of the RFB SOW is two-fold and, consequently, bidders should note that funding for the tasks identified in this RFB differs. Specifically, Tasks 1 through 10 are designed to provide sufficient data for identifying and subsequently implementing an effective remedial solution leading to site closure and a relief of liability under Pennsylvania Department of Environmental Protection (PADEP) Act 2 regulations.[2] These ten tasks will be subject to a Fixed-Price Agreement (see Attachment 2) to be executed by the Solicitor and the selected consultant. Although not a party to the Agreement, the Fund will reimburse 85 percent of the reasonable, necessary, and appropriate costs referenced in the Milestone Payment Schedule specified in Section 4 below and as incorporated into the signed Fixed-Price Agreement. The Solicitor will be responsible for reimbursing the remaining 15 percent of each fixed-price Milestone Payment Request.

Task 11 is intended to resolve only the petroleum hydrocarbon contamination impacting the "store well." Currently, there is no public water supply system serving this site and the surrounding area. Therefore, the property owner, apartment tenants, and facility operator (i.e., the Solicitor) have relied upon as many as three on-property water supply wells to provide water to the convenience store and two on-property

[1] This facility was formerly known as Martin Exxon, Route 66 Family Market, and Northern Express #7.
[2] However, implementing the RAP, once it is approved by the PADEP, will either be performed under a separate agreement negotiated with the consultant selected pursuant to this RFB or via a separate competitive bid solicitation.

apartment units. However, as described further under "General Site Background and Description," there have been and remain a variety of issues affecting the usefulness of all three existing water supply wells. Presently, none of the three on-property wells is in service and potable water is trucked to the site and stored in two "water buffalo" storage tanks apparently located in the convenience store building.

Only one of the three on-property supply wells (the so-called "store well") has been and likely remains affected by the reportable petroleum release that is the subject of the claim referenced above. Consequently, reasonable, necessary, and appropriate steps taken to remedy petroleum hydrocarbon contamination impacting the "store well" will be reimbursed by the Fund consistent with its 85 percent prorated share. However, any *additional* steps needed to address the inorganic quality and insufficient well yield issues are **not** reimbursable by the Fund and will be covered by a separate contractual arrangement and funded in full by the property owner and/or the Solicitor.[3]

The Solicitor requests a written approach, schedule, and firm fixed-price bid to complete the SOW summarized as follows. The selected consultant will be expected to complete these tasks in accordance with all applicable PADEP rules and regulations.

Task 1. Additional Background Research
Task 2. On-Property Geophysical Survey
Task 3. Source Soil Delineation
Task 4. Install Additional Shallow and Deep Groundwater Monitoring Wells
Task 5. Groundwater Monitoring and Sampling
Task 6. Aquifer Characterization Testing
Task 7. Soil Vapor Study
Task 8. Contaminant Fate-and-Transport Modeling
Task 9. Conceptual Site Model
Task 10. Prepare a Draft and Final Combined SCR / RAP
Task 11. Install a Replacement "Store Well" / Groundwater Supply Well

Please note that a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms and scope of work requirements (for example, but not limited to, any report submittal deadlines) *unless* explicitly stated to the contrary in the bid response.

Should your company elect to respond to this RFB Solicitation, one copy of the signed bid package must be provided directly to the Funds' third-party administrator, ICF International (ICFI), at the address and to the attention of the person identified in Section 1 below. In addition to this one hard copy submittal, the complete bid response must be submitted to ICFI electronically (Adobe PDF format) on a compact disk (CD) to be included with the hard copy bid response. ***The outside of the bid response package must be clearly marked and labeled with "Bid – Claim #2005-210(M)***."

Please note that **the bid response is to be sent only to ICFI** who will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. No bid responses will be opened for review until the due date and time elapses. No portion or element of any bid response will be distributed by ICFI to any party other than the Solicitor, the Technical Contact, and PAUSTIF.

The signed bid package (hard copy and electronic copy) sent to ICFI must arrive no later than close of business (5 p.m.) on January 22, 2010. Please note that if your bid response is not received by ICFI by this due date and time, it will not be considered, i.e., only those bid responses received by the

[3] A possible exception to this position could arise if the cost of the selected (and PADEP-approved) means of rectifying all the water supply quality and quantity issues at this site is estimated to cost *less* than the Fund's total prorated share of the cost to treat the output of any supply well that is impacted by petroleum hydrocarbon contamination.

specified due date and time from those bidders who also attended the mandatory pre-bid site visit (see Section 6) will be considered.

Each bid response will be considered individually and consistent with the evaluation process described in the PAUSTIF Competitive Bidding Fact Sheet, which can be downloaded from the PAUSTIF web site (see www.ins.state.pa.us). Key considerations for the bid evaluation shall include, but are not necessarily limited to the following:

- Conducting a thorough review of the prior site documentation, including the 8/13/09 Notice of Violation (NOV) letter issued by the PADEP disapproving the SCR and Site Characterization Report Addendum (SCRA).
- Demonstrating a well-supported understanding of site hydrogeologic conditions that shall include the bidders assessment of the confined vs. not confined aquifers issue discussed in the 8/13/09 NOV letter.
- Addressing the requirement to delineate the horizontal and vertical area of residual contaminant mass in soil in the dispenser islands area.
- How the bidder approaches resolving the present uncertainty concerning the presence or absence of a shallow water-bearing zone on the south side of Route 28/66 in its conduct of Task 4.
- Addressing all requirements of Tasks 1 through 11, including the requirement to prepare a combined SCR / RAP.
- Designing a project approach and schedule that periodically takes stock of whether the remedial goal of demonstrating attainment with the residential used aquifer SHS-MSCs for soil and groundwater can be reasonably achieved at this site.

While the Technical Contact will assist ICFI, PAUSTIF, and the Solicitor in evaluating the bid responses, it is up to the Solicitor to select the bidder from those bid responses deemed acceptable to PAUSTIF as reasonable, necessary, and appropriate. The Technical Contact will assist the Solicitor in communicating its choice of the successful bidder, which is anticipated to occur within six (6) weeks after receiving the bid responses.

1. ICFI, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

ICF International	Solicitor	Technical Contact
Ms. Bonnie Mackewicz ICF International 4000 Vine Street Middletown, PA 17057	Mr. Bob Helmstadter CoGo's Company Tri-County Professional Bldg. 638 Rostraver Road, Ste. 103 Belle Vernon, PA 15012	Mr. Robert D. Breakwell, P.G. Excalibur Group, LLC 1193 State Road Monessen, PA 15062 rbreakwell@excaliburgrpllc.com

There is a single point of contact regarding this RFB Solicitation. All questions regarding this RFB Solicitation and the site conditions must be directed **in written form only** to the Technical Contact and must be received no later than seven (7) calendar days prior to the due date for the bid response. Bidders must neither contact nor discuss this RFB Solicitation with the Solicitors, PAUSTIF, or ICFI unless approved by the Technical Contact. This RFB Solicitation may be discussed with subcontractors and vendors to the extent required for preparing the bid response. If a bidder has specific questions it

wishes to discuss with the PADEP, these questions should be provided to the Technical Contact who will forward them to the PADEP, but the PADEP may elect not to reply to any questions it receives.

Please note that unless a question can be successfully demonstrated to be proprietary in nature, all submitted questions and responses submitted during and after the pre-bid site visit will be shared with all bidders on a non-attributable basis. A bidder shall specify any questions it regards as proprietary upon submitting these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

2. GENERAL SITE BACKGROUND AND DESCRIPTION

The CoGo's facility is located in a rural area along PA State Route 28/66 near Templeton, Armstrong County, Pennsylvania. The facility is bordered to the north, east, and west by open farmland and to the south, across PA State Route 28/66, by property owned by the Mountain Trails Baskets Company (Mountain Trails).[4] Additional open farmland and undeveloped woodlands surround the Mountain Trails parcel. The nearest private residences are located approximately 400 feet north and 500 feet northeast of the CoGo's facility. Retail petroleum sales on the CoGo's facility apparently began sometime in 1963 under the ownership of Mr. Dewitt Martin. The property was subsequently purchased by Mr. James Emerick in January 1992 who operated the facility under the name Route 66 Family Market until May 1995. At that time, the Lockard Company purchased and operated the facility until May 2001 under the name Northern Express Exxon. CoGo's has owned and operated the facility since May 2001, but Lockard Oil still owns the property.

Current facility operations consist of retail unleaded gasoline and diesel fuel sales, a convenience store (c-store) business, and rented residential apartments. Features on the approximately 0.6-acre parcel are the c-store building with attached apartment units (former garage bays) in the central portion of the property; a UST field in the southeast portion of the property; three multi-pump dispenser islands with canopy situated west of the UST field; an inactive, 2,000–gallon, aboveground storage tank (AST) located near the northwest corner of the c-store building that formerly stored kerosene; two heating oil ASTs located behind the c-store building; a septic leach field off the west wall of the c-store building; and three inactive private water supply wells. As discussed later in this section, the three water supply wells are no longer in use due to low productivity and poor inorganic quality issues; only one of the wells is affected by the presence of constituents of concern. Overhead utilities for the property consist of telephone and electric service. An inlet grate is present near the southeast corner of the property suggesting that a storm sewer line extends along the front of the property and parallel with Route 28/66. A general plan map and photographs of the property and its surroundings are included in Attachment 1.

In January 1991, one 6,000-gallon and three 4,000-gallon steel unleaded gasoline USTs were removed by Testco Tanks and Pumps (Testco) under the supervision of Earthtech, Inc. (Earthtech). These USTs appeared to be the first generation tanks installed in 1963 when the property was developed as a retail gasoline station facility. The former location of these presumed first-generation USTs, which were installed in a common cavity, is depicted in the April 1991 UST Closure Report prepared by Earthtech (Attachment 1) and generally coincides with the location of the current UST field. During the UST removals, approximately 300 tons of petroleum-impacted soil was reportedly excavated and transported to a field owned by Mr. DeWitt Martin where it was stockpiled on plastic.[5]

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[4] The Mountain Trails Baskets Company property supports a basket manufacturing / retail store building, a water supply well the output of which is reportedly used only for manufacturing and sanitary purposes, and a former garage building used for storage. The garage building was formerly used for servicing trucks until 1985.

