

New Request for Bid

Fixed-Price Defined Scope of Work

Site Characterization Activities and Report Preparation

Solicitor

Lynn J Watkins

Watkins Market

427 Route 271, Ligonier, PA 15658

PADEP Facility ID #: 65-12005 PAUSTIF Claim #: 2008-0073(F)

Date of Issuance

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The Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF), on behalf of the claimant who hereafter is referred to as the Client or Solicitor, is providing this Request for Bid (RFB) to prepare and submit a bid to complete the Scope of Work (SOW) for the referenced site. The Solicitor has an open claim with the PAUSTIF and the corrective action work will be completed under this claim. Solicitor is responsible to pay any applicable deductible and/or proration.

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 website <http://www.insurance.pa.gov>.

Calendar of Events

Activity	Date and Time
Notification of Intent to Attend Site Visit	November 8, 2013 by 5 p.m.
Mandatory Pre-Bid Site Visit	November 11, 2013 at 11 a.m.
Deadline to Submit Questions	November 20 , 2013 by 5 p.m.
Bid Due Date and Time	November 27, 2013 by 3 p.m.

Contact Information

ICF International	Solicitor	Technical Contact
Bonnie Mackewicz ICF International 4000 Vine Street Middletown, PA 17057	Lynn J Watkins Watkins Market 427 Route 271 Ligonier, PA 15658	Jim Ackerman, P.G. Excalibur Group, LLC 276 Park Entrance Drive Pittsburgh, PA 15228 (412)-352-0791 (cell) jim8642@hotmail.com

All questions regarding this Request for Bid (RFB) and the subject site conditions must be directed via e-mail to the Technical Contact identified above with the understanding that all questions and answers will be provided to all bidders. The email subject line must be “[insert site name and claim number provided on cover page] – RFB QUESTION”. Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, the Pennsylvania Department of Environmental Protection (PADEP), or ICF International (ICF) unless approved by the Technical Contact. Bidders may discuss this RFB with subcontractors and vendors to the extent required for preparing the bid response.

Requirements

Mandatory Pre-Bid Site Meeting

The Solicitor, the Technical Contact, or their designee will hold a mandatory site visit on the date and time listed in the calendar of events to answer questions and conduct a site tour for one participant per bidding company. This meeting is mandatory for all bidders, no exceptions. This meeting will allow each bidding company to inspect the site and evaluate site conditions. **A notice of the bidder's intent to attend this meeting is requested to be provided to the Technical Contact via email by the date listed in the calendar of events with the subject "[insert site name and claim number provided on cover page]– SITE MEETING ATTENDANCE NOTIFICATION".** The name and contact information of the company participant should be included in the body of the e-mail.

Submission of Bids

To be considered for selection, **one hard copy of the signed bid package and one electronic copy (one PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the PAUSTIF's third party administrator, ICF, to the attention of the Contracts Administrator.** The Contracts Administrator will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those companies that attended the mandatory pre-bid site meeting. **The ground address for overnight/next-day deliveries is ICF International, 4000 Vine Street, Middletown, PA 17057, Attention: Contracts Administrator. The outside of the shipping package containing the bid must be clearly marked and labeled with "Bid – Claim # [insert claim number provided on cover page]".** Please note that the use of U.S. Mail, FedEx, UPS, or other delivery method does not guarantee delivery to this address by the due date and time listed in the Calendar of Events for submission. Companies mailing bids should allow adequate delivery time to ensure timely receipt of their bid.

The bid must be received by 3 p.m., on the due date shown in the Calendar of Events. Bids will be opened immediately after the 3 p.m. deadline on the due date. Any bids received after this due date and time will be time-stamped and returned. If, due to inclement weather, natural disaster, or any other cause, the PAUSTIF's third party administrator, ICF's office is closed on the bid due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The PAUSTIF's third party administrator, ICF, may notify all companies that attended the mandatory site meeting of an extended due date. The hour for submission of bids shall remain the same. Submitted bid responses are subject to Pennsylvania Right-to-Know Law.

Bid Requirements

The Solicitor wishes to execute a mutually agreeable contract with the selected consultant ("Remediation Agreement"). The Remediation Agreement is included as Attachment 1 to this Request for Bid. The bidder must identify and document in their bid any modifications that they wish to propose to the Remediation Agreement language in Attachment 1 other than obvious modifications to fit this RFB (e.g., names, dates and descriptions of milestones). The number and scope of any modifications to the standard agreement language will be one of the criteria used to evaluate the bid. **Any bid that does not clearly and unambiguously state whether the bidder accepts the Remediation Agreement language in Attachment 1 "as is", or that does not provide a cross-referenced list of requested changes to this agreement, will be considered non-responsive.** This statement should be made in a Section in the bid entitled "Remediation Agreement". Any proposed changes to the agreement should be specified in the bid; however, these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

The selected consultant will be provided an electronic copy (template) of the draft Remediation Agreement in Microsoft Word format to allow agreement-specific information to be added. The selected consultant shall complete the agreement-specific portions of the draft Remediation Agreement and return the document to the Technical Contact within 10 business days from date of receipt.

The Remediation Agreement fixed costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The total cost quoted in the bid by the selected consultant will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable and necessary. There may be deviations from and modifications to this Scope of Work (SOW) during the project. The Remediation Agreement states that any significant changes to the SOW will require approval by the Solicitor, PAUSTIF, and PADEP. NOTE: Any request for PAUSTIF reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

The bidder shall provide its bid cost using the Bid Cost Spreadsheet (included as Attachment 2) with descriptions for each task provided in the body of the bid document. Please note if costs are provided within the text of the submitted bid and there is a discrepancy between costs listed in the Bid Cost Spreadsheet and in the text, the costs listed within the Bid Cost Spreadsheet will be used in the evaluation of the bid and in the Remediation Agreement with the selected consultant. Bidders are responsible to ensure spreadsheet calculations are accurate.

In addition, the bidder shall provide:

1. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;
2. The bidder's proposed markup on other direct costs and subcontractors (if any);

3. The bidder's estimated total cost by task consistent with the proposed SOW identifying all level-of-effort and costing assumptions; and
4. A unit rate schedule that will be used for any out-of-scope work on this project.