[5] Although the project record is unclear on the ultimate disposition of this excavated soil, plans by Testco to incinerate the soil is suggested in the Closure Report.

Following the excavation work, fifteen confirmatory soil samples were collected from the open excavation and five additional soil samples were obtained from the petroleum-impacted stockpile. These samples were analyzed for BTEX and/or total petroleum hydrocarbons. Laboratory analytical results indicate that none of the soil samples contained concentrations of gasoline compounds above the applicable SHS MSCs. In addition to the confirmation soil samples, one water sample was collected from a small ponded area at the base of the excavation (at a depth of approximately thirteen feet below grade). Analytical results for the water sample revealed only benzene at a concentration (14 ppb) exceeding the current residential use aquifer SHS MSCs for groundwater. As interpreted by the supervising geologist for Earthtech, this water sample represented shallow groundwater versus water derived from another source (e.g., precipitation). The most recent consultant of record for this site, United Environmental Group (UEG), has held the contrary view.

In February 1991, one 12,000-gallon UST and one 10,000-gallon UST were installed in roughly the same tank cavity. These UST systems remain in use. Both tanks are cathodically protected with double-wall steel construction. The 12,000-gallon UST is divided into two storage compartments originally containing 4,000 gallons of super-grade unleaded gasoline and 8,000 gallons of plus-grade unleaded gasoline, respectively. The 10,000-gallon UST formerly contained regular-grade unleaded gasoline until October 2008 when it was converted to store automotive diesel fuel. At this same time, the 8,000-gallon compartment of the 12,000-gallon UST was converted from storing plus-grade to regular-grade unleaded gasoline.

In May 2001, a car struck the southwest product dispenser (Dispenser #6) reportedly causing minor damage to the outer sheathing. Upon removing the outer sheathing, two leaks were discovered beneath the dispenser, which was not equipped with a containment sump.[6] The leaks were repaired on May 15, 2001 and the dispenser was placed back into service. The volume of product released via the two observed leaks is not known, but these leaks were identified as the cause of the release that is the subject of this claim.

In February 2003, at least one tank overfill incident reportedly occurred at this site. According to UEG, less than 25 gallons of fuel was released onto the pavement and likely did not extend into any unpaved areas. Reportedly, the local Fire Department responded to this incident and cleaned-up the spill soon after it occurred.

On October 27, 2005, representatives of the PADEP-SWRO conducted an inspection of this location reportedly to verify its compliance with the safe drinking water regulations as a transient non-community public water supply. During the inspection, the PADEP observed that water produced by the "store well" and second well located off the northwest corner of c-store building was brown in color and had a sewage odor.[7] At this time, the combined flow of both wells supplied water to both the c-store and the two apartment units. After the inspection (and in a subsequent 11/8/05 Notice of Violation letter), the PADEP requested not using the water from the two supply wells until samples could be collected and analyzed and a treatment system installed, if necessary. Later that month, a sample was collected from the store supply well and analyzed by the PADEP. Methyl tertiary-butyl ether (MTBE) was detected in this sample at a concentration of 492 ppb.

Upon receiving the analytical results for the store well sample, CoGo's personnel verbally notified the PADEP of the release that is the subject of Claim #2005-0210. The store well was sampled again by UEG in February 2006 to confirm the November 2005 data. Analytical results from the confirmation sampling event revealed levels of benzene (6 ppb) and MTBE (363 ppb) in excess of drinking water

[6] The repair company (Bolger Brothers, Inc.) did not believe the leaks were caused by the vehicle accident because, aside from damage to the outer sheathing, no other dispenser components appeared to be affected by the impact.
[7] According to the former owner / operator, Mr. DeWitt Martin, the total depth of the store well is approximately 60 feet and the typical depth to water is approximately 35 feet.

standards. Additional samples have reportedly not been collected from this well since February 2006 because "the pump has been closed."

Early in 2006, the two other water supply wells located on the property and an observation well located in the southeast corner of the UST field were also sampled by UEG. The observation well sample exhibited concentrations of benzene (59 ppb), MTBE (156 ppb), and naphthalene (157 ppb) above the SHS MSCs for groundwater,[8] but the two water supply well samples exhibited no gasoline compound concentrations above the analytical method detection limits. One of the two other supply wells (the so-called "deep well") is located off the east side of the c-store building underneath a walkway and steps leading to the apartment units.[9] Reportedly, sometime before 2005, the "deep well" was no longer in use because of its poor production. The other supply well, which was drilled by the Jim Leighton Drilling Company in August 2004 and hence is often referred to as "the Leighton well," is located near the northwest corner of the property.[10] Apparently, when the PADEP inspected this property in late October 2005, the output of this well was found to have been combined with the output of the "store well" in order to meet the total water supply need. This well was also shut down by the PADEP in October 2005 when it was determined the well was installed less than 100 feet from the septic leach bed without prior approval of its location or design.

UEG initiated site characterization work in February 2007 prompted by the discovery of dissolved gasoline compounds in the c-store well. This site characterization work consisted of:

- Installing fourteen groundwater monitoring wells on and off the subject property (MW-1, 2, 3, 4, 5, 6, 7D, 8, 9, 10, 11D, 12D, 13D, and 14D);
- Collecting and analyzing soil samples from the monitoring well borings;
- Surveying in the well locations and elevations and other site features;
- Quarterly groundwater sampling (thirteen events through July 2009);
- Aquifer characterization testing (slug tests) of wells MW-1, 2, 6, and 7D;
- Fate and transport modeling;
- A sensitive receptor survey and risk evaluation;
- A vapor intrusion study;
- Developing a site conceptual model; and
- A remedial alternatives analysis.

UEG also completed a series of enhanced fluid recovery (EFR) events that have been variously described as tests to evaluate EFR as a potential remedial technology and as interim remedial actions. Beginning on July 7, 2008 and continuing through March 16, 2009, at least fifteen EFR events were conducted utilizing either MW-4 (ten events) or MW-7D (five events) as the extraction well. It is not known whether additional EFR events may have been completed subsequent to the last event documented in the SCRA. All that is known concerning the methods and results of these EFR events (e.g., drawdown data, total gallons recovered, duration, etc.) is documented in the SCRA, although subsequent inquires have determined that no background water-level monitoring data were collected prior to initiating these EFR events.

All prior site characterization and other activities are documented by UEG in its December 2008 SCR and May 2009 SCRA. Both documents are provided in Attachment 1. [NOTE: In the SCR, the locations shown for MW-11D and MW-12D are transposed. The correct well locations are shown in the SCRA, which also documents the installation of MW-13D and MW-14D.] Both the SCR and SCRA were

[8] At the time of sample collection, the measured total depth was 11.17 feet below grade (bg) and the depth to water was 4.12 feet bg.
[9] At the time of sample collection, the measured depth of the "deep well" was 375 feet bg and the depth to water was 227.95 feet bg.
[10] The drilling log indicates a total depth of 325 feet bg and a depth to water of 62 feet bg.

subsequently disapproved by the PADEP via a NOV letter dated August 13, 2009 (Attachment 1). This NOV letter notes what the PADEP refers to as an initial list of technical deficiencies. The SOW outlined in Tasks 1 through 10 of this RFB, which have been reviewed by the PADEP, are intended to address these technical deficiencies and complete the site characterization phase through the preparation and submittal of a ***new*** comprehensive SCR (along with a RAP) that meet the requirements of 25 PA Code §§245.309, 245.310, and 245.311.

In light of the *initial* list of deficiencies the PADEP identifies in its August 13, 2009 NOV letter, bidders should carefully consider what information, analyses, and interpretations contained in the prior SCR and SCRA can be relied upon in formulating a new SCR submittal. In particular, based on the site characterization data it reviewed, it appears that the PADEP does not concur with the conceptual site model based on the alleged presence of two distinct and confined bedrock aquifers within 50 feet of the ground surface.[11] Specifically, the NOV letter states, "The SCR / SCRA provide no evidence of 'shallow' and 'deep' confined aquifers." This statement by the PADEP may call into question, therefore, several other SCR / SCRA conclusions, including the conclusion that due to confining pressure, the static groundwater levels in the monitoring wells communicating with these two aquifers are substantially higher in comparison to the depths to groundwater encountered during drilling. In contrast, other hydrogeologic and chemical data may suggest that the entire interval of shale bedrock penetrated during drilling comprises one water-table aquifer that is unconfined or that may be becoming semi-confined with depth. For example, the EFR event drawdown data may indicate some degree of interconnection between the shallow and deep groundwater zones in the shale bedrock.

Additional background information available for this site is included in Attachment 1.[12] Bidders are cautioned to consider how to make best use of the historical site characterization information in light of the deficiencies listed in the PADEP's August 13, 2009 NOV letter. However, as noted in Section 3, a complete new SCR is to be produced and submitted for PADEP review.

3. OBJECTIVES / SCOPE OF WORK

This RFB seeks competitive, fixed-price bids to complete the eleven (11) tasks outlined below. If additional work beyond Task 11 is necessary to remedy the store water supply quality and quantity issues at this site unrelated to the release, such work will be covered by a separate agreement between the selected consultant and the Solicitor and/or the property owner. To be deemed responsive, each bid must respond to each of the eleven tasks as described and in a manner consistent with the bidder's conceptual site model interpretation. Consequently, each bidder should review the accompanying historical information carefully, and base its bid upon its own evaluation of the information provided with this RFB and in light of the PADEP's disapproval of the SCR / SCRA. Again, bidders should note that the SOW tasks outlined below were reviewed by and discussed with the PADEP-SWRO before issuing this RFB Solicitation Package.

It is expected that the selected consultant's approach to completing the SOW will be in accordance with generally accepted industry standards / practices and all applicable federal, state, and local rules, guidance, directives, and regulations including (but not limited to) satisfying the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended) and Pa. Code, Title 25, Chapter 245, and meeting and demonstrating attainment of the standards established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250 (Administration of Land Recycling Program).

[11] The SCR and SCRA refer to a shallow confined aquifer in an "incompetent" reddish-gray shale horizon encountered at an average depth of 25 feet bg, and a deeper confined aquifer in an "incompetent" gray shale horizon encountered at an average depth of 48 feet bg.

[12] The best scanned-in version of each document available to the Technical Contact has been provided in Attachment 1.

The Solicitor requires that the SOW covered by Tasks 1 through 11, including submitting a combined SCR / RAP to the PADEP, must be completed within **6 months** following contract award. **The bidder's proposed project schedule for Tasks 1 through 11 must meet this requirement.** This schedule must also specify no less than two (2) weeks for the Solicitor and PAUSTIF to review and comment on the draft SCR / RAP before these combined reports are submitted to the PADEP for its review and comment.[13] It is anticipated that PADEP review and approval of the new water supply well location and design (Task 11) will need to proceed in parallel with the Task 1 through 10 activities.

In addition to the SOW tasks specified below, the selected consultant shall also:

- Complete necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed contract has been completed. Such activities would be expected to include client communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location, etc.). Project planning and management activities will also include preparing and implementing plans for Health and Safety, Waste Management, Field Sampling/Analysis, and/or other plans that may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project management costs shall be included in the fixed-price quoted for Tasks 1 through 11, as appropriate.
- Be responsible for coordinating, managing and completing the proper management, characterization, handling, treatment, and/or disposal of all impacted soils, water, and derivative wastes generated during the implementation of this SOW in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor upon request. Waste disposal costs shall be included in the fixed-price quoted for Tasks 1 through 11, as appropriate.
- Be responsible for providing the Solicitor and property owner with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and property owner to ensure that appropriate areas of the property are accessible. Return visits to the site prompted by a failure to make the necessary logistical arrangements in advance will **not** constitute a change in the selected consultant's SOW or total project cost for Tasks 1 through 11.
- Be responsible for keeping all wells in good condition, with each well properly sealed and locked in-between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of this contract at its expense; however, should a well become damaged or destroyed through no fault of the contractor, the Solicitor may request that the selected consultant repair or replace the well as an amendment to this SOW subject to the rate schedule provided in the selected consultant's bid response. Any request for Fund reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

Task 1 – Additional Background Research. Through review and evaluation of the historical information summarized in Section 2 above and the additional site background information included in Attachment 1, bidders will understand what is currently known about: (i) facility features and setting; (ii) current and historical surrounding land uses; (iii) regional and local

[13] Addressing potential PADEP comments on the SCR / RAP is not covered by the SOW in this RFB. Should addressing PADEP comments on the SCR / RAP become necessary, the selected consultant will define a scope of work and associated cost at that time for approval by the Solicitor and PAUSTIF.

geology, hydrogeology, and hydrology; (iv) local groundwater use; (v) utilities; (vi) known or suspected source areas; (vii) sensitive receptors; and (viii) previous interim remedial measures, environmental investigations, and regulatory issues. However, under this task, bidders shall address certain perceived gaps in the current understanding of site and surrounding area conditions that may prove important for completing the site characterization. Therefore, each bid shall address the following additional background research needs:

a) As the PADEP notes in its 8/13/09 NOV letter, very little is known about the private water supply well operating on the Mountain Trails property. For example, its total depth is not known with certainty (it is believed to be no more than 40 ft deep), its construction details are not known, and the depth to water and well yield are not known. More importantly, this supply well, which is positioned hydraulically downgradient of the subject property, has reportedly been sampled only once (in April 2009). At that time, MTBE was detected at a concentration of 5 µg/l. Although resampling this well is addressed under Task 5 below, the selected consultant shall conduct further interviews and research in an attempt to gain additional information on well depth, construction, yield, pumping rate / frequency, and whether there are any water conditioning or treatment systems in use. The information gathered shall be used to evaluate whether and the degree to which this pumping well influences the local groundwater flow regime and contaminant migration and to establish whether there is any exposure risk.

b) Although the existing site reports indicate that no evidence has been found to suggest the former truck service garage operating on the Mountain Trails property until 1985 had operated UST systems, it does not appear that local records (e.g., building department files) have been searched to corroborate this understanding. In addition, it does not appear that there has been any attempt to identify and, if possible, interview previous property owners/operators. Therefore, under this task, bidders shall include costs to conduct this kind of research to corroborate or contradict the current understanding that there appears to be no contributing source on the Mountain Tails property.

Bidders shall provide a firm fixed-price for completing these additional background research activities, the results of which shall be summarized in the SCR / RAP (Task 10).

Task 2 – On-Property Geophysical Survey. Under this task, bidders shall conduct a limited geophysical survey encompassing a specific portion of the subject property. In order to address the PADEP's requirements to examine soil conditions in the vicinity of the dispenser islands, ground-penetrating radar and electromagnetic imaging surveys shall be performed to locate product lines and any buried utilities in the dispenser islands area. These survey results shall inform the choice of soil boring locations that can be attempted safely under Task 3 below (along with the required PA One Call notification and manual borehole clearing). The location of the dispenser islands area and possible locations for positioning the soil borings (thereby defining the area to be geophysically surveyed) are indicated on the Site Plan included in Attachment 1.[14]

The locations of identified subsurface features shall be marked with paint on the ground surface to guide the subsequent positioning of the soil borings to be completed under Task 3. Results of the geophysical survey shall be described in the SCR / RAP.

[14] The geophysically surveyed area should extend about 15 to 20 feet beyond each suggested boring location shown on the Site Plan in the event the soil delineation work needs to be expanded based on field screening / observations. Additional geophysical survey work beyond this area is not anticipated.

Task 3 – Source Soil Delineation. Under this task, bidders shall provide a fixed-price cost for implementing a soil boring program to assess the magnitude and extent of potential soil impacts in and in the vicinity of the dispenser islands area. Each bid shall assume advancing nine soil borings within the area of the geophysical survey completed under Task 2. The data from these soil borings are intended to address bullet point #2 in the PADEP's NOV letter dated 8/13/09. Possible locations for these nine soil borings are depicted on the Site Plan contained in Attachment 1, but the actual locations shall be guided by the geophysical survey, PA One Call, and borehole clearance results. Regarding soil boring locations adjacent to the dispenser island, the intent is to place and collect soil samples from borings completed as close to the island as can be accomplished safely and without risking damaging utilities or UST system infrastructure. In conducting this task, the Solicitor requires at least two (2) weeks advance notice and coordination with facility personnel, conducting all work within one day, **and**, if possible, completing the work in such a way as to keep one lane of vehicular access to the dispenser pumps open at all times.

Bidders shall extend each boring to the top of competent shale bedrock, which is expected to be present at a depth of approximately 11 to 13 feet bg based on drilling data from nearby monitoring wells MW-2, MW-3, and MW-4. For costing purposes, bidders shall assume that each boring will be completed at a depth of 12 feet bg. [NOTE: Groundwater levels measured in these nearby monitoring wells have historically been below, but near the soil / bedrock interface.] In the event that additional drilling footage is required at one or more of the nine proposed soil boring locations, bidders shall provide a unit cost per foot for any additional borehole advancement, logging, and screening. Bidders shall also quote a unit cost per additional soil boring should field screening or visual / olfactory observations suggest that more borings are required to delineate the lateral extent of the impacted soil mass.

In addition to contacting PA One Call and completing the Task 2 geophysical survey, bidders shall assume clearing and sampling the initial five feet of each boring location using a hand auger. Below 5 feet bg, each soil boring shall be advanced and sampled using direct-push methods. Continuous soil samples shall be collected beginning immediately beneath the asphalt / concrete surface cover for description of lithologic characteristics, groundwater occurrence, and staining / odor indicative of potential petroleum impacts. Hand auger and direct-push soil core samples shall be screened in the field using a calibrated PID and standard headspace methods. One soil sample per boring shall be submitted for laboratory analysis (nine total). This soil sample shall be collected from the depth interval exhibiting the highest organic vapor concentration based on PID headspace screening. If no elevated organic vapor levels are measured along the length of a boring and no staining and/or odors are evident, the one sample shall be obtained from the depth interval immediately above the competent bedrock surface. Soil samples shall be analyzed for the current March 15, 2008 PADEP short list of leaded and unleaded gasoline parameters (i.e., including 1,2,4- and 1,3,5-trimethylbenzenes). Appropriate quality assurance/quality control (QA/QC) samples shall also be collected and submitted for laboratory analysis. Based on these analytical results, the approximate dimensions and volume of remaining source material exceeding the PADEP Act 2 SHS MSCs for soil, if any, shall be estimated.

Activities under Task 3 shall also include: (i) professional surveying of the soil boring locations and elevations for inclusion on the site plan and geologic cross sections; (ii) sealing each boring with bentonite and asphalt or concrete surface patch after completion; and (iii) managing the drilling and personal protective equipment wastes in accordance with applicable regulations and guidance. The soil boring program methods and results shall be detailed in the SCR / RAP prepared under Task 10.

Task 4 – Install Additional Shallow and Deep Groundwater Monitoring Wells. Under this task, bidders shall provide a firm fixed-price cost for installing seven (7) additional groundwater monitoring wells at locations on and off-of the subject property.[15] These additional monitoring wells are intended to: (a) delineate the horizontal extent of dissolved-phase contaminants in shallow and deeper groundwater;

[15] Should groundwater analytical data indicate a need for additional horizontal or vertical delineation wells, this work will be considered an out-of-scope task requiring Solicitor and PAUSTIF approval before beginning the work.

(b) delineate the vertical extent of the dissolved-phase contaminant plume; (c) refine the interpretation of groundwater flow; (d) enable representative aquifer testing; (e) facilitate contaminant fate-and-transport modeling, and (f) evaluate natural attenuation processes. Suggested locations for these seven monitoring wells are depicted on an aerial photograph included in Attachment 1, but it will be up to the selected consultant to choose its final well locations based on its evaluation of groundwater flow and configuration of the dissolved-phase plume. Please note that access to some well locations may require the use of an all-wheel drive drilling rig.

Three of the seven new monitoring wells shall be completed to intercept the water-bearing zone in the incompetent reddish-gray shale bedrock that is monitored by the existing series of shallow wells. This water-bearing zone is expected to be present at a depth between 28 to 30 feet bg based on drilling data from nearby well MW-10. Each shallow monitoring well boring shall be terminated at a depth of four feet below the base of the reddish-gray shale unit. For costing purposes, bidders shall assume a total depth of 34 feet bg, although the total depth is likely to vary based on actual field conditions encountered.