Each bid will be assumed to be valid for a period of up to 120 days after receipt unless otherwise noted. The costs quoted in the Bid Cost Spreadsheet will be assumed to be valid for the duration of the Remediation Agreement.

Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed price quoted for the SOW. Any bid that disregards this requirement will be considered non-responsive to the bid requirements and, as a result, will be rejected and will not be evaluated.

Each bid response document must include at least the following:

1. Demonstration of the bidder's understanding of the site information provided in this RFB, standard industry practices, and objectives of the project.
2. A clear description, specific details, and original language of how the proposed work scope will be completed for each milestone. The bid should specifically discuss all tasks that will be completed under the Remediation Agreement and what is included (e.g., explain groundwater purging/sampling methods, which guidance documents will be followed, what will be completed as part of the site specific work scope/SCR/RAP implementation). Recommendations for changes/additions to the Scope of Work proposed in this RFB shall be discussed, quantified, and priced separately; however, failure to bid the SOW "as is" may result in a bid not being considered.
3. A copy of an insurance certificate that shows the bidder's level of insurance consistent with the requirements of the Remediation Agreement. Note: The selected consultant shall submit evidence to the Solicitor before beginning work that they have procured and will maintain Workers Compensation; commercial general and contractual liability; commercial automobile liability; and professional liability insurance commensurate with the level stated in the Remediation Agreement and for the work to be performed.
4. The names and brief resumes/qualifications of the proposed project team including the proposed Professional Geologist and Professional Engineer (if applicable) who will be responsible for overseeing the work and applying a professional seal to the project deliverables (including any major subcontractor(s)).
5. Responses to the following specific questions:
 - a. Does your company employ a Pennsylvania-licensed Professional Geologist that is designated as the proposed project manager? How many years of experience does this person have?

- b. How many Pennsylvania Chapter 245 projects is your company currently the consultant for in the PADEP Region where the site is located? Please list up to ten.
 - c. How many Pennsylvania Chapter 245 Corrective Action projects involving an approved SCR, RAP and RACR has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PADEP) using any standard?
 - d. Has your firm ever been a party to a terminated PAUSTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the Milestones? If so, please explain.
6. A description of subcontractor involvement by task. Identify and describe the involvement and provide actual cost quotations/bids/proposals for all significant specialized subcontracted service (e.g., drilling/well installations, laboratory, etc.). If a bidder chooses to prepare its bid without securing bids for specialty subcontract services, it does so at its own risk. Added costs resulting from bid errors, omissions, or faulty assumptions will not be considered for PAUSTIF reimbursement.
7. A detailed schedule of activities for completing the proposed SOW including reasonable assumptions regarding the timing and duration of Solicitor reviews (if any) needed to complete the SOW. Each bid must provide a schedule that begins with execution of the Remediation Agreement with the Solicitor and ends with completion of the final Milestone proposed in this RFB. Schedules must also indicate the approximate start and end of each of the tasks/milestones specified in the Scope of Work, and indicate the timing of all proposed key milestone activities.
8. A description of how the Solicitor, ICF and the PAUSTIF will be kept informed as to project progress and developments, and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project.
9. A description of your approach to working with the PADEP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed of activities at the site.
10. Key exceptions, assumptions, or special conditions applicable to the proposed SOW and/or used in formulating the proposed cost estimate. Please note that referencing extremely narrow or unreasonable assumptions, special conditions and exceptions may result in the bid response being deemed “unresponsive”.

General Site Background and Description

Each bidder should carefully review the existing information and documentation provided in Attachment 3. The information and documentation has not been independently verified. Bidders may wish to seek out other appropriate sources of information and documentation specific to this site. If there is any conflict between the general site background and description provided herein and the source documents within Attachment 3, the bidder should defer to the source documents.

Site Description / UST Release

The Watkins Market facility (“subject property” or “Site”) is located at 427 Route 271 near the town of Ligonier, Pennsylvania (see Attachment 3a – Site Location Map). The property is occupied by a rectangular-shaped convenience store / food market building and a residential structure. The property is located on the north side of State Route 271 (Route 271) in an area that is predominately residential (see Attachment 3b – Aerial Photo). Below-grade utilities consist of water, sanitary, and storm sewer service, but the locations of these utilities and others are not known with certainty and shall be evaluated by the successful bidder.

Since at least 1972, the Site was used historically for the storage and dispensing / retail sales of unleaded gasoline, kerosene, and diesel fuel. Retail fuel storage and dispensing/retail sales ceased in December 2007, when the underground storage tanks (USTs) were emptied. The UST system closure occurred on 5/6/2008 through 5/8/2008, and included the removal of five USTs along with the associated product piping and dispensers. The five USTs included:

- UST 001, a 1,000-gallon kerosene UST;
- UST 002, a 3,000-gallon unleaded gasoline UST;
- UST 003, a 4,000-gallon unleaded gasoline UST;
- UST 004, a 6,000-gallon diesel fuel UST; and
- UST 005, an 8,000-gallon gasoline UST.

All five tanks were of single-wall, steel construction, and were situated in three separate tank cavities (see “UST Closure Map”, Attachment 3c)¹. Tank Cavity 1 (TC-1) contained USTs 002, 003, and 004; Tank Cavity 2 (TC-2) contained UST 005; and Tank Cavity 3 (TC-3) contained UST 001. Following the removal of the UST system components, approximately 400 tons of impacted soil was excavated and removed for disposal. After soil removal activities, 11 confirmation soil samples were collected from the tank pit, product lines, and dispensers. Locations of the soil samples are provided on Attachment 3C. Soil impacts exceeding PADEP Statewide Health Standard Medium Specific Concentrations (SHS-MSCs) were primarily in the vicinity of the former dispensers, with benzene, naphthalene, and 1,2,4-trimethylbenzene (1,2,4-

¹ Figure 1 is taken from the UST Closure report dated 5/16/2008.

TMB) concentrations of 0.829, 115, and 110 mg/kg, respectively.² Soil also exceeded the screening value for the protection of indoor air for benzene, which is 0.37 mg/kg.³

Water samples collected from the tank cavities exceeded standards for benzene (up to 1,060 ug/L), toluene (up to 1,720 ug/L), naphthalene (up to 336 ug/L), 1,2,4-TMB (up to 536 ug/L), and 1,3,5-TMB (up to 215 ug/L).