It should be noted that the current consultant of record indicates this shallow water-bearing zone was not encountered at the locations for existing deep wells MW-13D and MW-14D completed on the Mountain Trails property. However, there is some question whether the presence of this water-bearing zone in the suspected low-yield shale bedrock may have been obscured during air rotary drilling. Consequently, the borings for the three new shallow wells shall be left open (but secured at the surface) for a minimum of 24 hours to determine whether groundwater accumulates before constructing the monitoring well. If groundwater is present within the borehole and it appears the groundwater level has equilibrated to static conditions, a monitoring well shall be installed. Otherwise, if no groundwater is present within the borehole after 24 hours, the boring shall be sealed with a cement / bentonite slurry emplaced from the bottom upward via tremie pipe and the surface finished consistent with surrounding materials (e.g., concrete, asphalt, gravel, etc.). However, for costing purposes, bidders shall assume all three additional shallow monitoring wells will be installed.

Three of the seven additional monitoring wells shall be completed to a depth consistent with the incompetent gray shale water-bearing horizon intercepted by the existing deep wells. For costing purposes, bidders shall assume that each of these three deep wells will attain a depth of approximately 50 feet bg although the total depth is likely to vary based on actual field conditions encountered.[16] Based on the current levels and distribution of contaminants in the shallow groundwater zone, bidders shall assume it will ***not*** be necessary to install a permanent outer surface casing to seal off upper impacted or potentially impacted shallow groundwater before advancing each deep well boring to its target depth.

The proposed deeper monitoring well shall be installed to satisfy bullet point #4 in the PADEP's 8/13/09 NOV letter. This well is intended to define the vertical extent of the contaminant plume in the downgradient direction and shall be advanced to a depth sufficiently below the water-bearing zone monitored by the existing complement of deep monitoring wells. For costing purposes, bidders shall assume this vertical extent delineation monitoring well will be completed at a depth of 90 feet bg. Based on the suggested location for this well and current levels and distribution of contaminants in the shallow and deep groundwater zones, bidders shall assume it ***will be necessary*** to install a permanent outer surface casing to seal off upper impacted or potentially impacted groundwater before advancing this vertical extent delineation well boring to its target depth.

Bidders shall assume advancing all monitoring well borings using standard air-rotary or hammer-rotary drilling methods. Drill cuttings returned to the surface shall be examined in the field and described for lithology, groundwater occurrence, and potential staining / odor indicative of hydrocarbon contamination.

[16] The two proposed deep well locations on the Mountain Trails property are estimated to be approximately 10 to 15 feet below the surface elevations of the other proposed and existing deep wells. Additional care and consideration of basic geologic principles will be necessary when completing these well borings to ensure that the proper hydrostratigraphic interval is intercepted.

Additionally, soil and bedrock cuttings shall be screened in the field with a PID, although no soil samples will be collected for laboratory analysis from the well borings unless elevated PID measurements and / or visual or olfactory observations suggest petroleum impacts. Bidders shall quote a unit cost for sample collection and laboratory analysis in the event samples are collected under this task. If any samples are collected for laboratory analysis, these samples shall be analyzed for the current March 15, 2008 PADEP short list of leaded and unleaded gasoline parameters. Also, in the event that more or less drilling footage is required beyond that estimated above, bidders shall provide a unit cost per foot for any additional borehole advancement, logging, screening and well installation.

The seven additional groundwater monitoring wells shall be constructed in accordance with the PADEP Groundwater Monitoring Guidance Manual. Bidders shall assume constructing each well of 2-inch diameter Schedule 40 PVC casing and well screen. With respect to the shallow monitoring wells, final well construction must ensure that the screened interval intersects the water table surface and accounts for seasonal groundwater fluctuations. Should a shallow well be installed with a submerged screen, this well will be replaced at the selected consultant's sole expense. With respect to the deep and vertical extent delineation monitoring wells, bidders shall assume using no more than 10 feet of screen to isolate the targeted groundwater zone or interval. Annulus materials shall consist of a filter-pack of silica sand extending to a height of approximately two feet above the top of the screen section overlain by a minimum 3.0 feet of hydrated bentonite pellets as a well seal. The remaining annulus shall be filled with a cement / bentonite slurry to a depth within approximately one-foot bg. Considering the suggested locations of the three additional shallow monitoring wells and the vertical extent delineation well, bidders shall assume surface finishing consisting of an expandable locking cap fitted to the top of the PVC riser and a flush-mounted traffic-rated manhole with a bolt-on lid. As for the additional deep monitoring wells, protective surface casing (i.e., stickups) can be substituted at the discretion of the property owner(s). The flush-mounted manholes or surface casing shall be set into a 2 ft by 2 ft concrete pad.

Each bidder's fixed-price cost for this task shall account for: (i) identifying subsurface utilities and other buried features of concern, including, but not necessarily limited to contacting PA One Call and clearing each borehole location to a minimum depth of 5 feet bg using vacuum excavation; (ii) well development activities[17]; (iii) management of investigation-derived wastes; and (iv) professional surveying of the new well locations and top-of-casing elevations. Well drilling / installation and development activities along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented in the SCR / RAP. Bidders shall manage groundwater generated by the well development activities in accordance with standard industry practices and applicable laws, regulations, guidance and PADEP directives.

Task 5 – Groundwater Monitoring and Sampling. Under this task, bidders shall provide a firm fixed-price to complete two (2) groundwater monitoring and sampling events (an initial and a confirmatory monitoring and sampling event). The initial groundwater monitoring and sampling event will include collecting samples for laboratory analysis from only the seven newly installed monitoring wells and the private water supply well on the Mountain Trails property, but all available monitoring wells shall be gauged (see below). The confirmatory monitoring and sampling event shall include all available groundwater monitoring wells (shallow, deep, and vertical extent delineation wells) and the private water supply well on the Mountain Trails property. The conduct and results of these two events shall be documented in the SCR / RAP.

The initial groundwater monitoring and sampling event shall be performed no later than two (2) weeks after installing and developing the seven additional monitoring wells. The confirmatory monitoring and sampling event shall be conducted no less than four and no more than six weeks after the initial event.

[17] Per the direction of the PADEP case manager for this site, the selected bidder shall containerize development water for off-site transport, treatment, and disposal in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

During each event, the depth to groundwater and any potential separate-phase hydrocarbons (SPH) shall be gauged in all available monitoring wells prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells during both events shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the wells designated for sample collection during each event shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Although the presence of SPH is not expected based on historical site information, any well exhibiting more than a sheen of SPH shall not be purged and sampled. Per the direction of the PADEP case manager for this site, the selected bidder shall containerize purge water for off-site transport, treatment, and disposal in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Accessing the private water supply well on the Mountain Trails property will require the consent of the property owner. On the assumption that this well cannot be accessed directly, bidders shall assume this well will be purged and sampled via the closest outlet to the well and before any water conditioning or treatment system components. Analytical results for the samples collected from this water supply well must be reported to the property owner and the PADEP within 5 days of receiving the laboratory analytical report in accordance with 25 PA Code §245.306(4).

Groundwater samples collected during these two events shall be analyzed for the current March 15, 2008 PADEP short-list of leaded and unleaded gasoline UST parameters (i.e., including TMBs) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[18]

In addition, each event shall include field measurements for these natural attenuation parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential. Laboratory analysis of the following suggested natural attenuation parameters shall be conducted on three shallow well and three deep well samples during the confirmatory event: dissolved manganese, ferrous iron, methane, nitrate nitrogen, sulfate, alkalinity, and microbial plate counts (heterotrophic and gasoline degraders). Bidders shall assume analyzing samples for these parameters from one well located upgradient, within, and downgradient of the contaminant plume in both the shallow and deep groundwater zones (i.e., a total of six samples). However, bidders shall quote a per-well cost should more or fewer wells be selected for natural attenuation parameters sampling and analysis. The natural attenuation data shall be evaluated as part of the remedial alternatives analysis to be included in the SCR / RAP in considering whether monitored natural attenuation is an appropriate and feasible remedy for this site.

Surface water and/or sediment sampling from the pond and/or surrounding wetlands area located approximately 600 feet southwest of the subject property is not covered by the scope of work. Should any such sampling be deemed necessary, these activities will be an out-of-scope task under the Fixed-Price Agreement

Task 6 – Aquifer Characterization Testing. As discussed in Section 2.0, slug tests were performed using three shallow wells (MW-1, MW-2, and MW-6) and one deep well (MW-7D). These slug tests provided estimates of average hydraulic conductivity for the shallow and deep water-bearing zones in the fractured shale bedrock. In addition, several EFR events have been conducted utilizing MW-4 and MW-7D, which also provide some general approximations of hydraulic properties for the shallow and deep water-bearing zones. However, as the PADEP notes in its 8/13/09 NOV letter, the existing slug testing

[18] Each bidder's approach to implementing Task 5 shall clearly identify the number of sampling events, number of wells/samples per event, well purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.

data may not be sufficient to provide a reasonable site-wide average hydraulic conductivity value for the fractured shale bedrock (especially in the deep zone) that accounts for probable local variations in hydraulic properties.

To address the PADEP's comments, bidders shall provide a fixed-price cost for this task inclusive of conducting and evaluating the data from two 24-hour constant-rate pumping tests. One pumping test shall be conducted using a shallow groundwater monitoring well and the other test shall use a deep groundwater monitoring well. Each bidder shall specify which wells it believes may be appropriate as the extraction and observation wells for each pumping test, considering both the existing wells and newly installed wells. The data from each test shall be analyzed to: (a) confirm / determine hydraulic characteristics; (b) evaluate aqueous contaminant transport via bedrock fractures; (c) assist with determining the degree of hydraulic connection between the shallow and deeper fractured bedrock; (d) update the existing fate-and-transport model; and (e) determine a sustainable yield and radius of hydraulic influence in the shallow and deep groundwater zones as input to the Remedial Feasibility / Alternatives Analysis (RF/AA) to be included in the SCR / RAP (Task 10). Raw data from the pumping tests shall be reduced using appropriate techniques and the test methods and conclusions shall be described in the SCR / RAP.