A release was verbally reported to PADEP on 5/6/2008 and the written Notification of Reportable Release (NORR) was submitted to PADEP on 5/18/2008. The notification stated, "*Severe metal corrosion and holes were observed throughout unleaded gasoline UST 003. Metal corrosion and holes were also observed on UST 001. Petroleum-impacted soil and groundwater were encountered during excavation. Approximately 400 tons of petroleum impacted soil was removed. Bedrock was not encountered during closure and groundwater was encountered at between 6 and 8 feet bgs.*"

Historical UST Releases

Available Site information indicates that there have been two historic releases reported to PADEP, in November 2000 and February 2001⁴; however, no site characterization activities were completed in response to these historic releases. The release that was discovered in November 2000 was reportedly discovered during an attempted in-place closure of UST 002. The NORR, dated 11/29/2000, indicates an unknown amount of unleaded gasoline was released and states that, "*Geoprobe drilling was being performed to collect soil and/or aqueous samples for the closure of one (1) 3,000 gallon gasoline UST in place. During drilling activities, odors, stained soil and impacted water were observed in a boring installed adjacent to the UST.*"⁵ The February 2001 release was reportedly discovered during the repair of a product conveyance line. It was reported in the NORR, dated 2/12/2001, that diesel fuel was released from the product line and that soils were impacted. However, inadequate information/documentation is available to verify that the product released was diesel fuel or whether this reported release is associated with the release reported in year 2000. Copies of the NORRs are provided in Attachments 3d – 3f.

Other Information

No site characterization activities have been performed to date relative to the current 2008 release.

To the extent there is any discrepancy between the summary of site conditions provided above and the source documents, bidders shall rely on the source document information. Bidders

² Elevated detection limits for one sample suggests concentrations for benzene, MTBE, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene, could potentially range up to 8.12 mg/kg each.

³ Land Recycling Program Technical Guidance Manual- Section IV.A.4. Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard, Doc. 253-0300-100, 1/24/2004, Table 4.

⁴ These historical releases are not associated with PAUSTIF Claim #2008-0073(F).

⁵ Information regarding the soil boring locations, logs, sample locations, and laboratory data has not been located.

should carefully consider what information, analyses, and interpretations contained in the background documents can be used in developing their scope of work for their bid in response to this RFB.

Scope of Work (SOW)

This RFB seeks competitive bids from qualified contractors to perform the activities in the Scope of Work (SOW) specified herein. PADEP has reviewed and approved the SOW.

Objective

Solicitor seeks competitive, fixed-price bids, for this Defined Scope of Work RFB to complete the eight (8) milestones outlined below intended to initiate and complete site characterization activities as specified by the PADEP Act 2 and Chapter 245 regulations and guidelines, and complete a Remedial Action Completion Report or a Remedial Action Plan, depending on the conditions encountered. To be deemed responsive, each bid *must* respond in detail to each of the milestones. In other words, bidders shall respond to the SOW as stated herein to enable as much of an “apples-to-apples” comparison of the bids as possible. The Solicitor has elected to pursue site closure under the Site Specific Standards (SSS) via a demonstration of pathway elimination or site-specific risk-based numerical goals for those constituents for which attainment of the Statewide Health Standard cannot be readily demonstrated.

The strategy for this effort will be to complete site characterization activities and prepare a combined Site Characterization Report (SCR) and Remedial Action Completion Report (RACR) on the assumption that, with implementation of institutional or engineering controls (as needed), it can be demonstrated that no current or future exposure pathways exist (or risks are acceptable for potentially complete pathways). However, if during production of the SCR it is determined that remedial action will likely be required for elimination of all pathways, then a combined SCR and Remedial Action Plan (RAP) will be submitted in lieu of submitting a combined SCR/RACR. If preparing a RAP does prove necessary, implementation of the RAP will be performed separately, i.e., not as an amendment to the agreement resulting from this solicitation.

Constituents of Concern (COCs)

Because tank closure records indicated holes in both UST #001 (kerosene) and UST #003 (unleaded gasoline), it is assumed for this RFB that the COCs include constituents from both kerosene and unleaded gasoline. Therefore, the COCs will include benzene, toluene, ethylbenzene, total xylenes (BTEX); methyl tertiary butyl ether (MTBE); isopropylbenzene (cumene); naphthalene; 1,2,4-trimethylbenzene (1,2,4-TMB); and 1,3,5-trimethylbenzene (1,3,5-TMB).

General SOW Requirements

The bidder's approach to completing the SOW shall be in accordance with generally accepted industry standards/practices and all applicable federal, state, and local rules, regulations, guidance, and directives. The latter include, but are not limited to, meeting the applicable requirements of the following:

- The Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended),
- Pennsylvania Code, Title 25, Chapter 245 - Administration of the Storage Tank Spill and Prevention Program,
- The Land Recycling and Environmental Remediation Standards Act of 1995 (Act 2), as amended),
- Pennsylvania Code, Chapter 250 - Administration of Land Recycling Program, and
- Pennsylvania's Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 121 of 2008.

During completion of the milestone objectives specified below and throughout implementation of the project, the selected consultant shall:⁶

- Conduct necessary, reasonable, and appropriate project planning and management activities until the project (i.e., Remediation Agreement) is completed. Such activities may include Solicitor communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location). 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 are necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project planning and management shall include identifying and taking appropriate safety precautions to not disturb site utilities; including but not limited to, contacting Pennsylvania One Call as required prior to any ground-invasive work. As appropriate, project management costs shall be included in each bidder's pricing to complete the milestones specified below.
- 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

⁶ As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

implementation of this SOW. The investigation-derived wastes, including purge water shall be disposed of in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor and the PAUSTIF upon request.

- **If the site is located in PADEP Southwest Region:** All investigation derived wastes shall be handled and disposed of per PADEP's Southwest Regional Office guidance. Investigation derived wastes include personal protective equipment, disposable equipment, soil and drill cuttings and groundwater obtained through monitoring well development and purging, as well as equipment decontamination fluids. Investigation derived wastes must be containerized in DOT-approved drums and staged on-site in a pre-determined location, pending results of laboratory analyses and selection of final disposal method(s). Each container must be labeled to indicate contents, site location and date of generation. It is the selected consultant's responsibility to conform with current PADEP Southwest Regional Office guidance requirements.
- **If the site is located in any PADEP Region other than Southwest:** All investigation derived wastes shall be handled and disposed of per PADEP's Regional Office guidance. It is the selected consultant's responsibility to conform with current PADEP Regional Office guidance requirements in the region where the site is located.
- Be responsible for providing the Solicitor and facility operator with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and facility operator to ensure that appropriate areas of the property are accessible. Return visits to the site will not constitute a change in the selected consultant's SOW or result in additional compensation under the Remediation Agreement.

Site – Specific Milestones

Milestones A through G below represent the base SOW for this RFB solicitation. These milestones have been developed in an effort to complete PADEP site characterization requirements. In addition to the base Scope of Work, the Optional Cost Adder Milestones (Milestones H through M) must be addressed by bidders in the bid response. These cost adders will not initially be part of the contract SOW and some or all may never become part of the contract SOW. However, if it becomes necessary to complete any of these activities, they will be completed under the Remediation Agreement contract signed as part of this project. Verbal authorization from both PAUSTIF and the Solicitor will be required prior to implementation of any Optional Cost Adder Milestones.

Milestone A – Background Research. Bidders shall provide a firm fixed price to research, review, and report on background information necessary to support the site characterization. At a minimum the bids for this task shall cover the following activities:

- Determine regional and local geology, hydrogeology, and hydrology;
- Evaluate the potential for contributing offsite sources of contamination (e.g., leaking UST sites);
- Investigate whether a local groundwater use ordinance exists;
- Identify potential sensitive receptors;
- Research local groundwater use and identify the nature / location of any public and private water supplies within a ½-mile radius of the site;
- Identify buried utilities at the facility and on surrounding parcels that may serve as preferential contaminant migration pathways;
- Evaluate potential ecological receptors (if any); and
- Develop a preliminary conceptual site model.

Findings from the work completed under this milestone shall be summarized in the SCR.

Milestone B – Professional Site Survey. Under this milestone, bidders shall provide a firm, fixed-price quote for completion of a survey of the subject property and appropriate surrounding features by a professional surveyor licensed in the Commonwealth of Pennsylvania. This task shall include preparation of a scaled base map of the site, including, at a minimum, property boundaries, buildings, existing UST locations, dispenser islands, canopies, utility manholes, sanitary sewer lines, septic systems, storm sewer catch basins, storm water lines, water supply lines, natural gas lines, electric utility poles, and overhead electric/telephone/cable lines. Work under this milestone shall also include:

- Obtaining tax maps of the subject property and surrounding adjoining & adjacent properties;
- Surveying in locations and ground surface elevations for the soil borings completed under Milestone C, below; and
- Surveying in the ground surface (top of surface cover) and the top-of-casing (PVC riser pipe) elevations and locations for groundwater monitoring wells completed under Milestone D.

Monitoring well and soil boring locations should include northing and easting coordinates. All elevations should be relative to the North American Vertical Datum of 1988 (NAVD 88) and recorded to the nearest 0.01 foot. Results of the professional survey should be displayed on an

appropriately scaled site plan (including an accurate bar scale) to be included in the combined SCR.

Milestone C – Soil Characterization / Delineation. Under this task, bidders shall provide a fixed-price cost for implementing a soil boring program to assess the magnitude and extent of soil impacts at the site associated with the UST releases. Each bid shall assume advancing 12 soil borings plus one background soil boring (see below for details on the background soil boring). **Each bid must provide the proposed soil boring locations on a site drawing along with the rationale for the soil boring locations.** Each bid shall also describe the methods to be used to investigate and locate below-grade utilities so that this work can be accomplished safely and without risking damage to the below grade utilities.

The general objectives of the soil borings and associated sampling are to identify the contaminant source area(s) associated with the former UST systems and to delineate the extent and magnitude of soil contamination associated with these sources. The selected consultant shall consider the possibility that final boring locations may need to be adjusted to avoid subsurface obstacles based on information gained from Milestones A and B and the utility location work. If a bidder believes that additional borings (beyond 13) should be placed elsewhere, the bidder shall identify the location(s) and provide its supporting rationale for each additional boring location. However, all bidders shall base their bids on completing exactly 13 borings plus the requisite sampling and laboratory analyses. The costs associated with any additional borings (greater than 13) shall be provided separate from the fixed price for this milestone.

Each of the 13 soil borings shall achieve a depth that ensures vertical delineation of unsaturated and periodically saturated soils. For costing purposes, bidders shall assume that each boring will be completed to an average depth of 10 feet below grade such that the assumed total length of drilling for the borings is 130 feet (10 feet x 13 borings).

In addition to contacting PA One Call and other methods to locating below grade utilities, bidders shall assume clearing the initial five (5) feet of each boring location using a hand auger. Below five feet, each soil boring shall be advanced using hollow-stem auger / split-spoon sampling methods. Continuous soil samples shall be collected beginning immediately beneath the asphalt/concrete surface cover (if present) for description of lithologic characteristics, groundwater occurrence, and staining/odor indicative of petroleum impacts. The core soil samples shall be screened in the field using an appropriately calibrated photoionization detector (PID) and standard headspace methods. One soil sample per boring shall be submitted for laboratory analysis for PADEP's short list parameters. The 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 sample shall be obtained from either the depth interval immediately above the water table surface or from soil immediately above the bedrock surface, whichever occurs first.

Soil samples shall be analyzed for the post-March 2008 (i.e., current) PADEP short list of unleaded gasoline parameters inclusive of 1,2,4-TMB and 1,3,5-TMB. Appropriate quality assurance/quality control (QA/QC) samples shall also be obtained for laboratory analysis.⁷ Based on the analytical results, the approximate dimensions and volume of remaining source material exceeding the PADEP Act 2 SHS for soil, if any, shall be estimated.