Before beginning each pumping test, groundwater levels shall be monitored in all site monitoring wells over a minimum 24-hour period to identify the influence of natural background fluctuations. Next, a step-drawdown (or stepped-rate) test will be conducted within the selected extraction well to determine a sustainable flow rate for the 24-hour pumping test. Groundwater levels in the extraction well and surrounding observation wells shall be monitored during the stepped-rate test. Both shallow and deep monitoring wells shall be used as observation points in order to assess the degree of hydraulic connection between the shallow and deeper shale bedrock. Monitoring of the selected extraction well and observation wells shall be performed using electronic pressure transducers and data logging equipment, although other secondary observation points can be monitored manually using an electronic water level meter. After pumping for the stepped-rate test has been discontinued, the extraction well and observation wells must be monitored until each returns to at least 90 percent of the pre-pumping static conditions.

A constant-rate 24-hour pumping test shall be conducted following the stepped-rate test. Prior to initiating the constant-rate pumping test, water-level measurements shall be obtained from all on- and off-property monitoring wells. During the pumping test, groundwater levels in the selected extraction well and surrounding observation wells shall be monitored continuously. After the extraction well has been pumped for a minimum of 24 hours, pumping shall be terminated and water levels in the wells shall be allowed to recover. During the recovery phase, groundwater levels in the selected extraction well and all observation wells will be monitored until it is determined that the water level in the extraction well has recovered to at least 90 percent of the original static groundwater level.

Before initiating the second sequence of stepped-rate and constant-rate pumping tests, the previously selected extraction well and observation wells shall be allowed to recover to their original pre-test static conditions. It is preferred that aquifer testing begin with extracting water from a shallow well assuming that it may take less time for the wells to recover.

Per the direction of the PADEP case manager for this site, the selected bidder shall containerize groundwater generated by the aquifer testing activities for off-site transport, treatment, and disposal in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Task 7 – Soil Vapor Study. In discussions with the PADEP, concerns have been raised regarding the conduct of the previous soil vapor study completed at this site. These concerns include:

- Using impacted well MW-4 as a vapor sampling point (VP-1) and collecting a vapor sample from approximately 6 inches above the groundwater surface;
- Collecting soil vapor samples from four other points (VP-2 through VP-5) that were only 6-inches deep;
- Not collecting an 8-hour time-weighted composite soil vapor sample from the sampling points within or near the c-store building;
- Collecting samples for naphthalene analysis using a Summa canister instead of XAD-2 tubes and analyzing for this compound using Method TO-15 instead of NIOSH Method 5515;
- Inadequate sampling point coverage along the central and western portions of the c-store building; and
- Inadequate coverage of what may be as many as three occupied structures located within 100 feet of the soil source area and dissolved-phase groundwater plume (the c-store building and two structures on the Mountain Trails Basket Company property).

Under this task, bidders shall provide a fixed-price cost for conducting a new soil vapor study based on developing and submitting a Soil Vapor Sampling Plan to the PADEP for its review and approval. This plan shall be consistent with the requirements, guidance, and decision matrices in the *Land Recycling Program Technical Guidance Manual – Section IV.A.4, Vapor Intrusion into Buildings from Soil and Groundwater*. Currently, absent knowing whether residual source soil exists in the dispenser islands area, selecting proposed locations for the soil vapor monitoring points may be difficult. However, for the purpose of comparing cost quotes, bidders shall assume installing and sampling of a total of six soil vapor monitoring points; however, bidders shall quote an all-inclusive unit price per soil vapor monitoring point should more or fewer monitoring points be needed. The installed soil vapor monitoring points shall be sampled twice over a period of two months with each sampling event separated by a period of at least four (4) weeks.

If soil vapor monitoring points VP-2 through VP-5 still exist, this task shall also include the proper abandonment of these four points by sealing with granular bentonite and finishing the ground surface consistent with the surrounding materials (e.g., concrete, asphalt, etc.).

Each soil vapor sample shall be collected in pre-certified Summa canisters supplied by the analytical laboratory except for the samples to be submitted for naphthalene analysis, which shall be collected using XAD-2 tubes. The Summa canisters shall be fitted with a properly calibrated regulator to allow an approximate 8-hour draw so that each sample represents an 8-hour time-weighted composite. All soil vapor samples shall be submitted to a PADEP-accredited laboratory for analysis of the current March 15, 2008 PADEP short-list of unleaded gasoline parameters using appropriate analytical methods and detection levels. Soil vapor samples shall be analyzed by Method TO15 with the exception of naphthalene which shall be analyzed by NIOSH Method 5515. Appropriate QA/QC samples shall also be collected and analyzed for the same unleaded gasoline compounds. The soil vapor study shall be described the SCR / RAP along with any recommendations regarding the necessity for an expanded vapor intrusion assessment that might need to include indoor air quality sampling, if appropriate.

Task 8 – Contaminant Fate-and-Transport Modeling. After the additional groundwater monitoring wells have been installed and sampled twice (Tasks 4 and 5) and subsequent to collecting and evaluating the aquifer characterization test data (Task 6), a quantitative contaminant fate-and-transport model shall be developed to address all dissolved-phase constituents whose concentrations exceed the residential used aquifer SHS-MSCs for groundwater. Because groundwater appears to be present in fractured shale bedrock only, bidders shall employ numerical groundwater modeling (e.g., MODFLOW and MT3D) in lieu

of the New Quick Domenico (QD) model.[19] However, prior to implementing this task, the selected consultant shall confer with the PADEP project officer concerning the appropriate model to use at this site.[20]

Bidders shall provide a firm fixed-price cost to develop a calibrated, numerical, contaminant fate-and-transport model utilizing data generated from the site characterization tasks described above and any relevant historical site characterization data. This fixed-price quote shall include documenting the modeling effort in the SCR / RAP (Task 10). This documentation shall consist of all model input/output, a thorough explanation of model construction, justification for all input parameters, a detailed discussion of the modeling results, and conclusions regarding current and predicted future plume stability (or lack thereof).

Environmental data currently available for this site suggest that the application of such surface water modeling applications as SWLOAD5B and PENTOXSD are probably not necessary to assess potential impacts to downgradient surface water. Should additional site characterization data indicate contaminant loading to surface water should be evaluated, such modeling will be subject to the "New Conditions" provision of the Fixed-Price Agreement.

Task 9 – Conceptual Site Model. Under this task, bidders shall provide a fixed-price cost for developing a complete conceptual site model (CSM) for this site and its vicinity based on evaluating the results of the site characterization tasks outlined above. Information contained in the prior SCR and SCRA may also be referenced, although bidders are reminded that both reports were disapproved as "incomplete."

Information considered in developing the CSM shall consist of, but should not necessarily be limited to, stratigraphic and lithologic characteristics / relationships; groundwater elevations and flow direction; hydrogeologic controls on groundwater movement and contaminant transport; intrinsic aquifer parameters; the distribution of hydrocarbon contaminants in soil and groundwater; evaluation of the EFR event data; evaluation of potential sensitive receptors; and consideration of the contaminant fate-and-transport modeling results. The CSM shall be presented and discussed in the SCR / RAP (Task 10).

Task 10 – Prepare a Draft and Final Combined SCR / RAP. Upon completing Tasks 1 through 9 described above, the selected consultant will prepare a **new** (i.e., not an amended or revised) combined SCR / RAP in draft form for review and comment by the Solicitor and PAUSTIF. This combined SCR / RAP shall contain all necessary information required under 25 PA Code §§245.309, 245.310, and 245.311. Each bidder's project schedule shall provide two weeks for Solicitor and PAUSTIF review of the draft document. The final SCR / RAP shall address comments received from the Solicitor and PAUSTIF on the draft report before it is submitted to the PADEP for its review.

The SCR / RAP shall document, describe, and evaluate all findings provided from Tasks 1 through 9 above and incorporate information and data from the previous site documentation as the selected consultant deems appropriate. The document shall also: (a) contain all necessary figures, tabulated data, and appendices; (b) present a detailed and comprehensive RF/AA; (c) reference the selected remedial goal for soil and groundwater; (d) discuss the recommended site closure strategy and its viability for achieving the remedial goal within a reasonable time frame; (e) identify the proposed point-of-compliance monitoring wells; and (f) present a detailed schedule for implementing the recommended remedial approach. The SCR / RAP shall be signed and sealed by a Professional Geologist **and** a Professional Engineer registered in the Commonwealth of Pennsylvania.

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[19] The PADEP project officer has indicated that QD modeling might be appropriately used if the water-bearing shale bedrock is highly weathered and "soil-like." However, the existing subsurface data reported to date do not reflect this condition.

[20] Should the PADEP approve QD modeling for this site, this will constitute an out-of-scope work item subject to the relevant provisions of the Fixed Price Agreement.

Task 11 – Install a Replacement "Store Well" / Groundwater Supply Well. Closure of this site also requires addressing its affected or diminished water supply per the requirements of 25 PA Code Chapter 245.307 As such, reasonable, necessary, and appropriate costs to address the effects of the Chapter 245 release on the water supply are reimbursable by PAUSTIF under Claim #2005-0210 subject to a prorated share. At the same time, as discussed in Section 2.0, water supply concerns at this site also include inorganic quality and quantity issues, the resolution of which are not reimbursable under Claim #2005-0210. Therefore, under this task, the Fund will reimburse its 85% prorated share of the fixed-price costs to install a new water supply well on this property to serve the c-store building and apartment units. Costs to equip the new well with an appropriately sized pump and to develop the well are also reimbursable. However, costs to trench and install piping to connect this new well to the building plumbing, to replace or upgrade building plumbing, install equalization tanks, install water softening systems, and any costs to treat the well output for particulates, taste, odor, or quality issues unrelated to the affects of the release that is the subject of this claim shall be borne by the Solicitor and/or property owner and will be covered under a separate agreement.