In addition to the 12 soil borings described above, one additional boring shall be completed at a background location. One saturated or intermittently saturated soil sample shall be collected from this boring for fraction organic carbon (FOC) analysis to assist with the fate-and-transport modeling effort. The sample shall also be analyzed for the current PADEP short list of unleaded gasoline parameters to verify background conditions. In addition, one Shelby tube sample shall be obtained from this boring to be analyzed by an accredited geotechnical laboratory for total porosity and soil bulk density.

To accommodate the possible need to advance borings deeper than 10 feet (on average) resulting in total drilling of more than 130 feet and in the event that additional soil samples is necessary and appropriate based on field observations and in order to delineate the vertical extent of soil contamination, bidders shall provide the following unit costs on the Bid Cost Spreadsheet (Attachment 2).

- Price per each additional foot of soil boring beyond the assumed cumulative 130 feet for all borings added together (\$/foot, inclusive of boring advancement, logging, screening, & abandonment); and
- Price per each additional soil sample collection & laboratory analysis for PADEP short list parameters beyond the 13 assumed (\$/sample).

If during implementation of this Milestone gross soil impacts are evident based on field screening data and observations and additional soil borings are necessary for characterizing and delineating the soil impacts, these additional borings will be handled under Optional Cost Adder Milestone H. Verbal approval from Solicitor and PAUSTIF will be required before beginning the work and the requisite milestone-specific supporting documentation identified in the executed contract will be required for reimbursement.

Each bidders fixed-price cost for this milestone shall also account for: (i) identifying subsurface utilities and other buried features of concern including, but not necessarily limited to contacting the PA One Call System, Inc.; (ii) clearing each soil boring location using a hand auger; (iii) sealing each boring with bentonite and an asphalt or concrete surface patch after completion; (iv) professional surveying of the soil boring locations and elevations for inclusion on the site plan and geologic cross sections; and (iv) management of investigation derived waste (IDW) in

⁷ Each bidder's approach to implementing Milestone C shall clearly identify the number of samples, QA/QC measures, analytes, and other key assumptions affecting the bid price.

accordance with PADEP-Southwest Regional Office (SWRO) requirements. Methods and results shall be detailed in the SCR.

Milestone D - Monitoring Well Installation. Under this task, bidders shall provide a firm fixed-price cost quote for installing four (4) groundwater monitoring wells on the property. Each bid must identify the proposed well locations on a site drawing, and include a discussion detailing the rationale for each location. The bids shall demonstrate an understanding that the general objectives of the wells are to delineate the horizontal extent of the dissolved-phase contaminants (if any); interpret groundwater flow; enable any aquifer testing (if required); and facilitate any contaminant fate & transport modeling (if required). The intended well locations are (i) a background, presumed upgradient location; (ii) one well in presumed source area(s); and (iii) two wells at the presumed down-gradient property line. It is presumed that the final wells locations would be adjusted by the selected consultant to avoid subsurface obstacles based on information gained from Milestone A and the utility location work.

If during implementation of this milestone it is determined that one or more additional monitoring wells are necessary to complete groundwater characterization, these additional wells will be handled under Optional Cost Adder Milestone I. Verbal approval from Solicitor and PAUSTIF will be required before beginning the work.

Borings for the monitoring wells shall be advanced to intersect the shallow water table (i.e., the shallowest saturated zone) and have 5 to 10 feet of standing water in each well. For costing purposes, bidders shall assume that each well will be constructed to a total depth of 15 feet below grade (cumulatively, 60 feet of boring and well construction), although the total depth is likely to vary based on actual field conditions encountered. Bidders shall assume advancing all monitoring well borings using standard hollow-stem auger and continuous split-spoon sampling drilling methods. However, since it is not known whether the wells will intercept only unconsolidated materials (or a combination of unconsolidated materials and underlying bedrock), bidders shall assume use of a multi-purpose drill rig capable of hollow-stem auger and air-rotary/hammer-rotary drilling methods.

Although well depths may vary based on actual conditions encountered at each location, the final well construction must ensure that the screened interval intersects the water table surface and accounts for seasonal groundwater fluctuations. Each well shall be constructed of 2-inch diameter Schedule 40 PVC casing and bidders shall assume 10 feet of well screen. Annulus materials shall consist of a filter-pack of silica sand of appropriate grain size for the formation screened and well-screen slot size used, extending to a height of approximately two feet above the top of the screen section overlain by a minimum three feet of hydrated bentonite pellets as a well seal. The remaining annulus shall be filled with a cement/bentonite grout mixture to within approximately one-foot below grade. 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 set into a concrete pad.

Drilling and construction of the groundwater monitoring wells shall be in accordance with the PADEP Groundwater Monitoring Guidance Manual. During advancement of the well borings, continuous split-spoon soil samples shall be examined in the field for the purpose of lithologic description, noting groundwater occurrence, and potential staining/odor indicative of hydrocarbon contamination. Additionally, the split-spoon soil samples shall be screened in the field with a PID. Bidders shall assume collecting one soil sample per well boring for laboratory analysis using the methods as previously discussed under Milestone C.

To accommodate the possible need to install wells deeper than 15 feet (on average) and advance borings via air rotary/hammer based on field observations, bidders shall provide the following unit costs on the Bid Cost Spreadsheet (Attachment 2).

- Excess Hollow-Stem Auger Drilling/Well Installation Footage. Bidders shall provide a unit cost per lineal foot (\$/foot) for excess hollow-stem drilling/well installation (i.e., the total lineal well footage installed in excess of the 15-foot x 4 wells = 60-foot quantity assumed in the bid). This unit cost shall include borehole advancement using hollow-stem augers, logging and screening, well construction materials, and well installation labor in the event that additional well footage is required.
- Substituting Air Rotary Drilling. Bidders shall quote the differential/added cost per foot (\$/foot) for substituting air rotary drilling for hollow stem auger drilling during the well installation (assuming total drilling footage is within the total quantity assumed – 15 feet per well x 4 wells = 60 feet).
- Excess Air Rotary Drilling. Bidders shall quote the cost per foot (\$/foot) for excess air rotary drilling and well installation if bedrock drilling is necessary and total overburden drilling footage has exceeded the total well installation drilling footage assumed for the bid (15 feet x 4 wells = 60 feet).