Each bidder shall consider its CSM, the vertical and horizontal extent of dissolved-phase contamination, its proposed RAP, available data on the out-of-use on-property supply wells, and other pertinent information to propose a location and design for this new supply well on the property. This proposed location and design shall be discussed with the Solicitor, the property owner, and the PADEP consistent with all necessary permitting reviews. However, for cost comparison purposes, bidders shall assume this new supply well will be:

- Located on the west-northwest portion of the subject property, which will require a design to isolate the well from the septic leach field in this area.
- Constructed of 6-inch diameter steel casing through the unconsolidated material and until encountering the first water-bearing zone that is not impacted by petroleum hydrocarbon contamination as established through analytical testing.
- Installed within competent bedrock at a depth of 400 ft bg. The actual completion depth selected by the consultant shall consider that:
    - The so-called "deep well" completed at a depth of approximately 375 feet bg failed to produce sufficient yield on its own and has not been used since August 2004.
    - The so-called "store well" completed at a depth of approximately 60 feet bg was affected by the release that is the subject of this claim and also produced discolored water with a sewage odor; and
    - The so-called "Leighton well" completed at a depth of approximately 325 feet bg apparently produced a reasonable yield.
- Subject to applicable provisions of 25 PA Code Chapter 109 – Pennsylvania Safe Drinking Water Act.

A minimum of 72 hours after well installation, the new well shall be developed to remove drilling fluid in hopes of yielding a sustainable potable water supply. The well shall be developed using a combination of pumping and surging that shall continue until sediment and installation residues have been removed and geochemical parameters (pH, turbidity, and specific conductance) have stabilized. Next, the new well shall be purged and sampled according to the protocols followed in completing Task 5 to verify that the well groundwater is unaffected by the release that is the subject of this claim.

Should this new supply well fail to generate sufficient yield to meet the needs of this facility, this result will be subject to the "New Condition" provision of the Fixed-Price Agreement. Similarly, if this well is affected by the release that is the subject of Claim #2005-0210, the possible need for a point-of-entry treatment system to remove organic contaminants will be subject to the "New Condition" provision of the Fixed-Price Agreement.

Assuming the new water supply well produces sufficient yield and is unaffected by the release that is the subject of this claim, bidders shall also quote a fixed-price cost to properly abandon the former "store well" in accordance with applicable requirements. All necessary pre-approvals and forms shall be completed for submittal to the PADEP, including meeting the requirements of the 11/8/05 NOV letter issued by the PADEP when it disallowed use of the "Leighton well" (Appendix E of the December 2008 SCR). If the Solicitor and/or property owner also want or are required to abandon the other two former supply wells, the selected consultant can include this scope of work in its separate contract.

The fixed-price cost quotes for this task shall account for: (i) identifying and clearing subsurface utilities and other buried features of concern, including, but not limited to contacting PA One Call; (ii) management of drilling-derived wastes; and (iii) professional surveying of the new well location and top-of-casing elevation. Well drilling / installation and development activities along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented as required by the PADEP. Bidders shall manage well development and purge waters in accordance with standard industry practices and applicable laws, regulations, guidance and PADEP directives.

4. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, firm, fixed-price, not-to-exceed contract for the SOW addressed by Tasks 1 through 11. A sample Fixed-Price Agreement is included as Attachment 2.[21] The Fund will facilitate negotiations between the Solicitor and the selected consultant toward executing this Fixed-Price Agreement.

As noted earlier, **a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms and scope of work requirements (for example, but not limited to, any report submittal deadlines) unless explicitly stated to the contrary in the bid response.** Therefore, any requested changes to the Fixed-Price Agreement must be specified in the bid response. Please note that these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

Each bid is to clearly identify unit cost rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services for SOW Tasks 1 through 11. The by-task and by-subtask quotes are to be entered into the Cost Tabulation Spreadsheet / Standardized Bid Format included as Table 1 in Attachment 3 to this RFB. Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable,." i.e., these variable cost items will not be handled outside of the Total Fixed Price quoted for the SOW. Finally, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

Payment Milestones: Table 2 below illustrates the approximate timing expected for completion of respective milestone tasks and milestone payouts. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. Payment milestones under the Fixed-Price Agreement shall be broken out as follows:

- Milestone A – Additional Background Research (Task 1).
- Milestone B – On-Property Geophysical Survey (Task 2).
- Milestone C – Source Soil Delineation (Task 3).
- Milestone D – Install Additional Shallow and Deep Groundwater Monitoring Wells (Task 4).

[21] The selected consultant will be provided an electronic copy of the sample contract in Word format to allow contract-specific information to be added.

- Milestones E1 and E2 – Groundwater Monitoring and Sampling (Task 5). Note that the schedule assumes two Milestone E payments.
- Milestone F – Aquifer Characterization Testing (Task 6).
- Milestones G1 and G2 – Soil Vapor Study (Task 7). Note that the schedule assumes two Milestone G payments.
- Milestone H – Contaminant Fate-and-Transport Modeling (Task 8).
- Milestone I –Conceptual Site Model (Task 9).
- Milestone J – Prepare a Draft and Final Combined SCR / RAP (Task 10).
- Milestone K – Install a Replacement "Store Well" / Groundwater Supply Well (Task 11).

TABLE 2 – SAMPLE MILESTONE COMPLETION / PAYMENT SCHEDULE

Estimated Milestone Timing Month After Contract Award	SOW Activities Anticipated / Completed for that Month	Milestone[1]
1	Additional Background Research (A); On-Property Geophysical Survey (B)	A, B
2	Source Soil Delineation (C); Install Additional Shallow and Deep Groundwater Monitoring Wells (D); Soil Vapor Study (probe installation and initial sampling event) (G1)	C, D, G1
3	Groundwater Monitoring and Sampling (initial event) (E1); Aquifer Characterization Testing (F)	E1, F
4	Groundwater Monitoring and Sampling (confirmation event) (E2); Soil Vapor Study (confirmation sampling event) (G2); Install a Replacement "Store Well" / Groundwater Supply Well (K)	E2, G2, K
5	Contaminant Fate-and-Transport Modeling (H); Conceptual Site Model (I)	H, I
6	Prepare a Draft and Final Combined SCR / RAP (J) [2]	J

1. Each bidder should modify this sample Milestone Completion / Payment Schedule for Tasks 1 through 11 to reflect its proposed task schedule, as long as the proposed schedule meets the deliverable deadlines specified in Section 3 of this RFB.
2. The SCR / RAP must be submitted in final form to the PADEP within 6 months of contract award.

Please note that the selected consultant's work may be subject to ongoing review by the PAUSTIF or its representatives to assess whether the proposed and completed work and the associated costs are reasonable, necessary, and appropriate. In order to facilitate review and reimbursement of submitted invoices by PAUSTIF, project costs shall be invoiced following the task structure specified in the selected bidder's bid response. Tracking incremental and cumulative costs by task will also be required to facilitate invoice review.

Unless otherwise noted by the bidder, each bid response received is required to be good for a period of up to 120 days after its receipt. The unit costs quoted in the bid will be assumed to be good for the duration of the period of performance cited in the Fixed-Price Agreement.

5. ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing site information provided in or attached to this RFB Solicitation Package.

- Provide an answer to the following questions regarding the bidder's qualifications and experience:

  - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania?

  - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Release of Liability from the PADEP) under either the SHS and/or the Site Specific Standard? [NOTE: The Solicitor requires the work described herein to be completed under the responsible care and directly supervised by a P.G. and P.E. consistent with applicable regulations and licensing standards.]

  - Whether or not there were circumstances consistent with the cancellation provision of a signed contractual agreement, has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.

- A complete firm fixed-price cost bid for Tasks 1 through 11 by completing the bid cost tabulation spreadsheet provided in Attachment 3 following the SOW task structure specified herein.

- A description and discussion of all level-of-effort and costing assumptions.

- Indicate whether the bidder accepts the proposed contract / terms and conditions (see Attachment 2) or has provided a list of requested changes to the Fixed-Price Agreement.

- Provide a statement of applicable / pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).

- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for endorsing work products prepared for PADEP review and approval.

- Provide a task-by-task description of the proposed technical approach. **Unless explicitly stated to the contrary in its task-by-task description, a bidder's response to this RFB Solicitation Package means it has accepted all the requirements specified herein by task.**

- Identify and sufficiently describe subcontractor involvement by task (if any).

- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW, inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.

- Describe your approach to working with the PADEP from project inception to submittal of the SCR / RAP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept "in the loop."

- Describe how the Solicitor and ICFI / PAUSTIF will be kept informed as to project progress and developments and how the Solicitor will be informed of, and participate in, evaluating potential alternatives / tradeoffs with regard to the SOW addressed by Tasks 1 through 11.

6. MANDATORY PRE-BID SITE VISIT

On **January 8, 2010**, the Technical Contact will conduct a ***mandatory pre-bid site tour*** for a limited number of participants per firm at this property starting at **11:00 a.m.** Please inform the Technical Contact at least three (3) business days in advance of this date as to the number of participants attending from your firm. Again, **any firm that does not attend this mandatory pre-bid site tour will not be eligible to submit a bid response.**

Questions will be entertained as part of the pre-bid site tour and every attempt will be made to answer questions at that time. However, all questions and the responses provided will also be distributed to the attendees in writing after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid site tour has been concluded. Again, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions in a bid response may make the bid response too difficult to evaluate. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid response.[22]

[22] The list of assumptions, special conditions, or exemptions will be discussed with the Solicitor. As part of that discussion, the PAUSTIF may advise the Solicitors that some or all of the assumptions, special conditions, or exemptions that are likely to generate change orders may be the financial responsibility of the Solicitor.

ATTACHMENT 1

Relevant Project Documents

Filename:	**Document:**
0812 SCR.pdf	December 2008 SCR prepared by UEG
090522 SCR Addendum.pdf	May 2009 SCR Addendum prepared by UEG
090813 – PADEP SCR-SCRA NOV.pdf	August 2009 PADEP NOV based on review of SCR and SCRA
Site Plan.pdf	Plan of the CoGo's #007 facility and surroundings
090723 Groundwater Analytical Data.pdf	July 2009 quarterly groundwater analytical data
EFR Data.pdf	Data from Enhanced Fluid Recovery events conducted by UEG
GwEl Data.xls	Groundwater level / elevation data through July 22, 2009
SB Locs.pdf	Suggested soil boring locations
MW Locs.pdf	Suggested groundwater monitoring well locations
090520_Photos	Site Photographs – May 20, 2009 reconnaissance

ATTACHMENT 2

Fixed-Price Agreement

(This agreement has been provided in an electronic form that does not permit the user to modify the agreement because only the selected consultant will need to complete the agreement. An electronic version of the agreement that will allow for tracking modifications to the agreement will be provided to the selected consultant at the appropriate time.)

DRAFT

REMEDIATION AGREEMENT

PADEP Facility ID #:[##-#####] USTIF Claim #:[####-####(x)]

This agreement ("Agreement") is entered into as of the _____day of _____**[Insert Year],** by and between **[Insert Owner's Name]** and **[Insert Facility Name]** (Client"), with a principal place of business at **[Insert Address]** and **[Insert Environmental Consulting Firm Name and (Appropriate Acronym)]**, ("Consultant") a **[Insert State Name]** Corporation with its principal place of business at **[Insert Environmental Consultant's Address]** (collectively, the "Parties").

RECITALS

WHEREAS, the Pennsylvania Department of Environmental Protection ("PADEP") has determined that corrective action of a petroleum release at a regulated underground storage tank ("UST") site is required ("Remediation").

WHEREAS, the Pennsylvania Underground Storage Tank Indemnification Fund ("Fund") has also determined the Remediation is eligible for reimbursement.

WHEREAS, the Client desires that Consultant perform the scope of work described in Exhibit A to this Agreement (the "Scope of Work") for a total fixed cost (see Exhibit B).

WHEREAS, the Fund is not a party to this Agreement, but agrees to dedicate funds for the payment of reasonable corrective action costs in connection with the Remediation so long as the Fund is provided with reporting and monitoring data in accordance with this Agreement to assure that payment is warranted based upon the conditions of this Agreement.

NOW THEREFORE, in consideration of the obligations, covenants and conditions set forth in this Agreement, the Parties, intending to be legally bound, agree as follows:

1. Recitals Incorporated

The above recitals are hereby incorporated as if fully set forth herein.

2. Responsibilities of Consultant

a) Consultant shall, as an independent contractor to Client, perform the Scope of Work.

b) The Scope of Work shall be performed in accordance with all applicable federal, state, and local rules and regulations, including the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended) and Pa. Code, Title 25, Chapter 245, meeting and demonstrating attainment of the Standard (as defined in Exhibit A) established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250 (Administration of Land Recycling Program). The Scope of Work will be completed consistent with Remedial System Design **[or Insert name of Appropriate Document]**, dated **[Insert Date]** and Response to Telephone Conversation **[or Insert name of Appropriate Document]** of **[Insert Date]** that contained clarifications on the Remedial System Design **[or Insert name of Appropriate Document]** dated **[Insert Date]**. Both documents are included for reference as Exhibit D of this Agreement. Any significant modification to the Scope of

Work will require approval of the Client, Pennsylvania Department of Environmental Protection (PADEP), and the Fund.

c) Consultant shall perform the Scope of Work for a total fixed price ("TFP") of **$_____**, subject to all other provisions of this Agreement.

d) Consultant shall attend periodic site meetings with the Fund and Client for site status updates. The Fund will provide Consultant ten (10) days written notice of the meeting.

3. Responsibilities of Client

a. Client shall exclusively retain the services of Consultant to perform the Scope of Work, in accordance with, and subject to, the other provisions of this Agreement.

b. Client shall provide access for Consultant and its subcontractors, to the Site, and shall enter into any other access agreements with other third party property owners, as necessary to complete the performance of the Scope of Work.

c. Client shall, as necessary to complete the Scope of Work: (i) cooperate and assist Consultant with the preparation and submittal of all information and documents including, without limitation, correspondence, notices, reports, data submittals, restrictive covenants, engineering and institutional controls, and the like, and (ii) implement and maintain any engineering or institutional controls.

d. Client shall transmit to Consultant copies of all documentation, correspondence, reports, and the like, sent or received by Client, regarding the environmental conditions at the Site.

4. Period of Performance

This Agreement shall be effective from the date first above written until the Scope of Work is completed by Consultant, subject to the other provisions of this Agreement.

5. Standard of Care

Consultant will perform the Scope of Work and other services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services under similar conditions in the same or similar locality. The foregoing is in lieu of all other warranties, express or implied, including warranties of marketability or fitness for a particular purpose.

6. Fees and Payment

a. Consultant shall submit a payment request ("Payment Request") to the Client for approval using the form in Exhibit C, upon the completion of milestones as described in Exhibit B and Exhibit C. The Client-approved Payment Request will then be submitted to the Fund for payment.

b. [Paragraph 6b applies only to performance-based contracts. Delete paragraph 6b if the contract is NOT performance-based.]

If Consultant is able to obtain the final milestone prior to completing the other milestones, all milestones payments are due and payable to Consultant.

c. Client shall use the Fund to satisfy the Payment Request in connection with the performance of the Scopes of Work under the following conditions:

   i. Client shall submit all necessary documentation to effectuate Consultant's direct payment from the Fund;

   ii. Should the Fund be temporarily suspended or permanently terminated, Client shall reimburse Consultant for any unpaid Payment Requests and interest, within 30 days of notification by Consultant of such suspension or termination. Interest is calculated as 0.75% per month on outstanding amounts;

   iii. In all cases where Consultant is ultimately paid by the Fund for eligible amounts paid by Client, Consultant will refund to Client such amounts;

   iv. Should Fund guidelines be substantially changed, either party may terminate this Agreement with or without cause upon a 30 day written notice. Consultant shall be paid any outstanding unclaimed amounts due from Client at the time of such termination within thirty (30) days of notice of termination; and

   v. To ensure payment, Consultant will perform the Scope of Work and remedial actions for the TFP and in accordance with PADEP-approved RAP and, if necessary, the PADEP-approved RAP addendum.

7. Insurance

During the performance of this Agreement, Consultant will carry and maintain the following insurance coverage:

a. Workers Compensation Insurance - at the statutory limits, and Employer's liability with a limit of not less than $1,000,000 each occurrence.

b. Automobile Liability and coverage on all vehicles owned, hired, or used in performance of this Agreement with limits not less than $1,000,000 – Bodily Injury and Property Damage combined single limit and aggregate.

c. Comprehensive General Liability Insurance – as well as coverage on all equipment (other than motor vehicles licensed for highway use) owned, hired, or used in the performance of this Agreement with limits not less than $1,000,000 each occurrence and $2,000,000 in the aggregate.

d. Pollution Liability/Professional Liability Insurance - at $1,000,000 per occurrence and $2,000,000 in the aggregate.

8. Performance Product and Warranty

[Delete the paragraph below and replace with "Not Applicable." if the contract scope of work cannot reasonably be expected to remediate the site to the selected cleanup standards and the contract scope of work does not include a demonstration of attainment]

Consultant estimates that the demonstration of attainment with the approved PADEP standard for all compounds listed in the Scope of Work will commence following **[Insert number of quarters]** (**Insert number of months**) of system operation after start-up of the Remedial System. If such demonstration of attainment cannot be initiated within this defined schedule, Consultant shall conduct the pre-defined Additional Measures (as defined in Exhibit A). If demonstration of attainment cannot be initiated at the end of the Additional Measures, Consultant may, at its option, forgo the remaining milestone payments, terminate this Agreement, and be released from any further obligation.

9. Equipment Loss or Damage

Consultant owned items used for the Agreement that are damaged or destroyed by acts of nature, improper design, installation, maintenance or handling, theft, or vandalism are at the sole expense of the Consultant. All other items shall be replaced at the expense of Client.

10. Non-performance by Remediation Contractor

Except as provided in Section 8, if Consultant fails to meet any specification of the Scope of Work as outlined in this document, the Client or the Fund shall notify Consultant by certified letter of the deficiency(ies). If Consultant does not correct the deficiency(ies) within thirty (30) days, Consultant shall be in breach of contract and the Client may void the contract or the Fund may withhold any further payment. Consultant shall be notified by certified letter that the contract is void and if any invoices are payable upon review and approval by the Fund. If Consultant corrects the deficiency(ies) within 30 days, the contract will continue.

11. Cancellation

a. The TFP shall not be increased except upon the occurrence of a “New Condition” as defined in this section.

b. A “New Condition” exists when one or more the following events occur and, as the result of such event, Consultant has demonstrated that the cost and/or period of time necessary to accomplish the Scope of Work is increased:

   i. The discovery of New Contamination (defined as any presence or release, or any portion of a presence or release, of any regulated substance including, without limitation, petroleum that impacts soil, sediments, surface water and/or groundwater and did not exist or was not identified in the Baseline Conditions). Without limiting the definition of New Contamination, New Contamination includes:
      - a documented tank, line and/or dispenser failure, or surface spill, that impacts soil, sediments, surface water and/or groundwater;
      - the discovery of unknown or abandoned underground storage tanks and/or lines and associated equipment that demonstrate that they have caused a release of oil or hazardous material to the environment and this release causes a substantial increase in the scope of work and costs;
      - the detection of any dissolved regulated substances not previously detected at the site; and
      - increases in dissolved regulated substance(s) greater than 100 times the maximum concentration of such regulated substance(s) measured during the two years prior to the execution of this agreement for more than two consecutive quarters, provided

that this increase is not attributed directly to the remedial actions being conducted or the deactivation of the remedial actions;

ii. Construction or reconfiguration of the Site, to the extent that it interferes with the Scope of Work;

iii. Promulgation of new, or change in interpretation of existing, federal, state, or local law, regulation, ordinance or written policy;

iv. Limitation of access to the Site or adjacent properties, changes in access, significant changes in access agreements, access that requires the institution of administrative or legal action, or access that requires unreasonable or uncustomary monetary expenditures;

v. Demands, claims or lawsuits, and the like, that impact the progress of the remediation or requires additional effort not accounted for in the Scope of Work;

vi. Non-payment or continuous late payment of Consultant invoices. Continuous late payment is defined as at least two payments not received for more than 60 days after submittal of associated Payment Requests within a calendar year; or

vii. One or more of site specific assumptions provided in Exhibit A no longer remain true and accurate.

c. Upon the discovery or occurrence of any New Condition,

i. Consultant shall notify Client in writing, describing the details of such New Condition; and

ii. Consultant shall provide an additional scope of work and associated cost estimate to account for such New Condition ("Out of Scope Work") for Client's approval and authorization. Upon Client approval, Consultant shall continue with the original Scope of Work and perform the Out of Scope Work, with the Out of Scope Work performed on a time and materials, unit cost or lump sum basis as Consultant and Client shall agree; or

iii. If Consultant and Client are unable to agree as provided above as to the value of the Out of Scope Work, Consultant, in it sole discretion, may terminate this Agreement. Upon such termination, Consultant shall be paid for all incurred and outstanding costs, fees and expenses as of the date of termination and all reasonable demobilization costs and Consultant shall have no further obligations under this Agreement. If Consultant is released from this Agreement, all environmental remediation and monitoring equipment and material purchased solely for the execution of this Scope of Work shall remain onsite and in usable state/condition.