Each bidder's fixed-price cost for this task shall also account for: (i) identifying subsurface utilities and other buried features of concern including, but not necessarily limited to, contacting PA One Call and hand clearing each borehole location to a minimum depth of 5 feet; (ii) well development activities; (iii) management of IDW in accordance with PADEP-SWRO requirements); and (iv) professional surveying of the 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.

Milestone E – Groundwater Monitoring. Under this task, bidders shall provide a firm fixed-price to complete two (2) groundwater monitoring and sampling events (an initial and a confirmation event) to establish groundwater quality conditions in the monitoring wells installed as part of Milestone D. The conduct and results of these two events shall be documented in the SCR.

The initial monitoring event shall be performed within two (2) weeks of installing and developing the new wells, but no sooner than one (1) week after the wells have been developed. The subsequent confirmation event shall be conducted no less than four and no more than six weeks after the initial event.⁸ During each groundwater monitoring event, the depth to groundwater and any potential separate-phase liquid (SPL) shall be gauged in each of the monitoring wells before purging and sampling activities are initiated. Groundwater level measurements obtained from the monitoring wells during both sampling events shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each well shall be purged and sampled utilizing standard low-flow techniques and in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting more than a sheen of SPL shall not be purged and sampled.⁹ Bidders shall manage IDW, including equipment decontamination fluids and groundwater generated by the well purging and sampling activities, in accordance with PADEP SWRO requirements.

Groundwater samples collected during these two events shall be analyzed for the current (i.e., post-March 2008) PADEP short-list of unleaded gasoline UST parameters (BTEX, MTBE, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) by an 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.¹⁰ In addition, field measurements and laboratory analyses for natural attenuation parameters shall be performed during the initial and confirmation events. Field parameters to be measured for each of the new wells shall consist of pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential (measured in-situ). Laboratory analysis of the following natural attenuation parameters shall be conducted on three wells: manganese (total and dissolved), ferrous iron, nitrate nitrogen, total phosphorus, sulfate, total organic carbon, alkalinity, and microbial plate counts (heterotrophic and gasoline degraders). The natural attenuation parameter analyses shall be performed on samples collected from one well located upgradient of the contaminant plume, one well located within the core of any potential plume, and one well located downgradient of the contaminant plume.

⁸ If the initial and confirmation rounds of groundwater sampling results indicate that groundwater characterization is not complete, additional delineation shall be completed prior to conducting any further groundwater monitoring sampling events (Cost Adder Milestone J). Installation and monitoring of any necessary additional monitoring wells will be handled under Optional Cost Adder I, and will require Solicitor and PAUSTIF approval before beginning the work. Should work be required to gain property access for well installation, this will be handled outside the Remediation agreement.

⁹ If measurable SPL is discovered, any work to address this SPL would be considered a new condition under the fixed price contract, and will require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning any work.

¹⁰ Each bidder's approach to implementing this Milestone shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), purge water disposal methods, QA/QC measures, analytes, and other key assumptions affecting the bid price.

The conduct and results of these two sampling events shall be documented in the SCR and shall at least include a description of the following: narrative description of the sampling procedures and results; tabulated data collected from the monitored wells documenting the depth to groundwater and thickness of any free product encountered; groundwater elevation contour maps depicting groundwater flow direction; tabulated quantitative groundwater analytical results; laboratory analytical report(s); one site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the sampling events (if needed); and treatment and disposal documentation for waste generated.

Milestone F – Aquifer Characterization Testing. In order to establish hydraulic parameters for the shallow water table aquifer, support the contaminant fate-and-transport modeling, and assist with developing a conceptual site model, bidders shall perform single-well rising head slug tests on three (3) of the newly installed wells. Bidders shall provide a firm fixed-price cost to conduct the slug tests and reduce / evaluate the data, and each bid must identify the wells to be used for slug testing, rationale, and provide a description of the proposed slug test procedures and the planned techniques for reducing the data. The slug tests shall be performed according to accepted industry standards and the data shall be reduced/evaluated using appropriate methods (e.g., Bouwer and Rice slug test solution for determining the hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells [1976]). Documentation of the slug testing methods, results, and conclusions shall be provided in the SCR, and the results shall be utilized in the fate-and-transport modeling (Milestone G).

Milestone G – Prepare a Draft and Final SCR with Risk Assessment Combined with RACR or RAP. Upon completing the tasks described above, the selected consultant shall prepare a combined Site Characterization Report / Remedial Action Completion Report (SCR/RACR) or Site Characterization Report / Remedial Action Plan (SCR/RAP) in draft form for review and comment by the Solicitor and PAUSTIF. The report will be for closure to PADEP's statewide health standard (SHS) if soil, groundwater and soil gas analytical data currently appear to meet the criteria for this type of closure or to site-specific standards (SSS) if the site conditions currently do not appear to meet the requirements for a SHS closure. This combined SCR/RACR or SCR/RAP shall contain all necessary information required under 25 PA Code §§245.309, 245.310, 245.311 and 245.313. Each bidder's project schedule shall provide two weeks for Solicitor and PAUSTIF review of the draft document. The final SCR/RACR or SCR/RAP shall address comments received from the Solicitor and PAUSTIF on the draft report before it is submitted in final form to PADEP.

The SCR shall describe the methods and findings for the work performed under Milestones A through F (and any necessary cost adder milestones) and shall incorporate any relevant

findings from the previous site documentation along with the necessary figures, tabulated data, and appendices.¹¹

Under this task, bidders shall develop a quantitative contaminant fate-and-transport model inclusive of all dissolved-phase constituents exceeding the UEPA Regional Screening Levels (or PADEP Act 2 SHS-MSCs for used aquifer/residential for closure under statewide health standards). Although subsurface stratigraphic and hydrogeologic relationships are currently unknown, bidders shall assume use of the PADEP's New Quick Domenico (QD) model will be appropriate.¹² Bidders shall also assume that because of the proximity of surface water to this facility, surface water modeling and evaluation using applications such as SWLOAD5B and PENTOXSD will also be necessary. Documentation shall consist of model input/output along with a thorough explanation of model construction, justification for all input parameters, and a detailed discussion of the modeling results, relevant model predictions, and conclusions regarding plume stability.

This task shall also include development of a complete conceptual site model (CSM) for the site and vicinity based on an evaluation of historical site characterization data and the results from the site characterization tasks outlined above. Information considered in developing the CSM shall consist of, but 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, and the distribution of hydrocarbon contaminants in soil and groundwater.