12. Indemnity

Consultant shall indemnify and hold Client harmless from and against any liabilities, losses, claims, orders, damages, fines and penalties (collectively, "Claims") arising out of or related to negligent acts or omissions of Consultant in the performance of the Scopes of Work. Client shall indemnify and hold Consultant harmless from and against any Claims arising out of or related to

(i) the negligent acts or omissions, or violations of Law, of Client and (ii) regulated substances, including petroleum, that are present at, released to or from, treated at, or removed from, the site.

13. Closure

[Delete the paragraph below and replace with "Not Applicable." if the contract scope of work does not include a demonstration of attainment and RACR]

The Consultant shall remove all associated remediation equipment and materials including utilities from the site within sixty (60) days of receipt of DEP approval of its Remedial Action Completion Report. The Consultant shall abandon all wells (including preexisting wells from the site characterization), borings, trenches, and piping/utility runs installed by the Consultant as part of corrective action in accordance with all applicable requirements within 60 days of receipt of DEP approval of its Remedial Action Completion Report. Disruption of the Client's normal business shall be kept to a minimum. The Consultant shall return the site to the condition prior to initiation of the Scope of Work. Conditions prior to initiation of the Scope of Work will be established by preparing detailed site plans and photographic documentation.

14. Governing Law and Assignment

This Agreement shall be governed by and construed in accordance with the laws of the State of Pennsylvania and it may not be assigned without the prior written consent of the other party.

15. Modification

No modification to or waiver of any term of this Agreement shall be valid unless it is in writing and signed by both parties.

16. Integration

This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings (whether written or oral) between the parties.

17. Order of Precedence

In the event of a conflict in the terms and conditions of this Agreement, the following order of precedence shall apply:

A. This Agreement
B. The Scope of Work (Exhibit A)
C. Schedule of Fixed Prices (Exhibit B)
D. Consultant Bid Response [**or Proposal**] Document dated **[Insert Date of Bid Response]**
E. The Request for Bid Document dated **[Insert Date of RFB Document]**
F. Task Orders (if applicable)
G. Other Contract Documents

18. Notice

Any notice, request, demand or communication which is or may be required to be given

hereunder shall be deemed given when sent by registered or certified mail, return receipt requested, postage prepaid, to the following addresses:

If to Client: **[Insert Facility Name]**
Attn: **[Insert Point of Contact]**
[Insert Street Address]
[Insert Township Name], Pennsylvania **[Insert Zip Code]**

If to Consultant: **[Insert Environmental Consulting Firm Name or Acronym]**
Attn: **[Insert Point of Contact]**
[Insert Point of Contact Job Title]
[Insert Street Address]
[Insert Township Name], Pennsylvania **[Insert Zip Code]**

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by its duly authorized representative in two identical counterparts on the day and year first above written.

For: **[Insert Facility Name]**

By: _____
Date

Name: _____

Title: _____

For: **[Insert Environmental Consulting Firm Name or Acronym]**

By: _____
Date

Name: _____

Title: _____

EXHIBIT A
SCOPE OF WORK

(Scope of Work is defined here as described in Section 2b)

Location: [Insert Facility Address]

Goals:

[Delete the following paragraphs and substitute contract-specific goals if the contract scope of work cannot reasonably be expected to remediate the site to the selected cleanup standards and the contract scope of work does not include a demonstration of attainment]

The goal of this project is to cost effectively clean up the site in a reasonable timeframe to obtain a PADEP Relief of Liability under Act 2 by achieving the remediation standard(s) specified for soil and groundwater in a PADEP-approved RAP.

Obtain Pennsylvania Department of Environmental Protection (PADEP) approval of Final Remediation Completion Report using a PADEP approved standard for benzene, toluene, ethylbenzene, xylenes, methyl-tert-butyl ether (MTBE), isopropylbenzene, and naphthalene (the compounds of concern or COCs) (the "Standard"), associated with the documented releases of **[Insert name of released product]** on **[Insert Date]** and **[Insert Additional Dates, if necessary]** which are referenced as PADEP Facility Identification Number **[Insert Facility ID Number]**.

Strategy/Scope of Work:

The Strategy/Scope of Work is described in the Bid Response Document dated **[Insert Date]** and the Request for Bid Document dated **[Insert Date of RFB Document]**, with the following exceptions:

- [Insert Site Specific Information or "None"]

Site Specific Assumptions:

The Site Specific Assumptions are described in the Bid Response Document dated **[Insert Date]** and the Request for Bid Document dated **[Insert Date of RFB Document]**, with the following exceptions:

- [Insert Site Specific Assumptions or "None"]

EXHIBIT B
Schedule of Fixed Prices
{INSERT SITE-SPECIFIC INFORMATION}

Milestones:

ID	Milestones Sub-Milestones	Estimated Schedule to Complete	Amount (dollars $)
A	Remedial Action Plan Final Design, specifications, procurement, purchase of equipment and groundwater monitoring	1 quarter Q1	$Insert Amount
B1	Remedial System Installation: Trenching & piping and groundwater monitoring	1 quarter Q2	$ Insert Amount
B2	Remedial System Installation: Equipment Installation, Start-up of System, 1st quarter of Remedial System O&M and groundwater monitoring	1 quarter Q3	$ Insert Amount
C1	Remedial System O&M & Groundwater Monitoring	1 quarter Q4	$ Insert Amount
C2	Remedial System O&M & Groundwater Monitoring	1 quarter Q5	$ Insert Amount
C3	Remedial System O&M & Groundwater Monitoring	1 quarter Q6	$ Insert Amount
C4	Remedial System O&M & Groundwater Monitoring	1 quarter Q7	$ Insert Amount
C5	Remedial System O&M & Groundwater Monitoring	1 quarter Q8	$ Insert Amount
C6	Remedial System O&M & Groundwater Monitoring	1 quarter Q9	$ Insert Amount
C7	Remedial System O&M & Groundwater Monitoring	1 quarter Q10	$ Insert Amount
C8	Remedial System O&M & Groundwater Monitoring	1 quarter Q11	$ Insert Amount
C9	Remedial System O&M & Groundwater Monitoring	1 quarter Q12	$ Insert Amount
C10	Remedial System O&M & Groundwater Monitoring	1 quarter Q13	$ Insert Amount
C11	Remedial System O&M & Groundwater Monitoring	1 quarter Q14	$ Insert Amount
D1	Attainment Sampling: Soil & Groundwater	1 quarter Q15	$ Insert Amount
D2	Attainment Sampling: Groundwater	1quarter Q16	$ Insert Amount
D3	Attainment Sampling: Groundwater	1quarter Q17	$ Insert Amount
D4	Attainment Sampling: Groundwater	1quarter Q18	$ Insert Amount
D5	Attainment Sampling: Groundwater	1quarter Q19	$ Insert Amount
D6	Attainment Sampling: Groundwater	1quarter Q20	$ Insert Amount
D7	Attainment Sampling: Groundwater	1quarter Q21	$ Insert Amount
D8	Attainment Sampling: Groundwater	1quarter	$ Insert

		Q22	Amount
F	DEP Approval of the Final Remediation Completion Report and Post Remediation Activities/Site Restoration	2 quarters Q24	$ Insert Amount
	TOTAL CONTRACT CEILING		$Insert Total Amount

Additional Measures:

[Delete the paragraph below and replace with "Not Applicable." if Section 8 also contains the words "Not Applicable"]

If demonstration of attainment of the Standard can not be initiated within this defined schedule, Consultant shall conduct the following additional measures ("Additional Measures"):

- Perform four (4) quarters (12 months) of Remedial System O&M and Groundwater Monitoring.

EXHIBIT C
PAYMENT REQUEST SCHEDULE

{INSERT SITE-SPECIFIC INFORMATION INTO THIS TABLE}

Milestone Identification		Supporting Documentation	Completion Date (months)	Payment Request Amount ($)
A	Remedial Action Plan Final Design, specifications, procurement, purchase of equipment and groundwater monitoring	▪ RAP Final Design & Specifications ▪ DEP approval letter of RAP ▪ Groundwater Sampling Report		
B1	Remedial System Installation: Trenching & piping and groundwater monitoring	▪ Design Specifications ▪ Vendor Invoices ▪ Groundwater Sampling Report ▪ Photo Documentation		
B2	Remedial System Installation (in accordance with this Agreement Section 2b): Equipment Installation, Start-up of System, 1st quarter of Remedial System O&M and groundwater monitoring	▪ Remediation Status Progress Report with groundwater sampling results and remedial system performance data (hours in operation, gallons extracted and treated, extraction wells operating, repairs and notes) ▪ Photo Documentation		
C1-11	Remedial System O&M & Groundwater Monitoring	▪ Remediation Status Progress Report with Groundwater Sampling results		
D1	Attainment Sampling: Soil & Groundwater	▪ Soil & Groundwater Attainment Sampling Report		
D2-8	Attainment Sampling: Groundwater	▪ Groundwater Attainment Sampling Report		
F	DEP Approval of Remedial Completion Report, and Post Remediation Activities/Site Restoration	▪ DEP Approval Letter of Remedial Action Completion Report ▪ Letter report verifying well abandonment by Licensed Driller and PG ▪ Photo Documentation		

EXHIBIT D
SUPPORTING DOCUMENTS

ATTACHMENT 3

Standardized Bid Format