The SCR shall also identify potentially complete on- and off-site exposure pathways associated with known site contamination. These pathways shall be identified with the understanding that Solicitor is willing to have the following restrictions placed on his property, if the groundwater and/or soil data indicate the site would require remediation to attain SHS closure:

1. No potable water wells (e.g., if groundwater exceeds PADEP's statewide health standard);
2. Vapor barrier on future building construction (e.g., if current site soil and/or groundwater contaminant levels exceed PADEP's screening levels);
3. Vapor mitigation (engineering control) on existing structures (e.g., radon type venting if current site soil and/or groundwater contaminant levels exceed PADEP's screening levels); and

¹¹ Necessary Cost Adders may prompt adjustments to the scopes of work specified herein for any of the preceding milestones or if additional site characterization may prove necessary. Should this occur, the selected consultant should assume that: (a) the schedule for completing this Milestone will need to be adjusted (assuming the PADEP grants the necessary extensions), and (b) any added cost involved in documenting the additional activities in the SCR/RACR shall be incorporated into the costs for the adjusted/added scope of work under the specific task.

¹² Should subsurface data gathered during the site characterization indicate otherwise, the selected consultant should consider an alternative modeling application (with PADEP consultation) subject to the "New Conditions" section of the Fixed-Price Agreement.

4. Soil management plan for future digging on excessively contaminated portions of property (e.g., if soil contaminants exceed SHS).

Bidders shall assume that the PADEP will provide groundwater use covenant waivers for roadways adjoining the property. Additionally, bidders shall assume that a postremediation care monitoring plan is an option to address future potentially complete pathways for off-site properties. Any necessary postremedial care work will be handled outside the remediation agreement associated with this RFB.

Should potentially complete pathways still exist despite the above, a risk assessment shall be performed (see Optional Cost Adder **Milestone L**, below) and included in the SCR. If the exposure evaluation and risk assessment determines that the institutional controls identified above (if necessary to implement) are sufficient to render the site contamination safe under current and future site use conditions (restricted as necessary), the SCR shall be accompanied by a RACR. The SCR/RACR shall include, as needed, the draft Environmental Covenant (EC) language, petition to PADEP for roadway EC waiver, and proposed post remediation care plan (See Optional Cost Adder **Milestone M** for finalization and filing of the EC, if needed). If the risk assessment determines that the risk for a particular pathway is excessive relative to the maximum that is considered by PADEP to be allowable using realistic exposure scenarios, the SCR shall be accompanied by a RAP and shall identify the media-specific numerical contaminant concentrations (exposure point concentrations) that would not present an excessive level of risk as the cleanup goal to be addressed by the RAP. At a minimum the RAP shall present a screening of remedial alternatives and a preliminary remedial feasibility/alternatives analysis for at least three viable options for site remediation, and shall identify any additional site characterization that may be needed to finalize remedial planning.

The document shall be signed and sealed by a Professional Geologist and/or Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine which seals are required based on the work performed and documented in the report). The fixed-price cost shall also include addressing any PADEP comments on the report.

Milestone H – Additional Soil Borings (Cost Adder Milestone). Provide a unit cost to advance one (1) additional soil boring during the mobilization for Milestone C. The unit cost shall be inclusive of boring advancement, logging, screening, abandonment / surface restoration, and any waste handling / disposal. The scope of work for this cost adder should follow Milestone C guidelines. The unit prices for additional drilling footage and additional soil sampling under Milestone C shall also apply to this cost adder milestone.

Milestone I – Installation of Additional Monitoring Wells (Cost Adder Milestone). Provide the following fixed price costs for installation of additional monitoring wells. The scope of work for this cost adder shall follow Milestone D guidelines, including the assumption regarding drilling footage (assume 15-foot well depth). The unit prices under Milestone D for excess

hollow-stem auger drilling, substituting air rotary drilling, and excess air rotary drilling shall also apply to this cost adder milestone.

- **Milestone I1** – Total fixed cost for the boring advancement and installation of one (1) monitoring well during a separate drilling mobilization following completion of the original Milestone D work. The fixed cost shall be inclusive of all labor, equipment, utility clearance, subcontractors, waste handling / disposal, and reporting related to the installation of one monitoring well. The fixed cost shall also include collection of one soil sample from the well boring under the Milestone C guidelines.
- **Milestone I2** – Unit cost for installation of one (1) additional monitoring well during the Milestone I1 drilling mobilization. The provided cost shall be inclusive of all labor, equipment, utility clearance, subcontractors, waste handling / disposal, and reporting. The fixed cost shall also include collection of one soil sample from the well boring under the Milestone C guidelines.

Milestone J – Additional Groundwater Monitoring and Sampling (Cost Adder Milestone).

Provide a unit cost to complete an additional groundwater monitoring and sampling event. The scope of work for this cost adder should follow Milestone E.

- **Milestone J1** – Unit cost for completing one (1) groundwater monitoring and sampling event at all monitoring wells installed as per Milestone D.
- **Milestone J2** – Unit cost for monitoring and sampling one (1) additional monitoring well during a sampling event. The unit cost shall be inclusive of all labor, equipment, laboratory analysis, waste handling/disposal, etc.

Milestone K – Update Site Survey (Cost Adder Milestone). Provide a unit cost to update the site survey to include any additional soil boring and/or monitoring well location(s). The scope of work for this cost adder shall follow Milestone B.

Milestone L - Risk Assessment (Cost Adder Milestone). Should potentially complete exposure pathways exist following the evaluation of exposure pathways under Milestone G, a risk assessment shall be performed and incorporated into the SCR. Under this task bidders shall provide a fixed-price cost for completing risk assessment activities beyond the fate and transport and exposure pathway evaluation activities that are part of Milestone G.

The risk assessment shall use appropriate and standardized risk assessment methodologies and reporting consistent with 25 PA Code 250.409. This milestone shall include calculation of current and future potential risks associated with the potentially complete pathways determined under Milestone G. The work shall include comparison of contaminant levels against applicable screening criteria¹³ and calculation of risk-based numerical site-specific standards for screened

¹³ Based on discussions with the PADEP, constituent concentrations are to be screened against the USEPA RSLs and not against the PADEP Statewide Health Standards (SHS). Only those constituents that do not screen out

contaminants with respect to any complete exposure pathway that cannot reasonably be eliminated by means of environmental covenants. The successful bidder will be responsible for producing a risk assessment that is approved by PADEP.

The risk assessment shall encompass an exposure assessment, toxicity assessment, and risk characterization. The identification of exposure pathways for the Site shall be based upon guidance from the American Society for Testing and Materials (ASTM) and the United States Environmental Protection Agency (USEPA), as required by Act 2, Section 250.404

The risk assessment deliverable shall include separate Exposure Pathway Flowcharts graphics for (a) On-Site; (b) Off-site; and (c) roadway right-of-way to support the risk assessment text. These charts shall graphically depict the thought process in identifying the potentially complete pathways for each of the three areas. The exposure evaluation charts shall include the exposure pathway steps of Constituent Source, Receiving Media, Transport Mechanisms, Exposure Routes and current and future human receptors (i.e., facility workers, construction workers, trespassers, residents, and recreational users and others).

The risk assessment shall identify the site soil and groundwater samples used in the risk assessment, show how the constituents of interest (COI) were identified¹⁴ and present the COI for each contaminated media with a potentially complete pathway to a human receptor. Additionally, the risk assessment shall show how the risk assessment exposure point concentrations (EPCs) were calculated¹⁵ for each contaminated media with a potentially complete human exposure pathway and summarize the calculated EPCs.

For each potentially complete exposure pathway, the level of carcinogenic risk shall be quantified and the total cumulative carcinogenic risks shall be calculated. Non-carcinogenic risks shall be calculated using the hazard index. Exposure and toxicity assumptions shall be presented and well documented in the risk assessment report along with an uncertainty analysis.

The risks shall be assessed under two separate potential exposure scenarios:

1. Potentially complete on- and off-site exposure pathways without any institutional controls; and
2. Potentially complete on- and off-site exposure pathways with certain institutional controls in place. Under this scenario bidders shall determine which of the following on-site restrictions would be necessary to reduce the human health risks to acceptable levels. :

against the risk-based screening levels remain as COPCs for the exposure pathway analysis and/or demonstrating attainment of the PADEP SHS or a risk-based numeric Site Specific Standard.

¹⁴ Constituent concentrations are to be screened against the USEPA RSLs and not against the PADEP Statewide Health Standards (SHS-MSCs). Only those constituents that do not screen out against the risk-based screening levels remain as COIs for the exposure pathway analysis and/or demonstrating attainment of the SHS-MSC or a risk-based numeric Site Specific Standard.

¹⁵ EPCs shall be derived for COIs by statistical analysis (maximum concentrations shall not be used for EPCs).

- No potable water wells;
- No residential land use;
- Vapor barrier on future building construction;
- Vapor mitigation (engineering control) on existing structures (e.g., radon type venting) if current vapor intrusion risks are excessive; and
- Soil management plan for future digging on excessively contaminated portions of property.

Bidders shall assume that no environmental covenants / land use restrictions will be implemented on off-site properties but that PADEP will provide an environmental covenant waiver with respect to future installation of potable wells in the roadway right-of-ways. With respect to vapor intrusion, bidders shall assume for the purposes of this risk assessment that the cleanup goals are across-the-board site-specific standards meaning that PADEP's Land Recycling Program Technical Guidance Manual – Section IV.A.4. Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard, does not apply to this risk assessment work.

Bids shall provide a detailed description of how bidders will evaluate the on- and off-site Construction Worker vapor inhalation pathway including how it will estimate the Construction Worker vapor EPC. If a model is to be used to estimate the vapor concentrations, bidders shall identify the model and the input assumptions that will be used (e.g., trench width and depth dimensions, wind speed / direction, etc.).

In addition, an ecological screening assessment shall be updated to determine if the site poses an unacceptable risk to ecological receptors. The screening assessment shall be conducted in accordance with Section IV.H of the Pennsylvania Land Recycling Program's Technical Guidance Manual and USEPA Region 3 risk assessment screening criteria insofar as is necessary for determining any potential ecological risk.

After completing the exposure analysis / risk assessment, the selected consultant will present its draft findings to the Solicitor and PAUSTIF for review and comment as a separate deliverable. The project schedule should allow two (2) weeks for Solicitor and PAUSTIF to review the draft Risk Assessment before being finalized and incorporated into the SCR (Milestone G).

Milestone M – Finalizing / Filing of Environmental Covenants (Cost Adder Milestone).

Under this task, the bidder shall describe and provide a fixed-price bid for finalizing and filing the EC(s) associated with the PAUSTIF eligible release. The fixed-price shall include all reasonable and necessary activities and required fees to finalize and file the EC(s) for the subject property and neighboring properties, if applicable, with the local court house and other required entities. The successful bidder will be responsible for coordinating this work with the impacted property owner(s) and their legal counsel(s). Legal fees are not to be included in bid costs. PAUSTIF reimbursement of Client and/or third party legal fees will be considered outside of the executed

Remediation Agreement. The fixed price cost for this task shall also include the work necessary in petitioning PADEP for any relevant EC waivers.

Additional Information

In order to facilitate PAUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the milestone tasks identified in the bid. The standard practice of tracking total cumulative costs by milestone will also be required to facilitate invoice review. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. The selected consultant will perform only those tasks/milestones that are necessary to reach the Objective identified in this RFB. Selected consultant will not perform, invoice, or be reimbursed for any unnecessary work completed under a Milestone.

Any "new conditions", as defined in Attachment 1, arising during the execution of the SOW for any of the milestones may result in termination of or amendments to the Remediation Agreement. All necessary modifications to the executed Remediation Agreement will require the prior written approval of the Solicitor and the PAUSTIF. PADEP approval may also be required.

List of Attachments

1. Remediation Agreement
2. Bid Cost Spreadsheet
3. Site Information/Historic Documents
 - a. Figures
 - i. Site Location Map
 - ii. Aerial Photo
 - iii. UST Closure Map
 - b. NORR 2008
 - c. NORR 2001
 - d. NORR 2000
 - e. UST System Closure Report